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**CONSUMER BEHAVIOUR AND FOOD PROCESSOR  
RESPONSE TOWARDS ETHNIC FOOD IN EAST JAVA,  
INDONESIA**

A thesis presented in partial fulfilment  
of the requirements for the degree of

*Doctor of Philosophy (PhD)*



Institute of Natural Resources  
**Massey University**  
Palmerston North, New Zealand

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**2004**

**CANDIDATE'S DECLARATION**

This is to certify that the research carried out for my Doctoral thesis entitled "Consumer behaviour and food processor response towards ethnic food in East Java, Indonesia" in the Institute of Natural Resources, College of Sciences, Massey University, Turitea Campus, New Zealand is my own work and that the thesis material has not been used in part or in whole for any other qualification.

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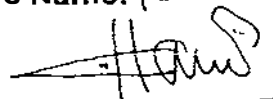
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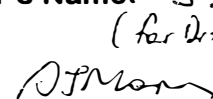
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## ABSTRACT

This research examined two ethnic foods, Malang meatballs and Kediri tofu as representative of ethnic foods in East Java, Indonesia. The study examined how consumers behave in relation to their own ethnic food and how food processors respond towards these foods. Consumer behaviour was viewed as the purchasing decision process: purchasing intention, purchasing action and the satisfaction towards these foods. Food processor response was explained by the processing and marketing strategies towards ethnic foods.

Multistage area sampling was used to randomly select 400 households from either Malang or Kediri areas (200 urban and 200 rural) as consumer respondents. One hundred meatball processors and 86 tofu processors respondents were selected from urban areas using cluster sampling. Respondents were interviewed using a structured questionnaire by the researcher and enumerators. Logistic regression analysis was used to analyse consumer behaviour towards ethnic food. Multiple and logistic regression procedures were applied to analyse the response of the home meatball industries (the HMIs) or the home tofu industries (the HTIs) towards ethnic food.

The results from this study can contribute to a better understanding of consumers' preferences towards Malang meatballs (an animal protein based food) or Kediri tofu (a plant protein based food). Firstly, consumers preferred Malang meatballs compared to street foods (i.e. 'soto', 'tahu campur', and fried noodle), and Kediri tofu than other types of tofu (i.e. fried tofu and regular tofu). Consumers who preferred unique taste and lived in urban areas would choose Kediri tofu, whereas younger consumers who concerned freshness and a 'halal food' may select Malang meatballs. Unlike Kediri tofu, the availability of Malang meatballs can increase consumers' purchasing action towards this product. However, surrounding cold air temperature influenced consumers in selecting these foods. Similar to Malang meatballs, an increase in repeat purchase towards Kediri tofu might be used as representative of consumers satisfaction towards this food.

Secondly, urban and rural consumers' preference towards Malang meatballs and Kediri tofu is characterised by the type of ethnic food. Unlike Malang meatballs, rural

consumers' choice towards Kediri tofu was associated with an actual purchase, however this appeared no relationship with their satisfaction towards Kediri tofu. This was related to rural consumers' choice for Kediri tofu being based more on product appearance, aroma, originality, place (i.e. a clean and a convenient place), and the offering good service. Rural consumers who perceived the importance of knowledge (i.e. food quality, nutrition, and 'halal food'), other people's influence, and surrounding air temperature may select Malang meatballs as snack due to self-service offered by sellers. Married urban consumers tended to select Kediri tofu, whereas single consumers who had more female household members would improve the choice for Malang meatballs. Urban and rural consumers who had a high education level ( $\geq$  secondary school) might choice Kediri tofu because they preferred unique taste of this product, whereas female consumers selected Malang meatballs more. In contrast to Kediri tofu, the availability of Malang meatballs would increase consumers in purchasing this product. Consumers would repurchase towards either Malang meatballs or Kediri tofu if they were satisfied with these foods.

The study offers an explanation of processing and marketing strategies used by the HMIs and the HTIs when responding towards consumers. Firstly, processing strategies focused on machine techniques (meat cutting combined with mixing meat and other ingredients) for the 'medium to large' (the 'MTL') group of the HMIs (using  $\geq 5$  Kg of meat per day); and on a manual techniques strategy (using a combination local and imported soybean types with manual techniques in processing Kediri tofu) for the 'MTL' group of the HTIs (using  $\geq 50$  Kg of soybeans per day). Secondly, the mixed marketing strategies are used by the HMIs: unique taste combined with promotional tools (general); a mixing between a clean and convenient place with good service and the time daily in selling meatballs (both groups); unique taste combining with a low price (the 'SM') group (using  $< 5$  Kg of meat per day); and a low price strategy (the 'MTL' group) to meet consumers' needs (i.e. a 'halal food', unique taste, a low price, and a convenient purchasing place). The HTIs offered a combination of marketing strategies such as promotional tools with a convenient selling place; the time daily for selling Kediri tofu mixed with the offering of a low price, and promotional tools combined with a convenient selling place strategies (the

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'MTL' group); offering fresh product and a low price combined with word of mouth, and applying a convenient selling place (the 'SM' group) (using < 50 Kg of soybeans per day) to fulfil consumers' demand towards low price, originality of Kediri tofu and a convenient purchasing place.

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## TABLE OF CONTENTS

Abstract .....	i
Acknowledgements.....	iv
Table of contents.....	vi
List of Tables .....	xiv
List of Figures .....	xvii
List of Appendices.....	xviii
<b>CHAPTER ONE: INTRODUCTION .....</b>	<b>1</b>
1.1 Rationale .....	3
1.2 The view of Malang meatballs and Kediri tofu .....	4
1.3 Background and problems .....	7
1.4 Thesis structure and outline .....	14
<b>CHAPTER TWO: LITERATURE REVIEW .....</b>	<b>15</b>
2.1 Ethnic food.....	15
2.2 Cosumer behaviour .....	21
2.2.1 What is consumer behaviour? .....	21
2.2.2 Theoretical review of consumer behaviour .....	22
2.2.2.1 Economic model .....	23
2.2.2.2 Psychology approaches .....	26
2.2.2.2.1 Fishbein model .....	26
2.2.2.2.2 Theory of Reasoned Action (TRA).....	27
2.2.2.2.3 EKB model .....	33
2.2.3 Factors influencing consumers' purchasing behaviour .....	37
2.2.3.1 Consumer characteristics .....	39
2.2.3.2 Food characteristics .....	43
2.2.3.3 Environmental characteristics .....	47
2.3 Food processor .....	52
2.3.1 Agroindustry .....	52
2.3.2 Food processor response towards consumers and their competitors .....	55
2.3.2.1 Processing strategy .....	55
2.3.2.2 Marketing strategy .....	57
2.3.3 The linkages of food enterprises .....	61
2.3.3.1 Vertical linkages .....	62
2.3.3.2 Horisontal linkages .....	64

2.3.4	The research relating to food processor response to consumers and their competitors .....	65
2.3.4.1	The studies related to marketing strategy .....	65
2.3.4.1.1	The studies related to ethnic food marketing strategy .....	68
2.3.4.2	Factors influence on food processor response towards consumers and their competitors.....	69
2.3.5	The linkage of literature review to present study .....	71
<b>CHAPTER THREE: METHODOLOGY .....</b>		<b>74</b>
3.1	Theoretical framework .....	74
3.1.1	Consumer behaviour model .....	74
3.1.2	Food processor response .....	84
3.1.2.1	Processing strategy .....	84
3.1.2.2	Marketing strategy .....	88
3.2	Area selection .....	91
3.2.1	The selection of respondents .....	92
3.2.1.1	The selection of consumer respondents .....	92
3.2.1.2	The selection of food processor respondents .....	97
3.3	Data collection .....	99
3.4	Analytical methods .....	101
3.4.1	Analytical methods for consumer purchasing behaviour .....	101
3.4.2	Analytical methods for food processor .....	102
3.4.3	Data analysis procedures .....	103
3.4.3.1	Consumer purchasing behaviour towards Malang meatballs .....	104
3.4.3.2	Consumer purchasing behaviour towards Kediri tofu .....	109
3.4.3.3	Food processor's response towards Malang meatballs .....	109
3.4.3.4	Food processor's response towards Kediri tofu .....	114
<b>CHAPTER FOUR: RESULTS and DISCUSSIONS - Consumer behaviour towards Malang meatballs .....</b>		<b>115</b>
4.1	The profile of Malang meatballs consumer respondents .....	115
4.2	Consumer behaviour towards Malang meatballs .....	119
4.2.1	Consumers' attitudes towards Malang meatballs and social norms ....	119
4.2.2	Cosumers' perceptions towards Malang meatballs .....	118
4.2.3	Purchasing intentions towards Malang meatballs .....	121
4.2.3.1	Factors associated with consumers' purchasing intentions towards Malang meatballs .....	123



4.2.4	Factors associated with consumers' purchasing actions towards Malang meatballs .....	128
4.2.5	Factors associated with consumers' satisfaction towards Malang meatballs .....	129
4.3	Comparison of urban and rural consumers' purchasing behaviour towards Malang meatballs .....	131
4.3.1	Similarity of urban and rural consumers' attitudes and social norms towards Malang meatballs .....	131
4.3.2	Urban and rural consumers' perceptions about Malang meatballs	133
4.3.2.1	Similarity urban and rural consumers' perceptions towards Malang meatballs .....	133
4.3.2.2	Different between urban and rural consumers' perceptions towards Malang meatballs .....	135
4.3.3	Urban and rural consumers' purchasing intentions towards Malang meatballs .....	137
4.3.3.1	Similarity factors associated with urban and rural consumers' purchasing intentions towards Malang meatballs.....	137
4.3.3.2	Different factors associated with urban and rural consumers' purchasing intentions towards Malang meatballs.....	139
4.3.4	Factors explaining urban and rural consumers' purchasing actions towards Malang meatballs .....	145
4.3.5	Factors explaining urban and rural consumers' satisfaction towards Malang meatballs.....	146
4.4	General discussion .....	147
<b>CHAPTER FIVE: RESULTS and DISCUSSIONS - Food processor response</b>		
	<b>towards Malang meatballs .....</b>	<b>150</b>
5.1	The profile of Malang meatball processor respondents .....	150
5.1.1	General characteristics .....	150
5.1.2	Perceptions regarding the raw materials used for Malang metaballs ...	152
5.1.2.1	Perceptions regarding the raw materials used for Malang meatballs by the 'small' and the 'medium to large' groups of food processors .....	154
5.1.2.1.1	Perceptions regarding the raw materials used for Malang meatballs by the 'small' group of food processors .....	154

	5.1.2.1.2	Perceptions regarding the raw materials used for Malang meatballs by the 'medium to large' group of food processors .....	154
5.1.3		Perceptions towards consumers and other external factors .....	156
	5.1.3.1	Perceptions towards consumers and other external factors by the 'small' and the 'medium to large' groups of meatball processors .....	158
5.2		Processing strategies used by meatball processors .....	159
	5.2.1	The types of processing strategies .....	159
	5.2.1.1	Factor analysis of processing strategies used by meatball processors .....	159
	5.2.2	Factors explaining processing strategies used by meatball processors .....	161
	5.2.3	The types of processing strategies used by the 'small' and the 'medium to large' groups of meatball processors .....	164
	5.2.3.1	Factor analysis of processing strategies used by the 'small' group of meatball processors .....	164
	5.2.3.2	Factor analysis of processing strategies used by the 'medium to large' group of meatball processors .....	164
	5.2.4	Factors associated with processing strategies used by the 'small' and the 'medium to large' groups of meatball processors .....	165
	5.2.4.1	Factors explaining processing strategies used by the 'medium to large' group of meatball processors .....	167
5.3		Marketing strategies used by meatball processors .....	168
	5.3.1	The types of marketing strategies .....	169
	5.3.1.1	Factor analysis of marketing strategies used by meatball processors.....	169
	5.3.2	Factors influencing the marketing strategies used by meatball processors .....	171
	5.3.3	The types of marketing strategies used by the 'small' and the 'medium to large' groups of meatball processors .....	176
	5.3.3.1	Factor analysis-1 of marketing strategies used by the 'small' group of meatball processors .....	177
	5.3.3.2	Factor analysis-2 of marketing strategies used by the 'small' group meatball processors .....	177
	5.3.3.3	Factor analysis of marketing strategies used by the 'medium to large' group of meatball processors .....	178
	5.3.4	Factors explaining the marketing strategies used by the 'small' and the 'medium to large' groups of meatball processors .....	180

5.3.4.1	Similarity factors influencing the marketing strategies used by the 'small' and the 'medium to large' groups of meatball processors .....	182
5.3.4.2	Different factors influencing the marketing strategies used by the 'small' and the 'medium to large' groups of meatball processors .....	183
5.4	General discussion .....	184

## **CHAPTER SIX: RESULTS and DISCUSSIONS - Consumer behaviour**

	<b>towards Kediri tofu .....</b>	<b>188</b>
6.1	The profile of Kediri tofu consumer respondents .....	188
6.2	Consumer behaviour towards Kediri tofu .....	191
6.2.1	Consumer attitudes towards Kediri tofu .....	191
6.2.2	Consumer perceptions towards Kediri tofu .....	193
6.2.3	Consumers' purchasing intentions towards Kediri tofu .....	195
6.2.3.1	Factors associated with consumers' purchasing intentions towards Kediri tofu .....	195
6.2.4	Factors associated with consumers' purchasing action towards Kediri tofu .....	200
6.2.5	Factors associated with consumers' satisfaction towards Kediri tofu .....	201
6.3	Comparison of urban and rural consumers' purchasing behaviour towards Kediri tofu .....	202
6.3.1	Attitudes and social norms towards Kediri tofu by location (urban vs. rural) .....	202
6.3.1.1	Different of the urban and rural consumers' attitudes towards Kediri tofu .....	203
6.3.2	Urban and rural consumers' perceptions related to Kediri tofu .....	205
6.3.2.1	Different of the urban and rural consumers' perceptions towards Kediri tofu .....	207
6.3.3	Urban and rural consumers' purchasing intentions towards Kediri tofu .....	209
6.3.3.1	Similarity factors explaining urban and rural consumers purchasing intentions towards Kediri tofu .....	209
6.3.3.2	Different factors explaining urban and rural consumers' purchasing intention towards Kediri tofu .....	211
6.3.4	Factors associated with urban and rural consumers' purchasing actions towards Kediri tofu .....	216

6.3.5	Factors associated with rural consumers' satisfaction towards Kediri tofu .....	217
6.4	General discussion .....	218
<b>CHAPTER SEVEN: RESULTS and DISCUSSIONS - Food processor response towards Kediri tofu .....</b>		
	<b>response towards Kediri tofu .....</b>	<b>222</b>
7.1	The profile of Kediri tofu processor respondents .....	222
7.1.1	General characteristics .....	222
7.1.2	Perceptions about the raw materials used for Kediri tofu .....	224
7.1.2.1	Perceptions about the raw materials used for Kediri tofu by the 'small' and the 'medium to large' groups of food processors .....	226
7.1.2.1.1	Similarity perceptions about the raw materials used for Kediri tofu between the 'small' and the 'medium to large' groups .....	226
7.1.2.1.2	Different perceptions about the raw materials used for Kediri tofu between the 'small' and the 'medium to large' groups .....	226
7.1.3	Perceptions towards consumers and other external factors .....	227
7.1.3.1	Perceptions towards consumers and other external factors by the 'small' and the 'medium to large' groups of tofu processors .....	229
7.1.3.1.1	Similarity perceptions towards consumers and other external factors for the 'small' and the 'medium to large' groups of tofu processors .....	229
7.1.3.1.2	Different perceptions towards consumers and other external factors for the 'small' and the 'medium to large' groups of tofu processors .....	229
7.2	Processing strategies used by tofu processors .....	230
7.2.1	Factors explaining the processing strategies used by tofu processors .....	232
7.2.2	Types of processing strategies used by the 'small' and the 'medium to large' groups of tofu processors .....	234
7.2.2.1	Factor analysis of processing strategies used by the 'medium to large' group of tofu processors .....	234
7.2.3	Factors associated with processing strategies used by the 'small' and the 'medium to large' groups of tofu processors.....	236

7.2.3.1	Similarity factors explaining processing strategies used by the 'small' and the 'medium to large' groups of food processors .....	237
7.2.3.2	Different factors explaining processing strategies used by the 'small' and the 'medium to large' groups of food processors .....	238
7.3	Marketing strategies used by tofu processors .....	240
7.3.1	Factor analysis of the marketing strategies used by tofu processors .....	242
7.3.1.1	Factor associated with marketing strategies used by tofu processors .....	242
7.3.2	Types of marketing strategies used by the 'small' and the 'medium to large' groups of tofu processors .....	246
7.3.2.1	Factor analysis of marketing strategies used by the 'small' group of tofu processors .....	248
7.3.2.2	Factor analysis of marketing strategies used by the 'medium to large' group of tofu processors .....	248
7.3.3	Factors influencing marketing strategies used by the 'small' and the 'medium to large' groups of tofu processors .....	249
7.3.3.1	Similarity factors influencing marketing strategies used by the 'small' and the 'medium to large' groups of tofu processors .....	
7.3.3.2	Different factors influencing the marketing strategies used by the 'small' and the 'medium to large' groups of tofu processors .....	251
7.4	General discussion .....	255
<b>CHAPTER EIGHT: SUMMARY, CONCLUSIONS, and IMPLICATIONS .....</b>		<b>260</b>
8.1	Summary .....	260
8.1.1	Methodological considerations .....	260
8.1.2	Do consumers prefer ethnic food ? .....	261
8.1.3	What regional characteristics differentiate consumer preferences towards ethnic food ? .....	262
8.1.4	Do food processors respond to consumer demand ? .....	264
8.2	Conclusions .....	268
8.2.1	Consumers' preferences for Malang meatballs (an animal protein based food) and Kediri tofu (a plant protein based food) .....	268
8.2.2	Different between urban and rural consumers' preferences towards Malang meatballs and Kediri tofu.....	269

---

8.2.3	Processing and marketing strategies used by food processors in responding to consumers demand for Malang meatballs and Kediri tofu .....	27	269
8.2.3.1	Processing strategies used by food processors .....		270
8.2.3.2	Marketing strategies offered by food processors .....		271
8.2.4	Different between the 'small' and the 'medium to large' groups of Malang meatballs and Kediri tofu processors' response towards consumer demand .....		272
8.2.4.1	Processing strategies used by the 'small' and the 'medium to large' groups of food processors .....		272
8.2.4.2	Marketing strategies used by the 'small' and the 'medium to large' groups of food processors .....		273
8.3	Implications .....		274
	REFERENCES .....		277
	APPENDICES.....		296



## LIST OF TABLES

Table 1.1	Nutritive value of some foods (100 gram) .....	2
Table 4.1	Factor loading patterns of consumers' attitudes and social norms towards Malang meatballs (varimax rotation) .....	120
Table 4.2	Factor loading patterns of consumers' perceptions towards Malang meatballs (varimax rotation) .....	122
Table 4.3.1	Factors associated with consumers' purchasing intention towards Malang meatballs .....	124
Table 4.3.2	Factors associated with consumers' purchasing action towards Malang meatballs .....	124
Table 4.3.3	Factors associated with consumers' satisfaction towards Malang meatballs	124
Table 4.4	Factor loading patterns of urban and rural consumers' attitudes and social norms towards Malang meatballs (varimax rotation) .....	132
Table 4.5	Factor loadings pattern of urban and rural consumers' perceptions towards Malang meatballs (varimax rotation) .....	134
Table 4.6.1	Factors associated with urban and rural consumers' purchasing intention towards Malang meatballs .....	138
Table 4.6.2	Factors associated with urban and rural consumers' purchasing action towards Malang meatballs .....	138
Table 4.6.3	Factors associated with urban and rural consumers' satisfaction towards Malang meatballs .....	138
Table 5.1	Factor loading patterns of food processors' perceptions towards raw materials used for Malang meatballs (varimax rotation) .....	153
Table 5.2	Factor loading patterns of the perceptions towards the raw materials for the 'small' and the 'medium to large' groups (varimax rotation) .....	155
Table 5.3	Factor loading patterns of food processors' perceptions towards consumers and other external factors (varimax rotation) .....	157
Table 5.4	Factor loading patterns of food processors' perceptions towards consumers and other factors by the 'small' and the 'medium to large' groups (varimax rotation) .....	157
Table 5.5	Percentage of processing strategies used by meatball processors .....	160
Table 5.6	Factor loading patterns of processing strategies used by meatball processors .....	160
Table 5.7	Factors explaining the processing strategies used by meatball processors .	162

Table 5.8	Factor loading patterns of processing strategies used by the 'small' and the 'medium to large' groups of meatball processors (varimax rotation) .....	162
Table 5.9	Factors associated with processing strategies used by the 'small' and the 'medium to large' groups of meatball processors .....	166
Table 5.10	Percentage of marketing strategies used by meatball processors .....	170
Table 5.11	Factor loading patterns of marketing strategies used by meatball processors (varimax rotation) .....	170
Table 5.12	Factors associated with the marketing strategies used by meatball processors .....	172
Table 5.13	Factor loading patterns of marketing strategies used by the 'small' and the 'medium to large' groups of meatball processors (varimax rotation) .....	179
Table 5.14	Factors associated with the marketing strategies used by the 'small' and the 'medium to large' groups of meatball processors .....	181
Table 6.1	Factor loading patterns of consumers' attitudes towards Kediri tofu (varimax rotation) .....	192
Table 6.2	Factor loading patterns of consumers' perceptions towards Kediri tofu (varimax rotation) .....	194
Table 6.3.1	Factors associated with consumers' purchasing intention towards Kediri tofu .....	196
Table 6.3.2	Factors associated with consumers' purchasing action towards Kediri tofu	196
Table 6.3.3	Factors associated with consumers' satisfaction towards Kediri tofu .....	196
Table 6.4	Factor loading patterns of attitudes and social norms towards Kediri tofu by location (varimax rotation) .....	204
Table 6.5	Factor loading patterns of perceptions towards Kediri tofu by location (varimax rotation) .....	206
Table 6.6.1	Factors associated with urban and rural consumers' purchasing intention towards Kediri tofu .....	210
Table 6.6.2	Factors associated with urban and rural consumers' purchasing action towards Kediri tofu .....	210
Table 6.6.3	Factors associated with urban and rural consumers' satisfaction towards Kediri tofu .....	210
Table 7.1	Factor loading patterns of tofu processors' perceptions towards the raw materials used for Kediri tofu (varimax rotation) .....	225



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Table 7.2	Factor loading patterns of perceptions towards the raw materials for Kediri tofu by groups of tofu processors (varimax rotation) .....	225
Table 7.3	Factor loading patterns of perceptions towards consumers and other external factors (varimax rotation) .....	228
Table 7.4	Factor loading patterns of perceptions towards consumers and other external factors by the 'small' and the 'medium to large' groups (varimax rotation) .....	228
Table 7.5	Percentage of processing strategies used by tofu processors .....	231
Table 7.6	Factors associated with the purchasing strategies used by tofu processors ..	231
Table 7.7	Factor loading patterns of processing strategies used by the 'medium to large' group of tofu processors .....	235
Table 7.8	Factors associated with processing strategies used by the 'small' and the 'medium to large' groups of tofu processors .....	235
Table 7.9	The percentage of marketing strategies used by tofu processor .....	241
Table 7.10	Factor loading patterns of marketing strategies used by tofu procesors (varimax rotation).....	241
Table 7.11	Factors associated with the marketing strategies used by tofu processors	244
Table 7.12	Factor loading patterns of marketing strategies used by the 'small' and the 'medium to large' groups (varimax rotation).....	247
Table 7.13	Factors associated with marketing strategies used by the 'small' and the 'medium to large' groups of tofu procesors .....	250

## LIST OF FIGURES

Figure 1.1	Malang meatballs .....	5
Figure 1.2	Malang meatball seller .....	5
Figure 1.3	Kediri tofu .....	6
Figure 1.4	Kediri tofu stalls .....	6
Figure 3.1	Consumer purchasing behaviour towards Malang meatballs .....	75
Figure 3.2	Consumer purchasing behaviour towards Kediri tofu .....	76
Figure 3.3	Food processor response towards Malang meatballs .....	85
Figure 3.4	Food processor response towards Kediri tofu .....	86
Figure 3.5	Multistage area sampling for consumer behaviour towards ethnic food ....	94
Figure 3.6	Multistage cluster sampling for food processor response towards ethnic food .....	98
Figure 4	The profile of meatball consumer respondents .....	116
Figure 5	The profile of Malang meatball processor respondents .....	151
Figure 6	The profile of tofu consumer respondents .....	189
Figure 7	The profile of Kediri tofu processor respondents .....	223

## LIST OF APPENDICES

Appendix 1	Correlation analysis of the explanatory variables for consumers' purchasing behaviour towards Malang meatballs .....	296
Appendix 1.1	Correlation analysis of the explanatory variables for urban consumers' purchasing behaviour towards Malang meatballs .....	298
Appendix 1.2	Correlation analysis of the explanatory variables for rural consumers' purchasing behaviour towards Malang meatballs .....	300
Appendix 1.3	Regression analysis results of the explanatory variables for urban and rural consumers' purchasing behaviour towards Malang meatballs .....	302
Appendix 2	Correlation analysis of explanatory variables for processing strategies used by meatball processors .....	303
Appendix 2.1	Correlation analysis of explanatory variables for processing strategies used by the 'small' group of meatball processors .....	304
Appendix 2.2	Correlation analysis of explanatory variables of processing strategies used by the 'medium to large' group of meatball processors .....	305
Appendix 3	Correlation analysis of explanatory variables for marketing strategies used by meatball processors .....	306
Appendix 3.1	Correlation analysis of explanatory variables for marketing strategies used by the 'small' group of meatball processors .....	307
Appendix 3.2	Correlation analysis of explanatory variables for marketing strategies used by the 'medium to large' group of meatball processors .....	308
Appendix 4	Percentage of processing and marketing strategies used by meatball processors .....	309
Appendix 5	Correlation analysis of explanatory variables for consumers' purchasing behaviour towards Kediri tofu .....	310
Appendix 5.1	Correlation analysis of explanatory variables for urban consumers' purchasing behaviour towards Kediri tofu .....	312
Appendix 5.2	Correlation analysis of explanatory variables for rural consumers' purchasing behaviour towards Kediri tofu .....	314
Appendix 5.3	Results of regression analysis of explanatory variables for urban and rural consumers' purchasing behaviour towards Kediri tofu .....	316
Appendix 6	Correlation analysis of explanatory variables for processing strategies used by tofu processors .....	317

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Appendix 6.1	Correlation analysis of explanatory variables for processing strategies used by the 'small' group of tofu processors .....	318
Appendix 6.2	Correlation analysis of explanatory variables for processing strategies used by the 'medium to large' group of tofu processors .....	319
Appendix 7	Correlation analysis of explanatory variables for marketing strategies used by tofu processors .....	320
Appendix 7.1	Correlation analysis of explanatory variables for marketing strategies used by the 'small' group of tofu processors .....	321
Appendix 7.2	Correlation analysis of explanatory variables for marketing strategies used by the 'medium to large' group of tofu processors .....	322
Appendix 8	Percentage of processing and marketing strategies used by tofu processors	323
Appendix 9	Factor loading patterns of processing strategies used by general and the 'small' group of tofu processors .....	323
Appendix 10	Survey Form 1: 'Consumer behaviour towards Malang meatballs' .....	324
Appendix 11	Survey Form 2: 'Food processor response towards Malang meatballs' .....	332
Appendix 12	Survey Form 3: 'Consumer behaviour towards Kediri tofu' .....	339
Appendix 13	Survey Form 4: 'Food processor response towards Kediri tofu' .....	347

## CHAPTER ONE

Food products vary between nations and within nations. Ethnic foods are produced by different communities in developed and developing countries and are part of that community's ethnic culture. The presence of region-specific food products may be used as a way of maintaining and celebrating regional ethnic food identity (Bell and Valentine, 1997). These foods reflect considerable pride among each ethnic group. Also, the role of ethnic food is of importance particularly in keeping a distinct regional cuisine. Ethnic foods not only enrich the traditional food sector, but also play an important role in the maintenance of national culture.

With the globalisation of agribusiness and food sectors, the Indonesian traditional foods (ITFs) face strong competition from fast foods. The dominant presence of the fast-food sector will not only change Indonesian preferences towards the ITFs tastes, but this is also likely to cause the disappearance of the ITFs.

While people are increasingly consuming fast-food products, ITFs should not be considered inferior. Efforts could be directed at developing these foods based on consumer demand. Fast-foods have limited calcium, dietary fibre, and vitamin C and generally high calorie, sodium, fat, and cholesterol content (McIntosh, 1995). They are becoming a legitimate health concern, particularly when the fast foods are established as a major dietary component and eaten by large numbers of people (Fieldhouse, 1995). Meanwhile, nutritionally, ITFs represent a food rich in protein as presented in Table 1.1. In addition, Indonesian consumers have a similar preference in regard to the ITFs taste. Therefore, the ITFs have good potential for product development and marketing.

The improvement of the ITFs will require product diversification and quality improvement. In addition, the ITFs producers could consider the improvement of value systems in communities, such as a clean and hygienic production process, packaging, storage, transport and marketing.

Table 1.1 Nutritive value of some foods (100 grams)

Name of foods	Moisture	Protein	Fat	Carbohydrate	Ash
	(%)	(%)	(%)	(%)	(%)
Tofu <sup>a)</sup>	84.9	7.8	4.3	2.3	0.7
Doufu (Chinese-style firm tofu) <sup>(a)</sup>	88.4	10.6	5.3	2.9	0.9
Grilled tofu <sup>(a)</sup>	83.0	8.8	5.1	2.1	1
Dried frozen tofu <sup>(a)</sup>	10.4	53.4	26.4	7	2.6
Presses tofu and savoury tofu <sup>(a)</sup>	61.6	22	11	6	1.9
Soft tofu <sup>(b)</sup>	90.3	5.3	0.9	2.6	0.9
Deep fried tofu <sup>(b)</sup>	45.2	24.6	20.8	7.9	1.5
'Tempe' <sup>(c)</sup>	64.0	18.3	4	12.7	1
Soy milk <sup>(a)</sup>	90.8	3.6	2	2.9	0.5
Kediri tofu <sup>(d)</sup>	68.2-79.2	11-17	--	--	0.6-0.9
Meatballs <sup>(e)</sup>	57.9	14.5	15.6	--	2.9
Malang meatballs <sup>(f)</sup>	89.4	24.7	4.5	67.8	0.3

Noted:

a) Shurtleff and Aoyagi (1975)

b) From Shi and Ren (1993) cited by Liu (1999)

c) From Winarno (1989) cited by Liu (1999)

d) Yakin (2001)

e) Fuchs and Kuiniven (1980)

f) Mustafa *et al.* (1998); Malang meatballs were represented by 'Presiden meatball'.

Some large commercial industries in Indonesia, for instance 'Indofood', have already started to promote the ITFs in recipe packaging to supply the domestic market and some have even been exported. Based on the success of 'Indofood' in promoting the ITFs, other ITFs producers usually dominated by small-enterprises, need to preserve and even develop their own food products. The development of the ITFs will contribute to preserving and sustaining ethnic foods. Consumer behaviour towards the ITFs can also play a supportive role in achieving these aims.

## 1.1 Rationale

Consumer behaviour can be learned from two essential levels, mental and physical (Walters, 1978). The mental level includes consumer's beliefs, preferences, feelings, opinions, and mental associations. A direct action to satisfy an inner desire is viewed at the physical level. One type of physical action of consumer behaviour is food buying activity. It may be easy to compare what food products people actually buy, but it is more difficult when explaining the differences among consumers. This is because the consumer's response to food products is influenced by many factors, such as personal characteristics, food product specification, and environmental conditions. Gains (1994) stated that personalities, moods, physiological status, culture, habits and memories affect consumer behaviour toward food products. Moreover, buying habits, attitudes, motives and knowledge will all influence purchasing behaviour (Schaffner *et al.*, 1998).

In respect to consumer behaviour towards food products, earlier research approaches have been devoted to the ethnicity influence on food choices as well as food consumption (Rosenblatt and Hochstein, 1989; Jolly and Diop, 1991; and Devine *et al.*, 1999). However, little attention has been given to consumer buying behaviour within regions when they are faced with their own ethnic foods. How consumers behave towards their own ethnic foods present additional challenges because of the differences of consumers' responses based on not only food characteristics, but also environmental circumstances.

This study will focus on how the consumers behave towards their own ethnic food products. Food is considered as ethnic food when food is enjoyed by people in another area, however, when food is consumed by most people within the homes of the ethnic group, food becomes a regional food (McIntosh, 1995).

Within this study, however, ethnic foods are defined as region specific cuisine that tends to characterise a particular locality and are developed within this region. Malang meatball and Kediri tofu have become a focus for sampling ethnic cuisine in East Java, Indonesia. These two products are popular regional food products nationally



recognised by the Indonesian population. For instance, Malang meatballs are recognised as the specialities menu of the cheapest food stalls that set up at night at various spots in Malang. Similarly, Kediri is recognised as 'tofu city' (Kompas, 8 July 2000; 18 December 2000). People from outside Kediri, such as Jakarta, Malang, Surabaya, and Semarang (Kompas, 18 December, 2000) also buy Kediri tofu. These ethnic foods are considered a premium food and may become important in the future.

The salient flavour of these ethnic foods may reflect in a certain kind of consumer behaviour. How people perceive and behave towards their own ethnic food between the two regions will be explored and compared. In addition the study will also explore how the ethnic-food processors respond to consumer's needs and competitors, particularly in their processing and marketing strategies. In the following paragraphs Malang meatballs and Kediri tofu are discussed in terms of the food processor, the food itself, and from a consumer's perspective.

## **1.2 The view of Malang meatballs and Kediri tofu**

One of the popular meatballs in Indonesia is a Malang meatball that is produced in the Malang area. Malang meatballs are served as meatball in a noodle soup topped with tofu and tomato, chili or soy sauce (see Figure 1.1). These meatballs are popular because they have special flavour. The flavour of this food is characterised as tender and juicy texture, broth ('umami') taste, and meaty aroma.

Kediri tofu is a specific food in East Java that has been recognised and produced since the Colonial era in the Kediri region (Kompas, 8 July 2000) (see Figure 1.3). In 1912, 'Bah Kacung' - one of popular branches of Kediri tofu, introduced Kediri tofu known as 'takwa' - which means tofu in mandarin language (Kompas, 8 July 2000). Kediri tofu appearance is cube shape- size ranging from small (5x5 cm), medium (6x6 cm), into large (8x8 cm) with a yellow colour. A firm texture and savoury taste are essential flavours of Kediri tofu (Kompas, 18 December 2000).



Figure 1.1 Malang meatballs

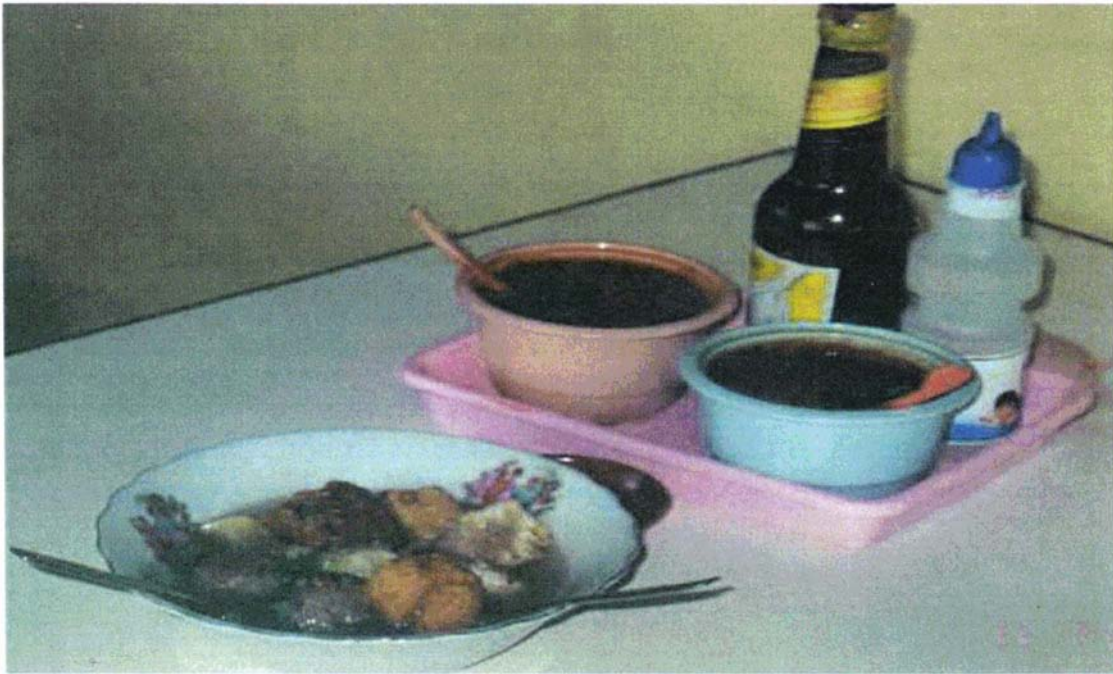


Figure 1.2 Malang meatball seller





Figure 1.3 Kediri tofu



Figure 1.4 Kediri tofu stalls



These ethnic foods are mostly produced by the home meatball industries (HMIs) and the home tofu industry (HTIs) (see Figure 1.2 and Figure 1.4). The presence of the Malang meatballs and the Kediri tofu industries particularly in East Java regions are not new developments. There are some modern meatball and tofu plants that can produce large quantities, more efficiently and perhaps more cost effectively. Meanwhile, the HMIs and the HTIs engaged in production and marketing activities that are carried out on day-to-day basis and controlled by family members to supply the local market.

From the nutrient content point of view, both meatballs and tofu are major sources of protein (Table 1.1). The inclusion of meatballs and tofu in the diet are consistent with the government programme to improve protein intake in Indonesian communities (GBHN, 1997).

The popularity of Malang meatballs and Kediri tofu may also be due to the special characteristics (taste) of these foods. This is consistent with other finding that people tend to perform their purchasing behaviours because of the favourable evaluation and the popularity of the product (Peter and Olson, 1990; Yadav, 1998). Consumers of these two ethnic foods not only dominate in their own region (Malang and Kediri areas), but many purchasers also come from other cities. People from other cities usually prefer to buy Malang meatballs as well as to bring as gifts Kediri tofu when they visit Malang and Kediri cities, respectively. Hence, both foods continue to dominate local and external demand.

### **1.3 Background and problems**

Consumers drive the demand for Malang meatballs and Kediri tofu. Consumer characteristics can affect a consumer's choice of foods and lead to variation in behaviour either in purchasing or not purchasing. Problems can arise because consumers have a differentiation in personality and life style, and consequently, consumers of each region have their own sets of preferences. Also, psychological factors, such as attitudes, motives, habits, and knowledge between regions will

obviously differ. Personality, lifestyle, and the psychological factors, they are part of the decision process.

Choice will also depend on past experience, such as nutritious, tasty and premium foods all affecting the consumers' attitudes towards ethnic foods. Malang meatballs and Kediri tofu are recognised as one source of protein intake, however tofu consists of plant protein, while animal protein is included in the meatballs. This will result in different behaviour patterns between consumers in the Malang and Kediri areas. For example, as there are mostly Moslems in these areas, people will initially select meatballs that are free from pork meat content. However, tofu is bought by consumers regardless of religion. Consumers' response towards either Malang meatballs or Kediri tofu may also be defined by the price of each food or the food characteristics.

Environmental conditions can also determine consumer behaviour with regard to food products. Malang and Kediri areas have different environment conditions, including social (i.e. religion), physical (i.e. climate), and economic environments (i.e. household income). These environmental distinctions between areas may play a role in explaining consumer behaviour with respect to ethnic food.

Problems can stem from food processors and their response towards ethnic foods. There is a limited capability of both meatball and tofu processors in producing and marketing meatballs and tofu. As a micro-enterprise, the HMIs and the HTIs are usually confronted with problems, such as the access to simple technology (Grijns *et al.*, 1994) and low skill and knowledge in processing techniques (Soegiyono, 1995). Moreover, the inconsistency of supply, quality of raw materials, and inadequate attention given to quality of food products are common problems faced by small-scale enterprises (Grijns *et al.*, 1994). Consequently, they may offer either meatballs or tofu with a different quality and price.

Marketing of either Malang meatballs or Kediri tofu is another problem faced by food processors. For example, food is often only sold at the local market. Grijns *et al.* (1994) also noted that the small scale food processors supplied for the local market.



Soegiyono (1995) stated that an ineffective marketing system is often associated with small-scale enterprises.

From a consumer perspective, differences in food specification, personal characteristics, and environmental circumstances will result in a variety of behaviour towards ethnic food. With regards to food processors, they respond differently towards this ethnic food in terms of disparity of quality of food products as well as in marketing ethnic foods (meatballs and tofu). These distinctions in consumers and food processors inspired some interesting ideas in developing the following research questions.

***The research questions of this study focus on:***

1. Do consumers prefer ethnic food?
2. What regional characteristics differentiate consumer preferences toward ethnic food?
3. Do food processors respond to consumer demand?

***The objectives of this study are to:***

1. Determine consumers buying behaviour towards ethnic food;
2. Identify factors that influence the consumers' purchasing decisions with respect to ethnic food;
3. Determine whether urban consumer behaviour towards ethnic food differs from their rural counterparts.
4. Determine the food processor's response to demand for ethnic food.

In line with the four specific objectives a set of hypotheses will be tested.

***Hypotheses***

Consumers' behaviour when purchasing depends on their expectations regarding the ethnic foods' ability to satisfy their preferences. Consumer preference towards ethnic

food, can be expressed by the intention to buy ethnic food amongst many possible alternative foods presented at a given time and context. Consumers may choose Malang meatballs among many other street foods such as 'soto' (either beef, chicken, or tripe soups), 'tahu campur' (where tofu is mixed with small pieces of meat, fried blended cassava, vegetables with sweet and hot sauces), and fried noodle with chicken. In order to measure whether consumers intend to select these ethnic foods rather than other comparable foods, the following hypothesis (refers to Chapter four) was formulated:

Hypothesis 4.1: More consumers intend to purchase Malang meatballs than other street foods.

Consumers' preference in buying intention towards their own ethnic food may be based on consumer characteristics (i.e. age and lifestyle), food characteristics (i.e. quality and price), and environmental factors (i.e. social, economic, and situational influences). Since ethnic food is unique product, consumer's preference in purchasing these foods may not be related to economic considerations (i.e. price and income), but purchases may be based on other reasons (i.e. based on flavour or taste). The unique taste of Malang meatballs, therefore, can stimulate consumers' purchasing intention towards ethnic food. It is hypothesised that:

Hypothesis 4.1.1: Unique taste is positively related to purchasing intention towards Malang meatballs.

Purchasing intention and unpredictable events, such as the availability of Malang meatballs and change in price, can influence a real action when buying the product. In order to measure actual choice, frequency of consuming or purchasing ethnic food at a certain time of the day, week, month and year are used. Frequency of purchase of ethnic food implies consumer preference towards this food. The hypothesis can be presented as:

Hypothesis 4.2: There is a positive relationship between purchasing action and purchasing intention towards Malang meatballs.

Purchasing action will yield outcomes of either satisfaction or dissatisfaction. This can be measured by not only observing or tracking the purchasing frequency of ethnic foods, but also by repeat purchases in the future. Consumers repeat their purchase of ethnic foods in the future if they feel satisfied, and vice versa. The satisfaction of consumers will occur when the decision to purchase the ethnic food fits consumers' expectations. A hypothesis of consumers' satisfaction was:

Hypothesis 4.3: There is a positive relationship between satisfaction and purchasing action towards Malang meatballs.

On the basis of location (urban vs. rural), it may be useful to predict and understand what the consumers' behaviour may be with respect to purchasing Malang meatballs. Just as urban and rural consumers differ in terms of consumer characteristics, environmental conditions (i.e. religion, climate, household income), they will also differ in their behaviour towards this food. Therefore, the sequence of the purchasing decision process, namely, purchasing intention, purchasing action, and satisfaction towards this product were hypothesised as:

Hypothesis 4.4: More urban consumers intend to buy Malang meatballs than rural consumers.

Hypothesis 4.4.1: Among urban and rural consumers, unique taste is positively related to purchasing intention towards Malang meatballs.

Hypothesis 4.5: Among urban and rural consumers, there is a positive relationship between purchasing action and purchasing intention towards Malang meatballs.

Hypothesis 4.6: Among urban and rural consumers, there is a positive relationship between satisfaction and purchasing action towards Malang meatballs.

In order to attract more consumers, the ethnic-food processor should give more attention to consumer preferences. To match consumer preferences, food processors should produce ethnic food that is of value to consumers. Ethnic foods are perceived as a valuable product if the food can meet consumer preferences that can be categorised into quality, convenience, diversification and health. The response of the food processor can be expressed by different strategies in producing and marketing ethnic food, such as varying the use of raw materials, quality and price, labelling, the location for sale, and determining the method and the time of selling. For meatball processors (refers to Chapter five), the hypotheses are stated as:

Hypothesis 5.1: Meatball processors differ in processing strategies.

Hypothesis 5.1.1: The perception of meatball processors towards meat is positively associated with processing strategies.

Hypothesis 5.1.2: Among the 'small' and the 'medium to large' groups of meatball processors, their perceptions towards meat is positively associated with their processing strategies.

Hypothesis 5.2: Meatball processors differ in marketing strategies.

Hypothesis 5.2.1: The perception of meatball processors towards the consumers is positively associated with marketing strategies.

Hypothesis 5.2.2: Among the 'small' and the 'medium to large' groups of meatball processors, their perceptions towards the consumers is positively associated with marketing strategies.



Like the consumer behaviour towards Malang meatballs, these sequential stages of the consumer purchasing decision process can also be applied to Kediri tofu. The hypotheses for consumer behaviour towards Kediri tofu (refers to Chapter six) can be defined as:

Hypothesis 6.1: Consumers intend to purchase Kediri tofu rather than other soybean based foods.

Hypothesis 6.1.1: Unique taste is positively related to purchasing intention towards Kediri tofu.

Hypothesis 6.2: There is a positive relationship between purchasing action and purchasing intention towards Kediri tofu.

Hypothesis 6.3: There is a positive relationship between satisfaction and purchasing action towards Kediri tofu.

Hypothesis 6.4: : More urban consumers intend to buy Kediri tofu than do rural consumers.

Hypothesis 6.4.1: Among urban and rural consumers, unique taste is positively related to purchasing intention towards Kediri tofu.

Hypothesis 6.5: Among urban and rural consumers, there is a positive relationship between purchasing action and purchasing intention towards Kediri tofu.

Hypothesis 6.6: Among urban and rural consumers, there is a positive relationship between satisfaction and purchasing action towards Kediri tofu.

Similar to the food processors' response towards Malang meatballs, the hypotheses for food processors' response regarding Kediri tofu (refers to Chapter seven) were

presented as:

Hypothesis 7.1: Tofu processors differ in processing strategies.

Hypothesis 7.1.1: The perception of tofu processors towards soybean is positively associated with processing strategies.

Hypothesis 7.1.2: Among the 'small' and the 'medium to large' groups of tofu processors, their perceptions towards soybean is positively associated with processing strategies.

Hypothesis 7.2: Tofu processors differ in marketing strategies.

Hypothesis 7.2.1: The perception of tofu processors towards consumers is positively associated with marketing strategies.

Hypothesis 7.2.2 : Among the 'small' and the 'medium to large' groups of tofu processors, their perceptions towards consumers is positively associated with marketing strategies.

#### **1.4 Thesis structure and outline**

Chapter two sets out a review of literature covering: ethnic food, consumer behaviour, and the food processor. Chapter three assesses of the methods for estimation of consumer behaviour and food processor response towards Malang meatballs and Kediri tofu. Chapter four reports the results obtained for the study of the behaviour of consumer towards Malang meatballs. Chapter five presents the results acquired for the study of food processor response towards Malang meatballs. Chapter six discusses the results achieved for the study of the behaviour of consumers towards Kediri tofu. Chapter seven explains the results obtained from the study of food processor response towards Kediri tofu. Chapter eight summarises briefly the outcome of this study, the conclusions, and the implications of this study as a means of demonstrating relevance.

### CHAPTER TWO

This chapter reviews the theoretical bases of consumer behaviour and food processor responses towards ethnic-food. The review firstly explains ethnic food, then discusses consumer behaviour, finally reviews the food processor, and the linkage of literature review to the present study.

#### 2.1 Ethnic food

Every country in the world may have a specific food that is considered to be ethnic food. The presence of ethnic food may be used to identify or distinguish the distinctive food of certain ethnicity. This food is not only recognised within original ethnic areas, but is also popular outside those ethnic regions. Therefore, it can play an important role as a national food asset and in the national culture. Ethnic food is prevalent in almost every large city in the world and is represented in food courts, restaurants, and fast food outlets. While, ethnic foods emerge in many different countries, this food may become blurred particularly regarding definition and authenticity. The authenticity of ethnic foods raises problems when these foods are related to their ethnicity.

Ethnicity can be viewed on the basis of the condition of belonging to a particular ethnic group (Rosenblatt and Hochstein, 1989). It is referred to as something to do with kinship or blood (Van den Berghe, 1981). It is presented as the minority groups of a society with distinctive origin characteristics (Loudon and Bitta, 1979). It is a way of classifying individuals and groups into a wide variety of labels including tribe, band, horde, deme, ethnic group, race, nation and nationality (Van den Berghe, 1981). However, Aprahamian (1999) argued that classifying people as nation and ethnicity are only theoretical or ideological constructs. In multicultural societies, such as the United Kingdom, 'ethnic' is used to describe minority migration foods, such as 'Indian', 'Chinese', and 'Mexican' foods (Cook *et al.*, 2000). Ethnic cuisine can represent an excellent paradigm for ethnicity itself (Van den Berghe, 1981). What

ethnic foods are, will be discussed in more detail in the following paragraphs.

Ethnic foods are 'a readily recognised marker of ethnicity and a major form of traditional culture' (Goode *et al.*, 1984). This definition is consistent with Douglas (1984) in that ethnic food refers to a cultural category, not a material thing. Culture can determine the attitudes toward the role of foods in daily life. The importance of food can be categorised into attributes of food in their lives, the ritual and moral significance of food, and its role as a social vehicle. Based on culture, food can be used to establish social linkages through sharing or to maintain social distance through food taboos (Rozin, 1996). Also, ethnic cuisine is the easiest and most pleasant way to cross ethnic boundaries (Van den Berghe, 1984).

Some studies considered ethnic foods as material things. For instance, Van den Berghe (1984) argued that ethnic food is a widening of home cooking. The consumer does not know that the cuisine is ethnic until this food comes into contact with other culinary traditions. In addition, Rozin (2000) pointed out that the most crucial elements in ethnic cuisine are the flavours, spices, and herbs used to make that cuisine distinctive. Every culture has cuisine that defines its own set of rules or traditions about how to cook, how to prepare, and how to combine flavourings that produce distinctive tastes which are unique and characteristic to that food.

However, the definition of ethnic food becomes difficult when ethnic foods are developed in a multi-cultural society, particularly regarding the authenticity of these foods. Likewise, Paulson and Williamson (1990) argued that many ethnic products have been modified to such an extent that it is questionable whether they can still be termed 'ethnic' according to even the loosest definition. For instance, in the Italian segment, the staple pasta and pizza have been drastically modified, such as in alphabet spaghetti, spaghetti hoops, and French bread pizza, and then marketed to appeal to specific target groups. Their ingredients may be the same as in their precursors, but their origins are wholly United Kingdom. The point of attenuation or whether the original ethnic food ceases to be ethnic may be questionable.

Also, Uhl (1995) recognised ethnic food as a complex and dynamic category which is not easy to define. The United States tends to perceive more and more cuisine as ethnic. Over time, items that used to be distinctly ethnic, like tacos and pizza, have become part of the mainstream American diet. Moreover, North American's cuisine is characterised by a willingness to borrow from other cultures that results in a tendency toward easy acceptance of new products and techniques (Fieldhouse, 1995). For example, the apple pie was bought from England; barbecued steak was introduced by the Spaniards who in turn learnt it from the Caribbean natives. Also, bagels are firmly identified as 'Jewish' as Jewish bakers sold them to their multi-ethnic urban neighbours. Later, bagels developed a new regional identity and were known as 'New York Deli' and they quickly became a staple cuisine, marketed and mass-produced throughout the country. Finally, bagels acquired a third identity, as 'American' when they were traded internationally. So, the bagel's Americanisation seemed more authentically 'New York Jewish' (Gabaccia, 1998).

Bell and Valentine (1997) suggest that some ethnic foods have been transformed through two processes of 'acculturation and hybridisation' and leads to foods that do not have to be authentic to be ethnic. The acculturation of food takes place when food is incorporated, modified and reinvented to become the core of a region-specific cuisine with its own intricate rules and patterns, into which is invested considerable pride. They are made to appeal to a wide audience and part of the regional pride invested comes from their selling to outsiders. An example is doner kebabs in Germany, which originated from the ethnic community of Turkish workers in Germany. However, the distinction has to some extent become blurred, since kebabs are often used to make a statement about German nationhood rather than Turkish ethnic minorities.

With regard to authenticity, Lu and Fine (1995) stated that authenticity is not an objective criterion but is socially constructed and linked to expectations. Whereas, Uhl (1995) divided authenticity into four factors, (a) the nature and history of the region creating cuisine; (b) the actual ingredients and spices used in the original product and how they were treated or processed before being added to the recipe; (c)

the cooking processes used in the original version of the cuisine; and (d) how the food was originally presented and eaten.

Cook *et al.* (2000) investigated the relationship between authenticity and ethnic/regional cuisine in United Kingdom. They found that ethnic/regional food in United Kingdom is recognised as a part of the 'modern world', developing across national/regional borders. Thus, many United Kingdom based manufactured foods have always been thoroughly interconnected ethnic 'authentic' (i.e. 'Italian', 'Indian', 'Chinese', 'Mexican' and so on). For instance, Patak (spices) Ltd. manufactures its 'Indian' cooking sauces, pastes, chutneys and breads in factories in the North of England and in Scotland.

Ethnic food can be considered as a regional status when this food is consumed in one locality, and as a local phenomenon status if this food is consumed in another area nearby (McIntosh, 1995). Food will become a regional dish as ethnic groups get large, if they stay small, ethnic dishes remain a 'local phenomena'. An example is Belgian *trippe* - a sausage made from pork and cooked with chopped cabbage and seasoned with nutmeg and other seasoning. In Namur, Wisconsin, Belgian *trippe* definitely is a regional food. In the city of Green Bay, however, some 20 miles from Namur, Belgian *trippe* is considered an ethnic food (i.e. a local phenomenon).

McIntosh (1995) defined regional foods as somewhat unique food products or dishes that tend to characterise a particular locality and are developed within that area. The food may reflect those foods which are plentiful in the environment (i.e. fish, certain fruits and vegetables) and their presence in the isolated location. For instance, Cornish pastry is a regional food that is a characteristic of the somewhat isolated regions of the upper peninsula of Michigan and northern Minnesota. Although, the Cornish miners are long gone, Cornish pastry still endures in these areas.

In regard to regional identities, Smart *et al.* (1997) stated that among the Chinese, ethnic food is closely articulated according to the regional identities of the Chinese present in Singapore. The various dialects of the Chinese community (i.e. Fujianese,



Chaozhou, and Cantonese) are associated with specific dishes, such as Hokkien fried noodles and Hainanese chicken rice.

However, McIntosh (1995) noted that regional foods are not similar to indigenous foods. Local plants and animals are often not considered as indigenous, because they have been introduced from elsewhere. The example of indigenous dishes in North America were corn, squash, pumpkin- made into soup, rice, baked beans, Indian pudding, maple sugar, pinto beans, and chili peppers. The American Indian has developed this food since pre-Columbian times.

While an exact definition of ethnic food may be difficult, Uhl (1995) considered that three trends of ethnic foods are emerging in the United States. Firstly, traditionally popular ethnic foods are characterised by the use of regional-type cooking and ingredients (i.e. Mexican, Italian and Chinese). Secondly, new ethnic cuisine is characterised by rich aromas and they have strong taste, unique and varied profiles, (i.e. Indian Moroccan and Thai cuisine). Thirdly, ethnic fusion food is specified by the combination of the flavours from different regions and cultures, in order to satisfy the American demand for variety and taste.

Culinary fusion and diffusion is more a consequence of the search for commercial gain than consumer preferences (Gabaccia, 1998). Moreover, Brandt (1999) noted fusion cuisine combines the ingredients or cooking techniques of two or more cultures, and has evolved throughout history. For instance, a popular Cayman Islands dessert uses fiery hot Scottish bonnet peppers in a chocolate cake. Also, Caribbean spices are mixed with traditional American barbeque spices for an interesting flavour combination. Smart *et al.* (1997) highlighted the fusion between Chinese and Indonesian food that happened in the post-war period and which is now characterised in the Chinese food menus in Belgium and Netherlands. The creation of Indonesian Chinese menus is manifest in various dishes, such as sate, 'gado-gado' and 'nasi goreng'.

Three ethnic fusion cuisines were developed in America (Uhl, 1995). Firstly, traditional fusion cuisine (i.e. Creole or Southern cooking), have become more complex and diverse. Secondly, traditional fusion cuisine was combined with new food types (i.e. Mediterranean and Caribbean foods). Thirdly, the combination of ingredients or cooking styles of various ethnic groups was created to provide new versions of products with unique flavours (i.e. pizzas, salsas, pastas, fried chicken).

Indonesia consists of 18,000 islands and is occupied by 250 ethnic groups (Freeman, 2000). Historically, Indonesia's indigenous cooking techniques and ingredients arose from the influence of India, the Middle East, China and Europe. For instance Chinese merchants and traders added stir-frying, soybean (soy sauce, tofu and sprouts) and noodles. Tofu is also known as bean curd. It is soft, cheese-like food made from soybeans, water and a natural, calcium-based coagulant. Tofu was developed in China and was first used around 200 B.C (Nasoya Pages, 2000). There are several types of tofu namely soft, firm and extra firm. There are also select colours of tofu including yellow and white (Clark, 1998). Similarly, Ferrara (2000) categorised tofu into three main styles, including silken, soft, and firm. Firm tofu has the best shape. In general, the firmer the tofu the more protein and calcium that it contains.

Likewise, Arab foods such as meatballs have also influenced Indonesian foods. Meatballs are recognised as *banadiq* in Arab meals (Rosenberger, 1999). Meat is chopped or crushed with a mortar to make *banadiq*, or meatballs. Dolader (1999) described meatballs as a Jewish food, known as 'Jewish stews'. Meatballs are described as balls of veal or beef and spices browned in olive oil. The meatballs could be prepared in two ways, either fried and then seasoned with sauce or simmered in broth. Corbier (1999) explained that meatballs are made from grounded leftover meat and were a common food in Roman Italy.

Today Indonesian cooks have adopted new tools and techniques and have reinvented others. Not surprisingly, Indonesia has created a mix of flavours which exerts its own influence abroad. In this study, ethnic food refers to ethnic fusion cuisine, in which the ethnic food is adopted and developed based on regional preferences, and after

years, the food has become a region specific cuisine, for example Malang meatballs and Kediri tofu.

## **2.2 Consumer behaviour**

This section reviews the theoretical basis of consumer behaviour and is organised into two parts. The first briefly sketches what consumer behaviour is. While, the second describes the theory of consumer behaviour.

### **2.2.1 What is consumer behaviour?**

Consumer behaviour is divided into two essential levels, mental and physical. The mental level includes consumers' beliefs, preferences, feelings, opinions, and mental associations (Walters, 1978) and this is recognised as the decision process (Loudon and Bitta, 1979). The physical level is defined as a direct action to satisfy an inner desire or specific reaction to unforeseen market stimuli (Walters, 1978). The physical activity is represented by the following actions: evaluation, acquiring, and using economic goods and services (Loudon and Bitta, 1979).

Peter and Olson (1990) classified consumer behaviour into three important categories: (a) dynamic, where individual consumers, consumer groups and society at large are constantly changing and evolving over time; (b) interaction, which refers to the association between affect (consumer feel) and cognitions (consumer think), behaviours (consumers do), and environmental events (the things and places); and (c) exchange, which indicates exchanges between human beings.

Consumer behaviour can be defined as how the consumer behaves in terms of physical activity in purchasing and using goods and services (Craig-Lees *et al.*, 1995). The activities of consumers include discovery, evaluation, acquisition, use and disposal of goods and services. Consumer behaviour can also be divided into four parts- buying; carrying home; preparing; cooking and serving; and eating (Earle, 1995). It is the processes involved when individuals or groups select, purchase, use, or

dispose of products, services, ideas, or experiences to satisfy their needs and desires (Solomon, 1996). Crawford (1997) emphasised a definition of buying behaviour which included activities and the decision process in terms of choosing between alternatives, procuring, and using the product and service. Schaffner *et al.* (1998) specified two important facets of consumer food behaviour. These were the food buying decision process and the relationship between the food and the consumer at each stage. The six stages of the food buying decision process were pre-action, search action, buying action, preparation action, eating action and post-action.

### **2.2.2 Theoretical review of consumer behaviour**

Consumer behaviour provides an insight into human behaviour. The concept of studying consumer behaviour is derived from behavioural science (Craig-Lees *et al.*, 1995) which is complex (Walters, 1978), and a multidisciplinary approach with the contribution of different social sciences (von Alvensleben, 1997). The various disciplines are used to understand consumer behaviour, for instance economic (micro economic theory of demand), psychology (motives, attitudes, perception, learning), sociology (consumer socialisation, reference groups), anthropology (culture, tradition), geography (regional factors), and nutritional sciences and medicine (nutritional needs, physiological regulation, sensory factors). Multidisciplinary approaches lead to quite distinct understanding of human behaviour (Craig-Lees *et al.*, 1995). To illustrate the multidisciplinary approach, two examples will be presented. Firstly, from the economics point of view, consumer behaviour is represented as the flow of the goods and services in society. The assumption is that the various individuals and groups in society establish an economic system or a way of organising the use, distribution and consumption of resources - the production of goods and services. Secondly, on the basis of a psychological approach, consumer behaviour is represented by the individual, and individual differences in behaviour are influenced by emotional and mental health and motivation, individual perception, development and adjustment to the environment. Hence, the psychological approach might be useful in explaining consumer behaviour when buying ethnic food. It will be important to discuss the reason why such an approach tends to be used by explaining

and comparing the difference between economic and psychological approaches.

### **2.2.2.1 Economic model**

Micro economic theory explains consumer behaviour by the level of demand towards commodities for individual consumption (Sadoulet and de Janvry, 1993). A rational consumer will decide to perform a certain action in order to maximise his/her satisfaction subject to existing constraints (Redman, 1979). The utility concept in the microeconomic model can be used to measure consumer choice behaviour with some assumptions: (a) perfect knowledge of individual wants and sources of supply exist; (b) preferences are perfectly ordered; and (c) utility is maximised (Walters, 1978). Consumers obtain satisfaction from goods, and that satisfaction is a function of the utility of the product (Craig-Lees *et al.*, 1995). This indicates that a rational consumer would always seek the maximisation of the utility. It can be acquired by matching the utility of the products with time and costs.

According to economic model, consumers' decision making is assumed to behave rationally in economic sense. In their decision making, consumers would have to be: (a) aware of all available product alternatives, (b) capable of correctly ranking each alternative in terms of its benefits and disadvantages, and (c) able to identify the best alternative (Schiffman and Kanuk, 2004). This model concentrates on product choice with the concept of marginal utility analysis (Walters and Bergiel, 1989). Marginal utility of a good is the extra utility obtained from consuming per additional unit of the good each unit time when the quantity consumed of all other commodities are assumed to be constant (Frank, 1997; Salvatore, 2003).

The economic concepts of marginal utility are a fair method of how consumers order their preferences (Walters and Bergiel, 1989). This economic approach has contributed to consumer behaviour (Walters, 1978). The model focuses on (a) product choices under ideal conditions using marginal analysis and indifference analysis; (b) determining income and the ability of consumers to buy; (c) the importance of price on the quantity of any product purchased; and (d) the fluctuation of product price to

obtain an equilibrium of supply and demand.

There are two steps of rational consumer choice to reach his/her satisfaction (Earl, 1995). The first step is identification the set of goods that the consumer is able to buy subject to budget constraint. The consumer might purchase all possible goods if he or she spends his entire income. The second step is summarising the consumer's preferences subject to budget constraint. The consumer is able to rank all possible goods on the basis of a preference ordering. Preference orderings are assumed to satisfy these restrictions and to exhibit increasing indifference maps, or collections of indifference curves. Preference orderings are also assumed to delineate a diminishing marginal rate of substitution. The diminishing marginal rate of substitution (MRS) property is characterised by the convex shape of indifference curve.

An indifference curve represents the various combinations of two goods that give consumers equal satisfaction (Salvatore, 2003). Indifference curve or utility function summarises the consumer's preferences over various bundles (Frank, 1997). Consumers are assumed rankings for combinations of goods and services from the set of feasible combinations subject to a budget constraint in order to maximise utility (Earl, 1995). The consumer maximises satisfaction when he or she spends all income and the ratio of marginal utility to the price is the same for all goods (Frank, 1997; Salvatore, 2003).

However, the economic concepts of marginal utility have some limitations (Walters and Bergiel, 1989). Firstly, under marginal utility analysis the individual always attempts to maximise satisfaction. In practice, consumer may order preferences based on emotions or non-monetary factors (i.e. beauty, comfort, or uniqueness) in a way that logic may often make it impossible to maximise. Also, ranking can often be less factual than actually found in economic theory. Secondly, most products are not made in infinitely small increments. The consumer faces discrete rather than incremental values. Thirdly, marginal analysis is based on an explicit comparison of products. In reality, the individual does not even think in terms of comparison. Fourth, marginal analysis does not consider the reasons that lie behind the decision. Both individual



factors (i.e. personal needs, including nutritious food and basic clothing), intended use, degree of motivation, and experience with product); and environmental influences (i.e. price, and logic of external information) do influence the decision.

Moreover the classical economic model of rational consumers is inappropriate for the following reasons: (a) People are limited by their existing skill, habits, and reflexes; (b) people are limited by their existing values and goals; and (c) people are limited by the extent of their knowledge (Schiffman and Kanuk, 2004). Also, the model has limitations when explaining consumer behaviour, particularly when categorised into maximising consumers' satisfaction and consumer behaviour (Walters, 1978). The assumption of maximising satisfaction as the desirable goal may not be correct, as it is certainly not the only goal. In terms of explaining consumer behaviour, the model will have limitations. Firstly, economic behaviour deals with 'what' and 'how much' to buy, and leaves the question of 'how' and 'why' consumers make choices or need particular products (Craig-Lees *et al.*, 1995). Secondly, the main focus of the model is the effects of income and price changes on demand under given preferences (Padberg, 1997). When consumer preferences change, consumer demand is difficult to measure as the determination of consumer preferences, the involvement of consumer decisions, and the influence of both income and price on consumer preferences are not considered in the model (von Alvensleben, 1997). Thirdly, the economic model of consumer behaviour view does explain some consumer behaviour but it does not hold for all purchase situations (Craig-Lees *et al.*, 1995). The purchase situation refers to the place or situation in which a product is acquired. It includes a variety of retail environments (i.e. supermarkets, department stores, restaurants and flea markets); situational factors (i.e. price changes, product availability, store layout, competitive deals and the helpfulness of salespeople); and the customer's shortage of time, the amount of crowding in the store, the presence of other people in the shopping environment, and even the weather.

### **2.2.2.2 Psychology approaches**

The psychological theory of consumer behaviour can be useful to understand the

effects of the change in preferences. There are three factors namely emotions, motives and attitudes that are the basic forces of consumer behaviour (Padberg, 1997). Attitudes operate within individuals and can determine general behaviour and influence consumer behaviour (Schaffner *et al.*, 1998). One of the attitude models of consumer choice is the Fishbein model (Lunn, 1974).

#### **2.2.2.2.1 Fishbein model**

The Fishbein model is a cognitive dissonance model of explanatory power of psychological theories. The four particular strengths of the Fishbein approach include: (a) presenting the appropriate definition of attitude and the distinction of this concept from other related concepts (i.e. beliefs and behavioural intention); (b) performing a behavioural intention measurement; (c) providing a precise measurement of behaviour; and (d) considering the importance of social and situational factors (Lunn, 1974).

However, the Fishbein model has some limitations. The model does not regard the specific network of personal contacts and the necessary activity (Warneryd, 1987). Those activities may be useful when products that are required by consumers are unavailable in the shops. Furthermore, the rational decision in regard to engage or not to engage in a given behaviour is another limitation of the Fishbein theory (Engel *et al.*, 1995). This is because consumer rational decision making may be based on careful weighing and evaluation of utilitarian (or functional) product attributes at that time. Whereas, at other times, hedonic (emotion-driven) benefit will dominate, and the consumption object is viewed symbolically in terms of sensory pleasures, daydreams, or aesthetic considerations. Moreover, Craig-Lees *et al.* (1995) criticised the Fishbein model as they failed to include the influence of emotions when processing information and the effect of situational factors in choice. This is because Fishbein theory expands consumers' behaviour on the basis of their knowledge, but ignores how consumers obtain information about the knowledge of products, or what they do with that information.

This model has been adapted and elaborated by Fishbein and Ajzen (1975) and described as a model of consumer behaviour. They noted that behaviour is viewed as a flow of behavioural dimension. Initially, beliefs proceed the attitude object. Then, intentions are the immediate consequence of attitudes. Finally, the intentions can perform the behaviour. This model is further developed in Ajzen and Fishbein (1980) as the theory of reasoned action.

#### **2.2.2.2 Theory of Reasoned Action (TRA)**

The theory of reasoned action (TRA) recognised the role of subjective norms in guiding intentions and subsequent behaviour. It precisely measures beliefs and social motivations and leads to explanations and predictions of consumer attitudes. Attitudes can help to predict behavioural intentions and even approximate behaviour itself (Foxal *et al.*, 1998).

Broadly speaking, the TRA model explained how consumers form behavioural intention. Consumers' intention can perform or not in a certain way based on two parts. Firstly, the personal component or the attitude component consists of beliefs (information) and evaluation. This stage refers to the individual's attitude towards purchasing behaviour and his/her beliefs about the consequence of this action. Secondly, social components or subjective norms are composed by an influence of other people in society and motivation to comply with other people views. This stage represents how the individual perceives the attitude of the importance of other people and the motivation of the individual to comply with that attitude (Parthasarathy *et al.*, 1994; Schutte and Ciarlante, 1998). The following paragraphs explain motive, beliefs, attitudes, perceptions, intention and behaviour.

#### **Motive**

A motive is defined as an internal tension of impulse or feeling to do something or act in a certain way (Walters, 1978). This is 'the dynamic property of behaviour that directs and defines the goal (Craig-Lees *et al.*, 1995) or the strength of behaviour

(Evans *et al.*, 1996). Motives create awareness towards the needs and give the reasons for acting on these needs (Walters and Bergiel, 1989). Two types of motivations are internal ('from within a person') (i.e. instinct, need, drive, or emotion) and external (from the environment') (i.e. product and services) (Evans *et al.*, 1996).

People tend to perceive the things they need or want: The stronger the need, the greater the tendency to ignore unrelated stimuli in the environment (Schiffman and Kanuk, 2004). Consumers try to accomplish their goals and to reach desired situations (Evans *et al.*, 1996). Sometimes motives are subconscious, and it takes skilled research to uncover them. For this reason, understanding what motivates people to purchase and use products is considered central to the understanding of consumer behaviour (Craig-Lees *et al.*, 1995). For example, why people eat yoghurt and other fermented milk (Schaffner *et al.*, 1998). Consumers consider to be the ideal attributes of the product category or what they perceive their needs to be in relation to the product category (Schiffman and Kanuk, 2004). Information about the attributes of the available alternatives is often instrumental in the decision making process as a step towards reaching the goal (Evans *et al.*, 1996).

### ***Beliefs***

Beliefs can be used in guiding the consumers' action in order to satisfy wants that refer to a thought as an anticipated benefit (O'Shaughnessy, 1987). Consumers' want for a particular product can be represented through some actions such as using, consuming, or processing that product. The acceptances of certain statements are more likely to be true than false (or vice versa), or certain things should be done (or not done), all are considered as beliefs. Beliefs can become a constraint for the consumer to buy the products. For example, within the restriction of income and product availability, consumers will buy products based on their beliefs about (a) anticipated satisfaction when possessing, consuming, and using the product, and (b) the anticipation of product availability at various prices.

### ***Attitudes***

Attitude is the way the individual perceives and reacts to her/his environment (Lunn, 1974). It is more than a global evaluation (Evans *et al.*, 1996), it is multidimensional and is structured by three things: affect, cognition and conation (Blythe, 1997). The cognitive component refers to knowledge of the benefits. The affective component represents the feelings and evaluations about these beliefs resulting from knowledge. The connotative component is the behavioural aspect resulting from the cognitive and affective components (Evans *et al.*, 1996).

Attitudes can be used to direct consumers toward products or brands they find useful when satisfying needs and wants (Foxall *et al.*, 1998). As one of many psychological factors, attitudes can be favourable or unfavourable (Blythe, 1997), emotional feelings, and tendencies in regard to a product (Schaffner *et al.*, 1998; Boone and Kurtz, 2001). Consumer feelings of the like or dislike of products, brands, stores, advertisements, or other marketing stimuli can be traced from consumers' attitudes (Foxall *et al.*, 1998). Moreover, attitudes provide a useful way when depicting past personal experience, communicating an experience of others, and predicting future behaviours.

### ***Perceptions***

Perception is the process by which an individual selects, organises, and interprets stimuli (i.e. sight, sounds, and smells) (Solomon, 1996; Mowen and Minor, 1997; Assael, 1998; Schiffman and Kanuk, 2000). The psychology of perception deals with lawful relationships concerning the discriminant stimuli (Antonides, 1996). A person's perception of an object or event is based on the interaction of two types of factors: stimulus factors (i.e. size, colour, weight, and shape) and individual factors (i.e. sensory processes, experiences, motivations and expectations) (Boone and Kurtz, 2001). The perceptions towards stimuli (above or below of their conscious awareness) might be related to socio-economic and situational variables (Schiffman and Kanuk, 2000). For instance, consumers often judge the quality of product or service on the

basis of a variety of informational cues, intrinsic (i.e. colour, size, flavour, aroma) or extrinsic to the product (i.e. price, storage image, brand image, service environment).

### ***Behaviour intention***

Behavioural intention is the tendency of consumers to either approach or avoid behaviour in response to an object, concept, or act (Sheth, 1974). The intentional behaviour is determined by the impacts of attitude and social influences (Fishbein and Ajzen, 1980) or attitude and cultural pressure (for instance, face saving and group conformity) (Lee, 1990).

Lee (1990) stated that purchasing intention may rely on consumers' group orientation and their perception of the importance of group norms. In particular, Asian culture (i.e. Confucianism), where behavioural intentions are more concerned about social influence and face saving pressures.

Likewise, buying intention is not the actual act rather than a state of mind (O'Shaughnessy, 1987). It is influenced by social pressure (Pellemans, 1974), and conditional terms, such as time, place and circumstances (O'Shaughnessy, 1987) to acquire actual buying activity.

### ***Behaviour***

Behaviour refers to a specific act under investigation that is manifested at a specific time and under specific conditions. Behaviour is hypothesised to be a function of the individual's effect (with or without cognitive structure), behavioural intention, and a set of unexpected events that impinge on behaviour that the individual could not predict at the time of verbally expressing his/her behavioural intention (Sheth, 1974).

### ***A modified Fishbein behavioural intention model***

The Fishbein theory was criticised as being more appropriate to the Western



consumer rather than the Asian consumer (Lee, 1990). Western consumers are influenced by social components particularly subjective perception of others' opinion rather than the social pressure of those opinions in presenting behavioural intentions. In contrast, in Asian cultures (i.e. Confucianism), behavioural intentions are linked with the social influences of group conformity and face-saving pressures (Lee, 1990). Likewise, cultural differences of the individualism/collectivism dimension may play an important role in assessing the persuasiveness of advertising appeals in the United States and China (Zhang and Neelankavil, 1997). United States subjects preferred an individualistic appeal to the collective appeal, while Chinese subjects favoured the collectivistic appeal. Schutte and Ciarlante (1998) noted three differences between Western and Asian consumers, firstly, the collectivist orientation of most Asian cultures leads to a greater value being placed upon human connections, in the form of group belonging, relative to material objects. Secondly, Western people rely on the emotional, whereas Asian people (i.e. Chinese) depend on their feelings when making purchasing decisions. Thirdly, the necessity of adhering to the norms of status propriety leads to less emotional motivation of Asian consumers in purchasing behaviour.

In an attempt to deal with Asian consumers, Lee (1990) proposed a modified Fishbein behavioural intention model to account for social influence factors in Confucian culture, namely group conformity pressure and the concept of face saving. In Lee's modified Fishbein model, the social component factors are replaced with the face-saving and group conformity pressures. Face-saving pressure is more than thinking about and complying with others, it is a reflection of one's own role in comparison with others. Face-saving is especially important when purchasing a socially visible product such as a watch, which determines the status of person. Group conformity, on the other hand, depends on the person's group orientation and his perception of the importance of group norms. Group conformity pressure is relevant when purchasing less socially visible products such as toothpaste (Schutte and Ciarlante, 1998).

### ***The application of TRA model***

The model of Fishbein and Ajzen has been successfully applied in the food choice area (Shepherd, 1990). Generally, people's beliefs about their food consumption were set in the framework of the relationship between their other values and attitudes, social pressure from others and their perceptions of control over their choices (Shepherd and Sparks, 1993). People's own attitudes tend to outweigh perceived social pressure to behave in a particular way. The belief-evaluations relate to attitudes but there are some suggestions that the beliefs are not uni-dimensional and might have different components. This approach offers a means for assessing the relative importance of the different types of influences on food choice (Shepherd, 1990).

Moreover, the theory of reasoned action (TRA) is an excellent tool to analyse consumer behaviour. This model is useful for the prediction of proximal psychological (beliefs, values and attitudes) influences on food choice (Shepherd and Sparks, 1994). In addition, this theory permits the assessment of people's attitudes to rationally analyse model of human behaviour. Also, Foxall *et al.* (1998) contends that the TRA's approach is particularly useful when evaluating consumers' perceptions of current marketing offerings. The TRA has been applied in some studies, such as Netherlands' milk (Termorshuizen *et al.*, 1986), and in the importing of fresh apples from Chile to Europe (Raczynski, 1997). The theory of reasoned action (TRA) has only been useful in predicting intent to purchase familiar food products, and it was not appropriate for unfamiliar food products (for example, cheese) (Arvola *et al.*, 1999).

In an attempt to extend the economic model and develop the Fishbein approach, 'emotional' reasons for purchasing products should be included. Thereby, consumers' purchasing behaviour should be studied as a process. This resulted in the development of a number of models to formalise this process. The model that has been most accepted and adopted is the Engel, Kollat and Blackwell model (EKB).

### 2.2.2.2.3 *EKB model*

Engel, Kollat, and Blackwell extended the Theory of Reasoned Action (TRA) and Blackwell's Model of buyer behaviour, to form the EKB model. The EKB (Engel, Kollat, and Blackwell) theory has two characteristics (Wosinski, 1989). Firstly, theory focused on purely cognitive and description of consumer behaviour in terms of information processing and decision making. Problem solving and decision making processes are based on both individual experience and information about the utility of particular products and their availability. Secondly, the EKB described consumer behaviour in markets, where the consumers' main task is to choose among different available products.

Meanwhile, Engel *et al.* (1990) attempted to further improve the EKB theory. The EKB model breaks down into four stages. Three determinants, need recognition, search of information relevant to the decision, and an evaluation of the alternatives available, are separated into first to third stages, whereas the act to purchase and further evaluation are grouped into the fourth stage. The first stage has three principal determinants: individual differences, environmental influences and information stored in memory. The second stage may be sought from internal (memory) sources or external sources. The third stage weighted, and judged rules of the attributes of different products. The final stage is the purchase action and further evaluation of outcomes, leading either to satisfaction or dissatisfaction.

The problem-solving perspective encompasses all types of need-satisfying behaviour and a wide range of motivating and influencing factors. It does not only separate the four stages into purchase and post-purchase stages, but also adds another divestment stage. Broadly speaking, consumer decision making has the following seven stages: (a) need recognition, (b) search of information, (c) pre-purchase alternative evaluation, (d) purchase, (e) consumption, (f) post-purchase, and (g) divestment (Engel *et al.*, 1995).

Consumer behaviour as a problem-solving activity is made up of the following threekey phases (Craig-Lees *et al.*, 1995). Firstly, the pre-purchase phase or acquisition phase reflecting consumers' recognition that they need a product and engage in information search and evaluation behaviour. Secondly, the purchase phase occurs when consumers select a product and ownership is transferred to the consumers. Thirdly, the post-purchase phase, sometimes referred to as the post-acquisition stage, occurs when consumers use the product. If the product does not perform to the consumers' expectation then dissatisfaction will occur.

However, a decision is a process rather than a single act (von Alvensleben, 1997). In an attempt to understand the decision process, it can be broken down into three stages: need recognition, pre-purchase search, and evaluation of alternatives (Schiffman and Kanuk, 2000). Kotler (1997) presented buying decision models which comprised five stages: problem recognition, information search, evaluation of alternatives, purchase decisions, and post-purchase behaviour.

### ***Problem recognition***

Problem recognition refers to what happens to initiate the process (Engel *et al.*, 1993). The buying process begins with recognition on the part of an individual or organisation that they have a problem or need (Crawford, 1997). The buyer senses a difference between his or her actual state and a desired state. Problems and needs can be triggered by either internal or external stimuli. Internal stimuli include the person's normal needs, such as hunger and thirst. Whereas external stimuli refers to product appearance (Kotler, 1997).

### ***Information search***

Searches focused on using sources of information to help arrive at a decision (Engel *et al.*, 1993). Information gathering may be passive or active (Crawford, 1997). Passive information gathering occurs when an individual or a group simply becomes more attentive to a recognised solution to a given need. That is they exhibit

heightened attention. The potential buyer becomes more aware of advertisements or other messages concerning the product in question. In other circumstances the individual is proactive rather than reactive with respect to information.

Kotler (1997) suggested a consumer information sources fall into four groups: (i) personal sources (i.e. family, friends, neighbours, acquaintances); (ii) commercial sources (for instance, advertising, salespersons, dealers, packaging, displays); (iii) public sources (i.e. mass media, consumer-rating organisations); and (iv) experiential sources (i.e. handling, examining, using the product).

### ***Evaluation of alternatives***

Alternative evaluation is the criteria used by consumers to assess alternatives and the status of purchase intention (Engel *et al.*, 1993). It involves what the consumer intends to do (Blackwell *et al.*, 2001). The process of evaluating alternatives not only differs from customer to customer but the individual will also adopt different processes in accordance with the situation (Crawford, 1997). It is likely that when making judgements customers will focus on those product attributes and features that are most relevant to their needs at a given point in time.

Kotler (1997) noted that in the evaluation stage, the consumer forms his/her preferences among the brands in the choice set. The consumer may also form an intention to buy the most preferred brand. However two factors, namely attitudes of others and unanticipated situational factors, can intervene between the purchase intention and the purchase decision.

### ***Purchase decision***

The purchase decision referred to in the evaluation stage indicates that the prospective consumers will judge their preferences among the evoked set and will form a purchase intention. However two factors can intervene between the intention and the purchase decision: the attitude of others (for instance, families, peers, and reference

groups) and unanticipated events (for example, lower income than expected, expenses, illness) (Crawford, 1997). Engel *et al.* (1993) recognised this phase as the choice stage during which a selection is made from among the available alternatives.

The actual choice is a way to perform preferences (Mela, 2001). O'Shaughnessy (1987) argued that although actual choice is an overt behaviour, it is a way to express preferences, however, it sometimes does not happen. This is because the actual choice might be determined by situational factors as well as in the last minute a change of mind when purchasing.

### ***Post-purchase Behaviour***

This stage was represented by outcomes acquired from purchase decisions. Outcomes can be satisfaction or doubt that a correct decision was made (Engel *et al.*, 1993). After purchasing product, the consumer will experience some level of satisfaction or dissatisfaction (Kotler, 1997). The level of satisfaction or dissatisfaction is largely a function of the compatibility between the buyer's expectations of the product and the product's perceived performance. If the product's perceived performance either matches or exceeds its expected performance then the buyer is likely to feel highly satisfied (Crawford, 1997; Assael, 1998; Blackwell *et al.*, 2001). If consumer is satisfied, he or she will exhibit a higher probability of repeat purchase of the product. Whereas, dissatisfied consumers may stop purchasing the product and are likely to spread the word among their friends. However, a consumer may be dissatisfied with a brand but continue to buy, while a consumer may satisfied with a brand but fail to buy the brand next time (O'Shaughnessy, 1987). The former situation is when they believe rival brands are no better and they are not prepared to do without the product. Benefits do not always come up to expectations in terms of satisfaction yielded. The latter situation may occur because rival offerings have become more attractive.

### ***The advantage and disadvantage of the decision process approach***

An advantage of the decision process approach is that it can incorporate all consumer

activities, from the need (problem recognition) task through to use (outcomes) of the purchase. Another important advantage is that the approach can accommodate the influence of emotions on product choice (Craig-Lees *et al.*, 1995).

It is unrealistic to think that a person can go through all of these steps for every purchase (Schutte and Ciarlante, 1998). Peter and Olson (1990) argued that understanding consumer behaviour is not only what consumers do or their behaviour, but it also involves the influences of three factors: consumers' think (cognition), consumers' feel (affect), and environmental effects (i.e. thing and places).

### **2.2.3 Factors influencing consumers' purchasing behaviour**

Several studies have investigated consumer behaviour towards food products and ethnicity influence. For example, the food choice and ethnicity was viewed in different geographic areas of a major Canadian city (Montreal) based on micro-economic perspectives (Rosenblatt and Hochstein, 1989). Jolly and Diop (1991) explored the effects of ethnic identity and income class on food consumption choices in Senegal. In addition, how one ethnic group (British) perceives and accepts other ethnic foods (selected Italian foods) was studied by Meiselman and Bell (1992). Devine *et al.* (1999) concentrated on the interaction of ideals, identities, and the role of food choices in three ethnic groups. Reynold *et al.* (1999) emphasised the effects of gender and ethnicity across regions in Georgia and Minnesota particularly with regard to food choices for fruit and vegetables.

Both the Fishbein model and the EKB model focus on consumer psychology in relation to their behaviour. The consumers' psychological set is derived from two influences – internal and external (Craig-Less *et al.*, 1995). Internal influences relate mainly to genetics, including physical characteristics, innate talent and personal disposition (for example, motivation, intelligence and personality). External influences referred to environmental factors that can influence behaviour, such as culture, religion, social class, and family.



Consumer decision making is influenced and shaped by three categories (Engel *et al.*, 1995). There are the individual differences, including consumer resources, knowledge, attitudes, motivation, and personality, values, and lifestyle; environmental, involving culture, social class, personal influence, family, and situation; and psychological processes, such as information processing, learning, and attitude and behaviour change.

Situational influence plays an important role with regard to approach and avoidance behaviours, and emotional responses, as outlined in the Behavioural Perspective Model (BPM) (Foxall and Greenley, 1999). There are two elements of situational influence: (a) the scope of the consumer behaviour setting and the pattern of utilitarian behaviour, and (b) the setting of informational reinforcement based on consumers' experience. Craig-Less *et al.* (1995) categorised situational factors into five areas: (a) availability of products, (b) social norms, (c) points of purchase, (d) promotions, and (e) store atmosphere. Situational factors should also consider purchase behaviour.

Schaffner *et al.* (1998) stated that in studying food-buying behaviour it is important to recognise not only the demographic/social influences, but also psychological factors, such as attitudes, motives, habits, and knowledge that are specific to the consumer. Gain (1994) categorised the interaction between food and behaviour into three things: the food itself, the consumer, and the context or situation within which the interaction takes place.

Ethnic food is a significant part of people's diet and can represent the uniqueness of their culture. Each culture has a certain habit toward their ethnic foods. However, within the same culture, food habits are not all homogenous. People of different social classes, occupations, or religions eat differently. Men and women, in various stages of their lives, eat differently. Different individuals have different tastes (Chang, 1977). Eating habits varied among consumers because of individual characteristics (i.e. ethnicity, religion, local moral values, geography), and food availability (Ahmad, 1999). Randall and Sanjur (1981) divided the factors that affected food

preference into three categories: characteristics of the individual, characteristics of the food and characteristics of the environment.

### **2.2.3.1 Consumer characteristics**

The activities of consumers indicate the dynamics of this process that are influenced by factors such as the mind of the consumer (Craig-Lees *et al.*, 1995). The following paragraphs outline consumer characteristics relating to their behaviour toward food.

#### ***Consumer's Lifestyle***

Lifestyle is the person's pattern of day-to-day living and is expressed in the person's activities, interests, and opinions (Kotler, 1997). Activities refer to how people allocate their time, while interests indicate what people deem as important in their environment, and opinions refer to what they reckon about themselves and the world around them (Assael, 1998). Grunert *et al.* (1998) defined lifestyle as the system of cognitive categories, scripts, and their associations, which relate a set of products to a set of values. Lifestyle portrays the whole person interacting with his or her environment (Kotler, 1997).

The study of Tai and Tam (1996) found that consumers' lifestyle measured by means of AIO (Activities, Interest, and Opinions) variables, differ between Singapore and Hong Kong respondents. Singapore respondents showed more concern with the quality of product than its price, whereas Hong Kong respondents were generally more traditional and conservative and adhered strongly to the cultural values such as 'face' and 'fate'. Also, Grunert *et al.* (1998) reported that food-related lifestyle presented as ways of shopping, cooking methods, quality aspects, consumption situations, and purchasing motives, appeared to be different among the French and German. The French consumers were more hedonistic and more conservative, while the German consumers were more reason-oriented and adventurous.

### ***Consumer's age***

This variable has a large impact on where people shopped and when and how many meals they ate (Carlson *et al.*, 1998), the quantities and the types of food eaten (i.e. hamburgers, pizza, sandwiches, Chinese food) (Alreck and Settle, 1998), and eating place (Schaffner *et al.*, 1998). The different ages had distinguishing food preferences (Watanabe *et al.*, 1997). Younger people, larger families, and people with calcium concerns drank more milk more often than any other segment of society. Whereas, men, middle-aged people, and people with no calcium concerns prefer soda and alcoholic beverages to milk beverages.

Age factors influenced ethnic food choice, particularly for eating breakfast in some Asian countries (Howden *et al.*, 1993). The younger age group is likely to shift their breakfast to western food and tend towards eating out styles. Japanese teenagers are more likely to change to a western style of breakfast such as breads and cereals. Also, Singapore younger age groups chose Burger King, Kentucky Fried Chicken, and McDonalds (LaMar, 2000). Andalusian's children and adolescents preferred fried eggs, steaks, hamburgers, and sausages, with chips, while stews prepared in their homes were less preferred (Turmo, 1997).

However, young people had preference for traditional foods, such as consuming *patacone*- traditional slices plantain slices, in Coli (Columbia) (Diaz *et al.* 1998). Teenagers also have a greater preference to fermented lamb sausage – a traditional food in Norway and a strong effect on purchase intention towards this food (Helgensen *et al.*, 1998). Some traditional foods, such as 'bubur ayam' (chicken rice porridge), 'bakso kuah'(meatball's broth), fried banana and sweet bread were preferred by young people in Indonesia (Howden *et al.*, 1993).

### ***Consumer's gender***

Gender has a significant effect on consumption of all fast foods (i.e. hamburgers, pizza, sandwiches, Chinese food) categories (Alreck and Settle, 1998). More males

frequent fast-food stores (i.e. meat, cheese and chips (Lancia *et al.*, 1999), and have a greater preference for Akara-fried cowpea paste (McWatters *et al.*, 1997), more probability of purchasing peanuts (Moon *et al.*, 1999), and more often choose fast-food stores than females (Lancia *et al.*, 1999).

Helgensen *et al.* (1998) found in Norway that the effect of preference on purchase intention of fermented lamb sausage is stronger for men than women. This is supported by a study in the Ukraine where men preferred the taste of fatty and processed meats, whole milk, lard, pasta and cola drinks. In contrast, women tended to like the taste of fruits, vegetables, and candy (Biloukha, 2000). The same picture is found in Andalusian where women prefer sweets and greens, but maybe not game or river fish, whereas men prefer meat (Turmo, 1997). Likewise, girls consumed more fruit and vegetables than boys (Reynold *et al.*, 1999).

As the number women in the labour force increases, they devoted more of their activities in ethnic food consumption (Paulson-Box and Williamson, 1990). This is due to availability of financial resources and time for consumption activities. Bareham (1995) noted that increased participation of women in the labour force improved demand for convenience products with a short preparation time. Once women are involved in wage labour, they have limited time or even no time to prepare food at home.

### ***Consumer's marital status***

Marital status was an important factor in explaining and predicting consumption and demand for foods. Married people allocated more expenditure for eating out (Byrne *et al.*, 1996), and pay more for organic foods (Thompson, 1998). Housewives who possessed knowledge of health and nutrition have a positive effect in increasing demand for milk and dairy products in Japan (Wanatabe *et al.*, 1997), and in improving the diet quality of their children (Variyam *et al.*, 1999).

### ***Consumer's education***

Education attainment was reported as having a strong relationship to the health food choices (Hunt *et al.*, 1997) and fish choice for Oman people (Houston *et al.*, 1998). Teenagers who had completed nine or more years in school associated with their acceptance towards Akara-fried cowpea paste (McWatters *et al.*, 1997). Likewise, a high level of education was found to have a strong relationship with frequencies of consumption of seafood (Weinstein *et al.*, 1999).

### ***Consumer's knowledge***

Rappoport *et al.* (1992) noted that consumer's knowledge of nutrition is a significant predictor of food acceptance that is represented by the pleasure and health ratings of various menu items. However, Colavito *et al.* (1996) found that nutrition knowledge might not be as helpful in making healthy food choices outside the home, as it may be in the home setting.

### ***Consumer's preferences***

The preferences towards food can be identified on the basis of (a) a verbal expression of a strong liking for the food, (b) selecting preference for food in free choice situations, (c) positive facial expression when consuming the food, and (d) showing high motivation to obtain food and craving for it in its absence (Rozin and Rozin, 1981).

Consumer behaviour toward food depends on preferences. Individuals have their own sets of preferences which, to greater or lesser extent, override preferences defined by culture or religion (Schaffner *et al.*, 1998). Their consumption may have certain goals: to overcome loneliness, to feel happiness, or to gain prestige. Each individual has physiological needs for energy, protein tissue building, vitamins, and minerals.

Piggott (1984) stated that food intake can be used as a measure of preference of nutrient intake and of economic status. Pangborn *et al.*(1988) found that the degree of aroma preferences in 16 countries vary with regard to differences in traditional food habits and availability of regional flavour sources.

### **2.2.3.2 Food characteristics**

Sensory characteristics of food and the perceptions of this food are now reviewed in this section.

#### ***Food quality***

Food quality perception and evaluation by the consumer is relative to the person, place and time and is subject to the same influences of context and expectation phenomena (Cardello, 1995). As consumers differ in their perception abilities, personal preferences, and experience level, perceived quality can vary accordingly (Ophuis and van Trijp, 1995).

The quality of a product is categorised into intrinsic and extrinsic quality cues (Steenkamp,1990 cited by Bello Acebron and Dopico, 2000). Intrinsic quality cues are part of the physical product which cannot be changed without changing the physical product itself. Extrinsic quality cues are related to the product, but are not physically part of it such as price, brand name, place of origin, type of outlet, presentation, and influence of store personnel, promotion, packaging, and advertising and are determined by marketing efforts. Bello Acebron and Dopico (2000) noted that consumers infer the quality of beef on the basis of intrinsic quality cues, including colour, freshness and visible fat.

#### ***Food price***

Generally, price negatively influences food purchase, as the price rises, the quantity of food purchased goes down (Bareham, 1995). Price appears useful when consumers

do not have adequate information about intrinsic quality cues, or when it is the only available cue (Zeithaml, 1988).

Price and quality are positively related (Dodds *et al.*, 1991; Rao and Monroe, 1989). Therefore, price has a positive influence on expected quality. The greater the price, the greater expected quality. However, price has in several studies been found to be of less importance than health claims and preference to buy strawberry yoghurt (Vickers, 1993), cooked restructured beef steaks (Cheng *et al.*, 1990) and cheddar cheese (Solheim and Lawless, 1996). Helgesen *et al.* (1998) found that price was the most decisive factor for males, while a high fat level had a negative influence on female purchase intent of fermented lamb sausages.

In regard to buying intention, food price is significantly associated with purchase intention. For instance, the low price of fermented lamb sausage (Helgensen *et al.*, 1997) and the high price of cooked restructured beef steaks (Cheng *et al.*, 1990) have a strong and weak impact on purchasing intention, respectively.

### ***Health food***

Health consciousness is an important factor in increasing the demand for milk and dairy products in Japan (Watanabe *et al.*, 1997; Houston *et al.*, 1998). It was the most salient factor influence on food choice for males in the Ukraine (Biloukha, 2000). Women regard whole milk, fatty and processed meats, animal fats, sweets, cola drinks and some starches (pasta, potatoes and white breads) as less healthy than men did, whereas men perceived green vegetables, salads, apples, juices and cottage cheese as less healthy than women did (Biloukha, 2000). Low fat level has a strong effect on purchasing intention (Helgensen *et al.*, 1998).

### ***Food taste***

Taste, sight, smell, touch, and sound are considered food flavours which blend all sensory responses to food and leads to food acceptance (Fleck, 1981). Flavour is



defined as total sensory impression during food consumption including aroma, taste, and consistency (Rothe, 1988). Aroma or odour and taste influences food acceptance (Kinde, 1973). The valuable attribute of texture has an impact on food acceptance and food preference (Szczesniak, 1991).

'Umami' taste is a kind of taste quality different from the traditional four tastes (sweet, sour, salty and bitter) (Schiffman, 1992). The 'umami' taste was introduced to Japanese as the characteristic taste of monosodium glutamate and 5-ribonucleotides (Yamaguchi, 1979). The "umami taste" rises from the back of the tongue and mouth (Boudreau, 1980), which is often described as savoury quality (Rogers and Mela, 1993), delicious or brothy (Boudreau, 1980; Schiffman, 1992) because of certain amino acids and monophosphate nucleosides or monosodium glutamate (MSG).

Monosodium glutamate is a flavour enhancer that is a substance that intensifies or enhances the flavour of food (Hurst *et al.*, 1991) and plays a predominant role in the flavour of foods, such as meats, poultry, fish and other sea foods, dairy products (Schiffman, 1992), or vegetables (Yamaguchi, 1979).

Taste in food corresponds to age, sex and places where meals are eaten (Hubert, 1997). It has become an instrument of identity, be it of age, gender, socio-economic status, ethnicity or religion (Turmo, 1997). Moreover, Jolly and Diop (1991) contend that consumer preferences can be changed if the characteristics or attributes are altered to suit consumer tastes.

Taste as an indicator of quality was found to have a high score among the French (Grunert *et al.*, 1998). Taste was found to be an important factor in food preference (Norton *et al.*, 2000), buying intent for strawberry yoghurt (Vickers, 1993), purchasing processed vegetables with high prices (Yadav, 1998), purchasing Cheddar-type cheese (Bogue *et al.*, 1999), purchasing decision towards roasted peanut (Moon *et al.*, 1999), the food choice process in the Ukraine (Biloukha and Utermohlen (2000), frequency of consumption (Weinstein *et al.*, 1999), and demand for frozen meals (Mojduszka *et al.*, 2001).

Taste and pleasure are motivation for food preferences for the consumption of cassava sticks and smoked cassava balls in East Africa, particularly the *Yassa*, who are fishermen and the *Mvae*, who are trappers (de Garine, 1997). In a study of consumer choice toward fish in Oman (Houtson *et al.*, 1998) found that fish product characteristics: availability, odour and flavour, were generally significant and moistness and texture were also important.

Taste was highly correlated with the frequency of food consumption in the Ukraine (Biloukha, 2000). Flavour, texture and colour are primary criteria of organoleptic quality of both HPs (home-made *patacones*) and IPs (Industrial *patacones*) (Diaz *et al.*, 1998). Most consumers want a 'natural' (light) colour, a crisp taste and without special flavouring products. In contrast, a rancid, burnt taste or appearance, crushed chips, to a lesser extent, greasy appearance of products are not wanted by consumers. The tasty image, flavour and texture of traditional recipe of *pate de campagne* in France, has a great impact in determining perceived quality (Siret and Issanchou, 2000).

### ***Ethnic food value***

Food choice is influenced by the symbolic value of particular foods. Meat is often associated with masculinity, fish sometimes with femininity (Shepherd and Sparks, 1993). Meat eating may be associated with establishing or emphasising status. The consumption of fish may also be related to the degree of bloodness and the degree of delicacy with which it is eaten. In East Africa, meat appears as a prestigious food of the *Yassa*, who are fishermen, while, fish is considered as a prestigious food of the *Mvae*, who are trappers (de Garine, 1997). Likewise, in Japan, fish is used for consumption and as a gift on holiday traditions, such as end-of-year gift giving (Wessels and Wilen, 1994). In December, salted salmon is used as gift in northern Japan, whereas yellowtail and sea bream are used for the same reason in the south of Japan.

Chudun's chocolates are the popular cuisine that is both locally produced and distinctively French. French consumers purchased chocolate candies for their own consumption and as gifts and distributed to relatives, friends, and colleagues at significant social occasions, and religious holidays such as Christmas and Easter (Terrio, 1996).

### 2.2.3.3 *Environmental characteristics*

Environment is the socio-economic situation in which consumers are placed that will influence their behaviour (Padberg, 1997). Schaffner *et al.* (1998) specified the environment into products, media, politics, economics, society, culture, ethics, environmental concerns, and technology. A particular culture, a system of values, demographic factors, social status, reference groups, and the type of household have an important impact on consumer behaviour (Warneryd, 1987).

The socio-environmental factors are essential for understanding the dynamics of this process of consumer behaviour (Craig-Lees *et al.*, 1995). Walters (1978) pointed out that buying behaviour is influenced by specific product features that are communicated through channels composed of business and environmental factors to the individual. In addition, the study by Termorshuizen *et al.* (1986) emphasised the importance of socio-economic variables, such as age, level of education and residential area in explaining individual differences in consumer beliefs regarding milk in the Netherlands.

Demographic characteristics can influence consumers as to whether they can buy (based on income) and whether they want to buy (based on factors such as age and household composition) (Assael, 1998). Social class refers to consumer's positions on a social scale based on three key demographics factors: occupation, income, and education. Each of these social class groups has distinctive norms, values, family roles, and patterns of purchasing behaviour. On this basis, social classes vary markedly in the purchase of such items as clothing, furniture, leisure goods, and even food.

### ***Food availability***

The availability of product type of fish (i.e. fresh, frozen, canned, and iced) was an important factor in the choice decision among the Oman population (Houston *et al.*, 1998). Similarly, the food store has an important role in the purchase prediction (i.e. organic food), when this food is unavailable in most mainstream supermarkets (Thompson, 1998). Macbeth and Lawry (1997) found that availability was definitely related to food selection and consumption.

### ***Income***

Income has a positive influence on the demand for food (Rosenblatt and Hochstein, 1989). Demand for food commodities were responsive to income variables based on household income levels. Demand for rice and fish for the medium to low income household were responsive to income and prices only (Jensen and Manrique, 1998). Income is an important factor affecting the consumption of vitamin A, vitamin C, and calcium (Nayga *et al.*, 1999). The consumer with a higher income in Oman is more likely to consume shrimp than fish (Houston *et al.*, 1998). Furthermore, middle income class influences consumers' purchasing behaviour irrespective of the availability of fresh vegetables (Yadav, 1998). However, income also had a negative effect on food demand. While Carlson *et al.* (1998) found that income had relatively little impact on food demand.

### ***Consumer's ethnicity***

Ethnicity is one of many forces that shape food choices (Devine *et al.*, 1999). Expression of ethnicity in food choices varied by time (for instance, stage of life, holidays), place (for example, home/work, public/private), and food. For instance, ethnicity had an effect on the demand for food in different geographic areas of Canadian cities, particularly Montreal (Rosenblatt and Hochstein, 1989), and on consumer choice of food in the UK (Meiselman and Bell, 1992). The addition of an Italian name significantly increased perceived Italian ethnicity and lowered British

ethnicity. Adding meat and/or cheese increased British ethnicity consumption towards this food.

Stayman and Deshpande (1989) indicated that the work on situational influences on consumption found strong relationships with purchase and usage behaviour. The study discovered that an ethnic group's choices are supported by the effect of social surroundings. There was a four way interaction between ethnic classifications, food type, and two situation dimensions studied, for example, social surroundings and antecedent conditions. There was also evidence found for situational determined felt ethnicity. Soyeon and Eastlick (1998) found that a convenient place (i.e. time, location, and in-store shopping convenience) is an important factor in shopping orientation. In contrast, Jolly and Diop (1991) found that ethnicity is not related to consumer choice in evaluating a given food. The choice of ethnic groups of a given food basket is proposed to maximise their welfare.

### ***Religion***

Religion may be considered as an essential factor in selecting food. Consumers will choose the appropriate food according to their religion's rules. For instance, the foods Cambodians are characterised by Buddhism (Newman, 1999). They have fish as the main protein food, with fresh fish varieties more popular than those from the sea. All meats are consumed, except mutton; poultry is not popular, and fish sauces and peanuts are used in most dishes.

Likewise, all food consumed by Muslims must be *halal*. Pork either flesh or fat or anything derived from pigs are strictly not *halal* and therefore forbidden (Hamidullah, 2001). As most people in Bangladesh are of Muslim heritage, their eating habits adhere to the Muslim practices of *halal* meats, no stimulants, and no pork (Newman, 1999). Malaysia has a wide variety of religious beliefs. Individual religions do have forbidden food that must be adhered too. Malay Malaysians do not eat pork and Indian Malaysians do not eat beef due to religious beliefs (LaMar, 2000).

### *Social class*

The influence of social status in Andalusian showed that the rich elite exhibited tastes which could be described in accordance with their wealthy circumstances. They could eat anything they wished. However, some wanted to return to a cuisine considered 'traditional'. The middle classes had preferences for more ham and shellfish. Finally, the lower classes were happy whatever they eat. The fishermen like nothing better than fish and there is no dish more appreciated by a farm-worker than stew made from meat or pulses (Turmo, 1997).

The lower socio-economic groups in Bangkok (Thailand) tended towards street foods (i.e. fried rice with crab meat; fermented rice vermicelli with coconut gravy; rice noodle with pork soup and fried noodles), because they have few facilities for cooking (Howden *et al.*, 1993). On the other hand, the mid to upper socio-economic groups in Bangkok prefer convenience and ready to eat food (i.e. western foods-breads, fresh milk and occasionally juice for breakfast, and traditional foods- cooked rice with soup as their breakfast).

In the middle and upper income groups in Indonesia, children generally have breakfast and eat lunch at home because these groups usually have a maid. While working parents usually eat at work cafeterias, have lunch delivered, or eat at restaurants, they usually have dinner at home. In contrast, for the lower income groups, rice and noodles with vegetables are eaten at home, and for those who work, lunch is usually bought at food stalls during the day (Agriculture&Agri-Food Canada, 1997). This is consistent with Howden *et al.* (1993) that the urban poor, labourers and low income students and families have breakfast frequently at street food stalls which are a major source of low cost, nutritious food.

However, in Malaysia, all income classes showed frequent consumption of street food. The same feature is present in Hong Kong in which 56% of those in the mid to upper socio-economic grouping take breakfast outside the home (Howden *et al.*, 1993). Less affluent Chinese in Singapore have more (17.4%) traditional breakfast

such as noodles, compared to fewer (11.8%) of the more affluent. Whereas, western food, including bread or cereal with ham, egg or cheese are more popular among more affluent groups (71% ) than less affluent groups (22%) (Howden *et al.*, 1993). In Columbia, most of the lower income classes purchase patacones from grocers and street fryers instead of going to supermarkets (Diaz *et al.*, 1998).

### ***Region***

Region will influence what a family considers food and enjoyable meals (Kindred, 1973). Regional products are bought out of consumers' preference, and the intensity of purchase depended on the attitude within the region (Wirthgen *et al.*, 1999). Furthermore, fruit and vegetable consumption levels vary by region (Reynold *et al.*, 1999). Consumers' belief towards milk varied according to the residential area (Termoshuizen *et al.*, 1986). *Kimchi*, a specified and fermented mixture of radish or cabbage with hot pepper powder, green onion, garlic and salt, was made differently according to climate within South Korean. In the south where it is warmer, chotcal and chilli powder are used so that the *kimchi* would not go bad. In the north where it is colder *kimchi* was less salty and pungent.

However, regional preferences for particular fish species are consistent with historically based habit persistence (Wessels and Wilen, 1994). For example, household demand in southern Japan includes yellowtail, shrimp, sea bream and mackerel, the species inhabiting the warm water. In contrast, northern Japanese seafood preferences seem tied to the colder waters of the North Japan Sea. These include salmon, and especially the chum salmon that were once caught in large numbers in Hokkaido.

Turmo (1997) found that there were no significant differences in food intake by locality. People in each village and even each district (Comarca) had preferences for those foods provided by their own environment. Likewise, rural and urban area consumers in Oman had nearly the same preferences in consuming iced and frozen fish (Houtson *et al.*, 1998). Urban people were found to be higher in consumption of



Korean foods because of food availability (Lee *et al.*, 1999), and were more than twice as likely to consume dairy products as compared with rural households (Bhandri and Smith, 2000). Conversely, rural households were found less likely to select frozen fish product (Houston *et al.*, 1998).

## **2.3 Food processor**

The food processor can be viewed in terms of an agro-industry perspective. As a small agro-industry, the food processor may face an uncertain environment to which they must respond. Though they are only small firms, they also need to have a strategy to sustain their enterprise. This section is divided into four parts. The first part discusses agro-industry. The second part reviews the food-processor response towards consumers and their competitors. The third part explores the linkages of the food enterprise. Lastly, the fourth part presents the research relating to the food processor response towards consumers and their competitors.

### **2.3.1 Agroindustry**

'Agroindustry is an enterprise that processes materials of plant or animal origin'. Processing involves transformation and preservation through physical or chemical alteration, storage, packaging, and distribution (Austin, 1992). Kraenzel (1997) noted that agroindustry is as an industry participant which converts raw or fresh agricultural products into a different form and then packages the new product for sale.

Added value can be created by food-processors by transforming an agricultural product to a wide range of qualities and attributes of ethnic food products to meet the needs of users. In this context, adding value to an agricultural commodity is viewed as creating new products, such as meatball and tofu.

Altering an agricultural product to a more valuable product requires a sequence of activities. Porter (1996) divided a company's activities into primary activities (for instance, the physical creation of the products, its marketing and delivery to buyers,

and its support and servicing after sale), and supporting activities (for example, purchased inputs, human resources, and combination of technologies, and firm infrastructure). Every activity employs purchased inputs, human resources, and a combination of technologies. Firm infrastructure, including such functions as general management, legal work, and accounting, supports the entire chain. Austin (1992) categorised agro-industrial activities into three basic subsystems: procurement of raw materials, processing, and marketing; each of these subsystems has interdependency and relationships to one another.

### ***The procurement factor***

Procurement refers to purchasing inputs used in the firm's value chain. Purchased inputs include raw materials, supplies, and other consumable items as well as assets such as machinery, laboratory equipment, office equipment, and buildings (Porter, 1996).

In this review, however, the procurement factor is restricted to the purchase of raw material only. The role of the raw material supply is important particularly in governing the product to be marketed (Brown *et al.*, 1994). The procurement activities are not only essential in generally determining the major cost of the agro-industry, but also significant in considering its socio-economic benefits (Austin, 1992).

### ***The processing factors***

Processing factors refer to converting raw materials into a final product. The product is more perceivable, portable, and palatable through physical, chemical, and biological processes, so the new product can add value and create opportunities for competitive advantage (Austin, 1992). An enterprise specialising in transforming bulk commodities or semi-processed foods into a different product and packaging form to better meet consumer demand is considered a food-processor (Kraenzel, 1997). Food processors primarily transformed raw agricultural product into the products, such as

tomatoes into ketchup, wheat into bread, and grapes into wine (Baker *et al.*, 2002). In other words, processing factors describe the stage in which the raw material moves from agriculture product to a certain processed products by using processing facilities in order to add value to the product. The processing facilities for an agricultural product has two objectives, namely providing a year round supply of food products to the market place and adding value to the crops (Anderson, 1981). Bawcutt (1997) emphasised the importance of adding value that can enhance the profitability of the product. Maurer and Wright (1998) noted that value added in agri-food industries is viewed as a chain which includes a combination of production facilities, connected by markets, and applying more recent strategic perspective.

### ***The marketing factor***

Marketing is 'the process of anticipating the needs of targeted customers and finding ways to meet those needs profitability' (Erickson *et al.*, 2002). The task of marketing includes finding, developing, and profiting from business opportunities to meet customers' needs (Baker *et al.*, 2002). Marketing is used to create a sustainable competitive advantage for products. It can be achieved by creating product value, which is perceived by the end users (FitzRoy, 1989). In marketing, firms should give detailed attention to buyers, such as who they are, why they buy and how they make purchase decisions (Nagle, 1989).

However, Brown *et al.* (1994) stated that markets are not a way of selling already planned production, rather, processing and production are a means of meeting market demand. Moreover, Hurst *et al.* (1991) added that marketing is traditionally thought of as the process of advertising, promoting and selling services and products. Similarly, Crawford (1997) stressed that marketing and selling are different particularly in both focus and objective. Marketing focuses in identifying wants and needs and matching these to organisational resources. The objective is profits through the provision of customer satisfaction by meeting their needs and wants. While, selling concentrates on promoting the consumption of a product. Erickson *et al.*, 2002 noted that selling is the process to help people in buying which both seller and buyer expect to benefit when an exchange takes place.

### **2.3.2 Food processor response towards consumers and their competitors**

Food processors transform raw material from the agriculture sector to a value added product such as ethnic food through processing. However, in operating the firm, food processors often deal with an uncertain environment, for instance, consumers, procurement of raw materials and marketing. Shrader *et al.* (1989) stated that an uncertain environment can include suppliers, customers, competition, socio-political factors and technology. The small firm can respond to uncertainty through marketing and budget planning in order to survive. Budget planning includes planning for taxes and borrowing, and marketing planning includes targeting customers and products. Likewise, food processors have responded to this turbulent environment by applying a strategy. Porter (1996) contended that the essence of a strategy is in choosing or performing activities that differed from a rival.

The food processor response towards consumers and their competitors can be presented through planning in producing and marketing their food-products. They need to recognise the consumer as well as competitors before they make a decision about processing and marketing strategies.

#### **2.3.2.1 Processing strategy**

A processing strategy may refer to the strategy used by a food processor in producing a final product in order to meet consumer needs. Unlike most other manufacturers, food processing is usually not an additive process but a subtractive one in which the original material is reduced to another form. The main additional inputs in agro-industries are labour, ingredients, and packaging (Austin, 1992).

Packaging includes the activities of designing and producing the container or wrapper for a product (Kotler, 1997). It is necessary to the production process, and it can contribute to each of processing's three P's: portability, palatability, and preservability (Austin, 1992). Packaging is proposed to promote value (Peter and Olson, 1990; Kotler, 1997), to protect the product from the surrounding environment (for instance,

contamination, damage, and degradation), and to communicate (Baker *et al.*, 1988; Hurst *et al.*, 1991), to educate, and to comply with any government regulations. The package provides protection from water, oxygen, foreign odours and flavours, and dirt (Earle, 1995), quality protection, meets various consumer needs and is a vehicle for achieving product differentiation (Austin, 1992). It can also create convenience storage value (Kotler, 1997) and detail attributes of the product (Baker *et al.*, 1988).

### ***Labelling***

Labelling is a subset of packaging (Kotler, 1997). Food labelling is used to attract consumers and the 'information panel' is placed immediately to the right of the principal display panel (Hurst *et al.*, 1991). A label means a display of written, printed, or graphic material upon the immediate container or wrapper, or display through the outside container or wrapper (Kinder, 1973) or package of consumer commodity (Baker *et al.*, 1988). Labelling means all labels and other written, printed, or graphic matter: (a) upon any article or any part of its container or wrappers, or, (b) accompanying such article (Kinder, 1973). Kotler (1997) added that the function of labelling includes identifying the product or brand, describing the product (who, where it was made, when, and what it contains), grading, and promotion of the product.

### ***Selecting good ingredients and technology***

The design considerations for agroindustrial food products involves taste, texture, cooking ease, colour, odour, form, nutritive value, convenience, size and packaging (Austin, 1992). The United States food processor, Stouffer's, developed an extensive and distinctive menu, including a superior sauce technology, careful ingredient selection, and an attractive packaging to become the leader in the frozen entrée market segment.

With regard to ethnic food, procurement of raw materials such as beef and soybean will be important in determining the performance of meatball and tofu, respectively.

The quality of the raw material in ethnic food should be considered, since both beef and soybean are seasonal and perishable products. The quality of beef can be inferred on the basis of intrinsic (colour, freshness and visible fat) and extrinsic (price, promotion, designation of origin and presentation) quality cues (Bello and Dopico, 2000). Whereas, soybean variety of NTCPR92-40 that found in the South Eastern United States, has high protein. This variety is three times bigger than Pearl soybean type. Large size is important in tofu soybeans because bigger beans swell more and make tofu production easier, and therefore are highly prized in tofu processing (Lee, 1998).

### **2.3.2.2 Marketing Strategy**

Marketing strategy is 'a plan designed to influence exchanges in order to achieve organisational objectives' (Peter and Olson, 1990). The purpose of a marketing plan is to position the firm's product most advantageously in relation to its consumers and competition (Austin, 1992). A marketing strategy is intended to increase the probability or frequency of consumer behaviours, such as frequenting particular stores or purchasing particular products (Peter and Olson, 1990). In Agribusiness, the strategic marketing plan has four major decision areas called marketing mix (Downey and Erickson, 1987). A marketing mix consists of product, promotion, pricing elements, distribution (Peter and Olson, 1990; Austin, 1992), or place (Magrath, 1989; Downey and Erickson, 1987). The elements of marketing mix are the core of the marketing strategy (Austin, 1992). Moreover, the marketing mix can be used as a weapons strategy in the firm's market struggle against its rivals (Magrath, 1989). This review is restricted to pricing, product, promotion, place, and distribution.

#### ***Pricing***

There are three things, namely competitive actions, consumer responses and internal cost considerations that are considered in pricing decisions (Downey and Erickson, 1987). Price includes price level changes, published prices and trade discount (Magrath, 1989). Furthermore, Brown *et al.* (1994) pointed out that price is often

based on three things namely cost, consumer's purchasing power, and consumer's psychological reason for the purchase decision.

Pricing strategy can be categorised as lower and higher prices than the competitors. Setting lower prices allows entry to an existing market. Higher pricing is used to overcome barriers to market entry or to reach a particular market segment. This strategy is used to obtain a larger market share and establish a firm market position (Austin, 1992). A firm can compete with another by lowering price (Gattorna and Lancioni, 1989). Meulenberg (1997) distinguished price strategy into three categories: (a) low prices- such as discount and market stalls; (b) high prices- such as speciality shops; and (c) food shops- which do not see price level as basic to their marketing strategy, but a competitive price in terms of value for money.

### ***Product***

Product decisions refer to what products or services will be offered (Downey and Erickson, 1987). Beside price competition, product introduction should be considered as the familiar form of jockeying for the firm's position (Porter, 1996; 1998). There are five bases of competition: (a) product positioning, (b) quality (Magrath, 1989), (c) product portfolio, (d) flexibility, and (e) access to finance (Morton, 1993). Hughes (1995) added that the use of own-label product strategies can be used to differentiate themselves from their competitors. Product planning can be achieved by foresight, adaptability, and creative ability worthy of emulation (Borden, 1989). Furthermore, the capability in product competition must be considered in creating valuable, rare, non-substitutable and inimitable products (Van Duren and Sparling, 1998).

Product differentiation is the key to competitive advantage (Kotler, 1997). As a source of competitive advantage, product differentiation can occur at a multitude of points in the production chain (Austin, 1992). Product differentiation can be presented through offering special ingredient formulas. The specific product is more important than other aspects concerning the total offer, such as location, image and personnel that attract consumer decisions to visit the shop (Raddet, 1996). Similarly, creating a



product of value as perceived by end-users is used to sustain the competitive advantage of the product (FitzRoy, 1989). Borden (1989) considered product planning more broadly as policies and procedures relating to the product line to be offered (for example, qualities and design), markets to sell (for instance, whom, where, when and what quantity), and new product policy (such as, research and development program). Bawcutt (1997) emphasised ways to add value along the food chain through safety, supply, innovation, and quality. Safety is defined in relation to consumption that the food product is safe and can be eaten with confidence. Kinder (1973) stressed safety in production processes so that no harm will come from the intended use of the food additive or colour additive. Foster and Macrae (1992) explained broadly that the quality and safety of a food product was not only within processing, but also in packaging, labelling, distribution and storage.

In regard to quality, Foster and Macrae (1992) noted that a quality food product included safety, food characteristics, and ethical value category. The relationship between quality and price were often perceived differently by consumers as quality was a subjective term (Austin, 1992). Quality can be connoted negatively when products have a low price. In contrast, high prices can indicate a high quality for some products (Peter and Olson, 1990).

Brand image can be created by price to provide a relative advantage (Peter and Olson, 1990). Kotler (1997) stated that branding is a major issue in product strategy. The best brand names suggest something about the product's benefits; the product's quality; are easy to pronounce, recognise, and remember; are distinctive; and do not carry a negative meaning or connotations in other countries or languages.

### ***Place/Distribution***

Place decisions refer to methods and channels of distribution used to optimise sales and profits (Downey and Erickson, 1987). It identifies the appropriate market to sell the product (Brown *et al.*, 1994). The location of stores can determine how consumers contact the store, in turn, it has an important impact on the selection of future

strategies (Evans *et al.*, 1996). Place consists of forward vertical integration, channel selection and concentration, and customer service, for example, delivery, and ordering (Magrath, 1989). Beside product, buyers also look at the demand for the service offered by food processors (Morton, 1993). Brown *et al.* (1994) pointed out that the product or service can respond to consumers' wants when they choose products. Food product retailers might offer a certain service in order to meet the needs of their target group (Meulenberg, 1997).

Distribution is important in the marketing mix because it links the processor to the marketplace (Austin, 1992). Distribution - as an element of marketing mix for retail companies includes: (a) time elements, like opening hours and mail order/electronic shopping; and (b) place of shopping such as store location and doorstep delivery (Earle, 1995). It also includes service elements, such as parking facilities, services at check-outs and the handling of complaints. Some food retailers base their strategy on a specific way of distribution, such as home delivery (milk man, mail order houses) or store location (snack bars at railway stations) (Earle, 1995).

The purchase situational factors, such as price changes, product availability, store layout, competitive deals and the helpfulness of salespeople become important to consumer choice and affect the distributors' channel and pricing strategies. In addition, the customer's shortage of time, the amount of crowding in the store, the presence of other people in the shopping environment, and even the weather may affect tendencies to purchase (Craig-Lees *et al.*, 1995). There are three categories of a buying situation, namely habit (buying based on experience), picking (random choice), and intrinsic preference (choice based on liking) (O'Shaughnessy, 1987).

### ***Promotion***

Promotion is designed to reach sales objectives through an appropriate mix of advertising, publicity, selling and sales support programs (Downey and Erickson, 1987). It is used to communicate product information, including brand positioning, sales promotion, and so on (Magrath, 1989), in order to persuade consumers to buy a

product (Brown *et al.*, 1994). In regard to image, promotion informs consumers as to what attributes they should be looking for in the product class and emphasises the superiority of the brand in terms of those attributes (Peter and Olson, 1990).

There are four major types of promotions, namely advertising, sales promotions, personal selling, and publicity (Peter and Olson, 1990; Earle, 1995). Promotion and information are important for food retailers (Meulenberg, 1997). They can occur through weekly specials that may attract consumers. Food stores and supermarkets use daily newspapers and folders as a medium to promote low prices and weekly specials.

### **2.3.3 The linkages of food enterprises**

Food-processors should manage a strategy that has linkages focusing on consumer satisfaction and competition. The response within the activities linkages is concentrated on reacting to consumer needs and competing with rivals. As mentioned by Austin (1992), the agro-industry food chain consists of three main activities, namely procurement, processing and marketing, which are all connected by linkages. Linkages exist when the way in which one activity is performed and then affects the cost or effectiveness of other activities.

The linkages in food-processing enterprises includes horizontal and vertical relations (Grijns *et al.*, 1994). Hughes (1995) used horizontal alliances and vertical partnerships in his analysis of the European food-industries, while Dasgupta (1992) stated that vertical and horizontal linkages could be applied to a petty trader.

Food-processors response can be performed via both vertical and horizontal linkages when responding to consumers and competitors. Vertical linkages or production linkages include backward linkages (the relationship between food processors and raw material suppliers), and forward linkages (the linkages between food processors and the consumer). Whereas, horizontal linkages are the relations among food processors, which can be either partnerships or competitive relationships.

### 2.3.3.1 Vertical linkages

Vertical linkages include supply and channel linkages. Supply linkages are the linkages between the suppliers' value chain and a firm's value chain. Whereas, channel linkages are the interrelationship between a firm's value chain and a channel's value chain. Channels perform such activities as sales, advertising, and display that may substitute or complement the firm's activities (Porter, 1996). Hughes (1995) described vertical partnerships between retailers, manufacturers, distributors, and farmers as important in increasing food industry competitiveness.

Food-processing enterprises are fairly autonomous units maintaining vertical relations that influence their economic functioning in many ways. For instance, they depend heavily on intermediate traders who distribute their products to distant markets (Grijns *et al.*, 1994). Vertical linkages consist of several channels from raw materials, through processing into food-products and then distribution to the consumer (Austin, 1992). Vertical linkages involve backward and forward linkages (Dasgupta, 1992). Backward linkages are the relationships between a petty trader and a supplier who provide the goods, whereas the forward linkages are the link between a petty trader and the consumers. These terms are used in their broadest sense and can include food processors.

#### ***Backward linkages***

The relation between a food processor and procurement of raw materials can be viewed as backward linkage. Agricultural raw materials are usually seasonal and perishable, hence the procurement system should consider elements of quantity, quality, timing, and price (Austin, 1992). The importance of some basic knowledge about the quality and production pattern of the raw material can effect product performance (Brown *et al.*, 1994). Furthermore, Porter (1998) emphasised the important affect the procurement of raw materials and other inputs can have affect on the performance of the end product.

Meanwhile, Brown *et al.* (1994) explained the relationships between raw materials and market. Decisions concerning the requirements for raw material production are derived from the dictates of the market. Markets are not a way of selling already planned production, rather, processing and production are a means of meeting market demand.

The food processors plan in regard to raw materials, including quantity, quality, timing, and price that are considered as an independent stage. This stage is influenced by forward linkages.

### ***Forward linkages***

Forward linkage is the relation of food processors with their consumers. The process by which products flow through the system from producer to final consumer is recognised as marketing (Downey and Erickson, 1987). Whereas, the path that goods take from producer to final consumer is called the marketing channel. Products may flow through various channels in the food distribution system-processors, manufacturers, brokers, wholesalers, and retailers. Also, the roadside market can be a very simple marketing channel, from producer directly to consumer.

In the context of forward linkages, the food processors can deliver the food product directly to consumers, or indirectly through food retailer to consumers. Broadly speaking, the latter can be from the food-processor to the food broker, wholesaler and retailer and other established outlets to the consumer. Therefore, a successful food processor's response is to understand consumers' needs and wants. As mentioned by Brown *et al.* (1994), identifying and satisfying a want of consumers is achieved by identifying and understanding the consumer's purchase decision for particular target markets.

### ***Consumers***

The buying process can be examined by looking at who decides to purchase the

product, how they decide, when people buy, and where they make purchases (Austin, 1992). Brooksbank (1991) stressed that successful companies compete more on the basis of value to the customer or non-price elements rather than price. Brown *et al.* (1994) added that identifying and understanding the consumer is essential in the purchase decision for particular target markets.

Knowing consumers' motives for purchasing product influences not only developing an appropriate product, but also an effective marketing program (Austin, 1981; 1992), product offered, promotion and product distributed (Nagle, 1989), and improving product and price decisions (Craig-Lees *et al.*, 1995).

The influence religion has on marketing activities is represented through the days and times that stores are open, the types of products that are acceptable and the language used to promote products (Craig-Lees *et al.*, 1995).

Information of consumer's wants can be used to determine product differentiation (Maurer and Wright, 1998). Not only the wants of consumers will influence product selection, but also consumers' needs (Brown *et al.*, 1994). Consumer needs for processed foods, which constitute the bulk of agro-industrial food products, are frequently expressed as preferences related to nutritional requirements and appetite satisfaction (for example, a product's taste, smell, colour, texture, and appearance). Also, consumer preferences relate to intrinsic product qualities (for instance, usage conveniences such as packaging or cooking ease) (Austin, 1991).

Beside understanding buyers, the success of an enterprise is also determined by competition with other food processors, and can be represented through horizontal linkages.

### **2.3.3.2 Horizontal linkages**

Food-processing enterprises usually maintain a few horizontal relations with other processors. The relationships between food processors can be either co-operative or

competitive. For example, horizontal relations indicate that the processors do not operate in isolation; rather they compete with other food-processor (Grijns *et al.*, 1994). Whereas, Hughes (1995) viewed horizontal alliances as intra-industry sector cooperation, such as when retailers joins with retailer or manufacturers joins with manufacturers. This is important to improve efficiencies and reduce cost. Similarly, Dasgupta (1992) described horizontal linkages as the relationship between petty traders.

Horizontal linkages between food processors relate to how the food processors meet and beat intense competitors. The response of the food processors may differ based on their market structure. As mentioned by Gattorna and Lancioni (1989), every firm has a different response to competition with rivals based on their position in the market. Similarly, FitzRoy (1989) noted that to gain market share, the processor should focus on how to differentiate themselves from competitors.

Firms should recognise competitive forces, such as the threat of a new entry, the threat of substitutes, and the intensity of rivalry (Porter, 1996; 1998). Barriers to industry entry make it more difficult for a new firm to enter the industry. The availability of substitutes can make more difficult for firms within an industry to earn above average profits. Rivalry among existing competitors takes the form of jockeying for position by establishing parameters for action (for example, price competition, and product introduction).

#### **2.3.4 The research relating to food processor response to consumers and their competitors**

This section reviews the studies related to food processors in terms of their marketing strategy and the factors influencing these strategies.

##### **2.3.4.1 The studies related to marketing strategy**

Food processors need to respond towards consumers and their competitors in order to sustain their enterprises. The response of food processors can be represented by their



strategies used in producing and marketing ethnic foods. This review focuses on marketing strategy only.

### ***Product differentiation***

Starbird and Agrawal (1996) found that a low price is more important in the manufacturing strategy than customer requirements. Hyvonen (1995) argued that price always remains important to consumers, but quality, safety, and ethics of production will become increasingly important. There is a growing consumer segment where health and the environment are important and not price conscious. These trends favour small-scale speciality producers domestically as well as in foreign markets.

Hughes (1995) suggested that small firms will survive by providing high quality food products to the retailers. In the Sao Paulo street markets (or Feira Livres) freshness and quality are a consummation of traditional Brazilian values and they are realised in the Feira Livres (Zinkhan *et al.*, 1999).

In regard to small firms, they often have no clear strategic orientation, and lack marketing resources; hence they operate in local markets (Hyvonen, 1993). However, a study by Jacobsen (1986) found that the small firm sold products/services that were regarded as close substitutes or homogenous products. Also, FitzRoy (1989) stated lower prices are considered a way of developing a sustainable, competitive advantage. Fair pricing is the competitive advantage of a small firm with similar-sized rivals with similar insignificant market share (Jacobsen, 1986).

Torok *et al.* (1991) found that some management strategies are important factors for Wyoming's processors' of small foods and kindred products. They investigated alternative ways to differentiate product in order to increase consumer demand and separate the company from competitors. They suggested seeking alternative sources of capital or finance at subsidised or reduced interest rates.

### ***Promotion***

Labelling product safety information was found to be unimportant for consumer behaviour towards fish in Oman because of the lack of consumer knowledge about the potential hazards of this product (Houtson *et al.*, 1998). Wansink (1994) distinguished the role of Word-of-mouth (WOM) and advertising of the brand. Word-of-mouth messages have a greater impact on usage intentions, while advertised messages have a greater impact on a brand. Summer (1987) stressed that brand positioning needs to develop in clear position, for instance, McDougalls in the home baking and Sharwood's in ethnic foods. FitzRoy (1989) suggested image as means of developing a sustainable competitive advantage.

### ***Service***

Service strategy can be used by the small firm to attract consumers (Jacobsen, 1986). As consumers become more knowledgeable about the firms' competitors, firms need to develop their relationship with consumers by emphasising service, delivery, and personal relationships. Starbird and Agrawal (1996) found fast delivery and customisation more important to customers than their manufacturing strategy, and that reliable delivery is more important in manufacturing strategy than customer requirements.

Hughes (1995) suggested that small firms will survive with high levels of service to the retailers. The study of Sao Paulo street markets or Feira Livres indicated that vendors in the Feira Livres offer social interaction as a means of competing with supermarkets. Social interaction, can contribute to a better understanding of why people keep buying at such places, given the availability of other choices that offer cleaner, more convenient facilities and a wider variety of products and services (Zinkhan *et al.*, 1999).

FitzRoy (1989) stated that development of sustainable competitive advantage may be created in different ways, via superior distribution, better services or higher image.

Jacobsen (1986), however, explained how the competitive advantage for small enterprises with similar-sized rivals and insignificant market shares. They need to focus on quality service, prompt delivery and marketing and sales in order to obtain competitive advantage. Similarly, service oriented strategies are used by Indonesia's meatball processors (Jawapos, 25 October 2000). 'Duro meatballs', one of the popular meatballs in Malang, used the strategy of quality of service offered to consumers, involving self service by the customer and trust of the buyer.

### ***Location***

The importance of the firm's location was investigated by Henderson and McNamara (1997). They emphasised that the firm should seek a location with better access to customers. This is because food processors producing brittle, bulky and/or perishable products have high distribution costs. The appropriate location can reduce distribution costs and also impact on food processing industry growth. Houtson *et al.* (1998) found that consumers in Oman are more likely to buy fresh fish from supermarkets, fish shops, and retailers than any other types of outlets.

Kaynak (1987) in a study on cross-cultural buying behaviour found that irrespective of the area, locational convenience (proximity to the store) is of utmost importance to the shopper. Also, most consumers are looking for food retail outlets which are pleasant to shop in and clean. Moreover, location also determined price at food retail outlets. In isolated areas where the only food retail outlet available to the shopper is a corner shop which charges higher prices, consumers are forced to patronise these stores regardless of prices they have to pay for the goods because of its location and the range of food products.

#### **2.3.4.1.1 The studies related to ethnic food marketing strategy**

Choi and Henneberry (1999) stressed the strategies used in ethnic food marketing. Product and marketing innovation, target market segmentation and image, brand promotion and advertising, proactive marketing strategies, and market co-ordination

all should be considered in order to succeed in ethnic food marketing.

In regard to ethnic food and authenticity, Lu and Fine (1995) stated that an ethnic restaurant should consider authenticity as a potential source to attract consumers. To differentiate itself from its competitors, each restaurant emphasises the uniqueness and special quality of the food and service to consumers. In meeting Americans' requirement for speed, Chinese restaurants select equipment, raw materials, preparation, cooking techniques, and serving styles to maximise efficiency.

In France, *pate de campagne*, which is consumed by a large proportion (74%) of French consumers, has been studied as a traditional recipe and a non traditional recipe. Traditionally-made products have an image of being tasty products. However, in a buying situation consumer can choose a product with a lower expected quality but with an attractive price (Siret and Issanchou, 2000).

Product differentiation is also used by Indonesia's meatball processors (Jawapos, 25 October 2000). The 'Duro meatball', one of the popular meatballs in Malang area, used the strategy of product differentiation to include the specific taste of the meatball, a unique product (for instance, the roasted meatballs), high quality and a low price. Kediri's tofu preserves the traditional processing, such as the preference of tofu's processors to use a hearth instead of a stove to produce this food (Kompas, 18 December 2000).

#### **2.3.4.2 Factors that influence food processor response towards consumers and their competitors**

There are many factors influencing food processor responses, such as their perceptions toward consumers, their personal characteristics, and socio-economic factors.

##### ***Consumer characteristics***

A consumer's perceptions of the acceptability of food products is influenced by

healthier food (Bawcutt, 1997), quality and timeliness of service (Kraenzel, 1997), high quality products and service (Ross, 1998). Moreover, consumers' motives for purchasing a product not only influence the developing of an appropriate product, but also an effective marketing program (Austin, 1981; 1992).

Focusing on consumer and ethnic food, Choi and Henneberry (1999) noted that ethnic food consumers tend to change their food consumption patterns very slowly and are very loyal consumers. In addition, Lu and Fine (1995) categorised two types of consumer consumption at restaurants, namely consumption-oriented and connoisseur-oriented. Consumption-oriented is characterised by efficiency, low price, and informality where consumers do not emphasise the taste of the food or its authenticity. In contrast, the connoisseur orientation is often found among diners who have greater temporal and economic resources and more extensive cultural capital. These consumers are concerned about how the characteristics of the food meet their expectations.

Consumer preferences study of consumption patterns of *pate de campagne* in France found that consumers preferred to buy sliced pate at traditional retailers (pork-butcher, delicatessen and market), but at the same time, some of the pates sold at such retailers are produced by companies according to non-traditional recipes (Siret and Issanchou, 2000).

### ***The skill of the entrepreneur***

The capability of the entrepreneur is also another important factor that influences the success of Chinese restaurants (Lu and Fine, 1995). The capability of the entrepreneur is meant to meet consumer needs and to adjust the conflicts of aesthetic preference, economic status, and activity schedules. The entrepreneur of Chinese restaurants should be sensitive to desires for variety and diversity in order to gain niche market.

A study in Turkey found that skill handicap is a basic problem in small firms (Ozcan, 1995). These can range from less educated employers, unskilled labour and poor management skill. Basu and Goswami (1999) reported that education contributes

significantly to entrepreneurial growth. In contrast, Johnson *et al.* (1999) confirmed its negative effect on small business growth.

Knowledge of customers enables informal retailers to select what type of product to sell, the price, the place, and the promotion (Arellano, 1994). The selection is associated with consumer income level. For instance, offering a variety of ready-to-eat (RTE) foods may suit upper income areas, while providing a variety of cheaper processed products may be appropriate for lower income areas (Heiman *et al.*, 2001). For example, highly educated consumers might tend to choose brands of RTE cereal to closely match their tastes and it will capture additional sales (Jekanowski and Binkley, 2000). In addition, consumer loyalty to a brand has a response in both gaining and losing with the same sensitivity in brand choice decisions (Krisnamurthi *et al.*, 1992). Moreover, the consumer's religion had an impact on the tendency to consume more processed meats over fresh meats (chicken and turkey) (Heiman *et al.*, 2001).

### ***Working capital***

There were negative perceptions among small family businesses in relationship to the desirability of assistance from local, state and federal sources (Miller *et al.*, 2001), as they prefer to use family funding (Arellano, 1994). Furthermore, Arellano (1994) stated that informal traders were less attracted to formal institutions because they prefer to use family funding. This often led to limitation in allocating costs of equipment; production, personnel, and inventory were common among informal traders.

### **2.3.5 The linkage of literature review to the present study**

The literature review has revealed that studies of consumer behaviour were devoted to ethnic food in terms of ethnicity in different geographic areas; perceptions towards other ethnic foods; ethnic identity and income class; and interaction of ideals, identities, and the role of food choices for different ethnic groups. In addition, there

was little literature found relating to ethnic food processors responses to consumers and to their competitors.

A lack of attention in the literature has been given to consumer buying behaviour within regions when they are faced with their own ethnic foods. How consumers behave towards their own ethnic foods present additional challenges because of the differences of consumers' responses based on not only food characteristics, but also on environmental circumstances. People might be in a positive or a negative attitude towards their own ethnic food. Also, it would be interesting to study ethnic food, which viewed from both, the consumer perspective and food processor point of view. Moreover, a study about two ethnic foods, an animal protein based food (i.e. meatballs) and a plant protein based food (i.e. tofu) lack in the literature. Therefore, this study focuses on two ethnic foods: the Malang meatballs and Kediri tofu. Consumer behaviour toward ethnic foods can be represented in various ways such as buying pattern. In this study a combination of TRA (Theory of Reasoned Action) and EKB (Engel, Kollat, and Blackwell) theory were used. This is because people who buy ethnic food might be motivated at an emotional level or they may be motivated by price. People behave rationally or emotionally when they buy ethnic food. The theory that will be used in this study is the rational process of TRA (Theory of Reasoned Action) and added to the evaluation of outcomes as a part of EKB (Engel, Kollat, and Blackwell) theory.

From food processors' perspective, they might also respond differently towards ethnic food in terms of the strategy used in producing and marketing ethnic foods. The food processors could respond to consumers and their competitors in order for their business to survive. Food processors could response to consumer demand in order to feasibly assess future consumer demands. They could determine whether existing products will meet those demands, and if not, what products or variations of existing products will.

Consumer behaviour towards ethnic food was studied as the purchasing decision process. While, the food processor response towards consumers demand for their



products was investigated in terms of processing and marketing strategies. The model and conceptual framework to examine consumer behaviour and the food processor response towards Malang meatballs and Kediri tofu are presented in the next chapter.

## CHAPTER THREE

This chapter outlines the methodology used to model consumer behaviour and food processors response toward Malang meatballs and Kediri tofu. It is classified into four sections: theoretical framework, area selection, data collection techniques, and the analytical methods used.

### 3.1 Theoretical framework

This section covers the theoretical basis of the consumer behaviour model and the food processors response towards Malang meatballs and Kediri tofu.

#### 3.1.1 Consumer behaviour model

An analysis of consumer behaviour explains how consumers behave towards their own ethnic food. A rational consumer will decide to consume food in order to maximise their satisfaction. However, consumer behaviour can be represented either in real consumption or purchase. Consumer behaviour is classified into four stages: pre-action that refers to attitude, search action representing intention to buy, action that is performed by real buying activity, and post-action that proceeds to satisfying outcomes. Likewise, the consumer behaviour toward ethnic foods are focused on the decision process of purchasing either meatballs or tofu. The model of consumer behaviour towards Malang meatballs and Kediri tofu are presented in Figure 3.1 and Figure 3.2, respectively.

Consumers' attitudes and their perceptions towards food and social norms will determine behavioural intention. Purchasing intention and the unpredictable components (i.e. food availability and the change in price), represents real action in buying this food. Finally, the outcomes will be either satisfaction or dissatisfaction. Consumers will repeat their purchase of ethnic foods in future if they feel satisfied. When consumers are not satisfied, they will discontinue purchase of this food.

**Figure 3.1 Consumer purchasing behaviour towards Malang meatballs**

**FACTOR INFLUENCES**

**Consumers' perceptions towards:**

- Surrounding air temperature
- Existence fast foods
- Distance in obtaining this food
- 'Halal food' knowledge
- Nutrition knowledge
- Food quality knowledge
- Time in purchasing foods
- Income
- Occupation
- A clean purchasing place
- A convenient purchasing place
- Product originality
- Variety food choice
- Good quality

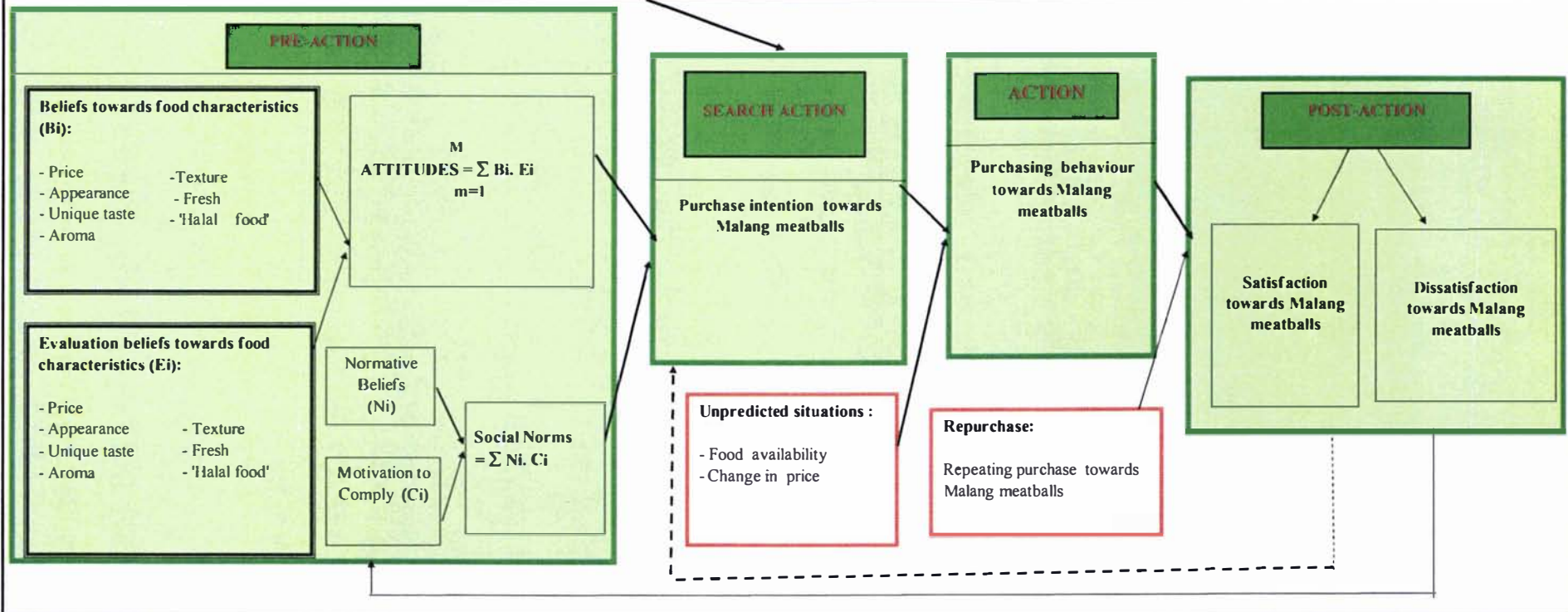
- A low price
- A high price
- Use packaging
- A branch name
- A 'halal food' label
- Using advertisement
- Offering good service
- Offering self service

**Consumer characteristics :**

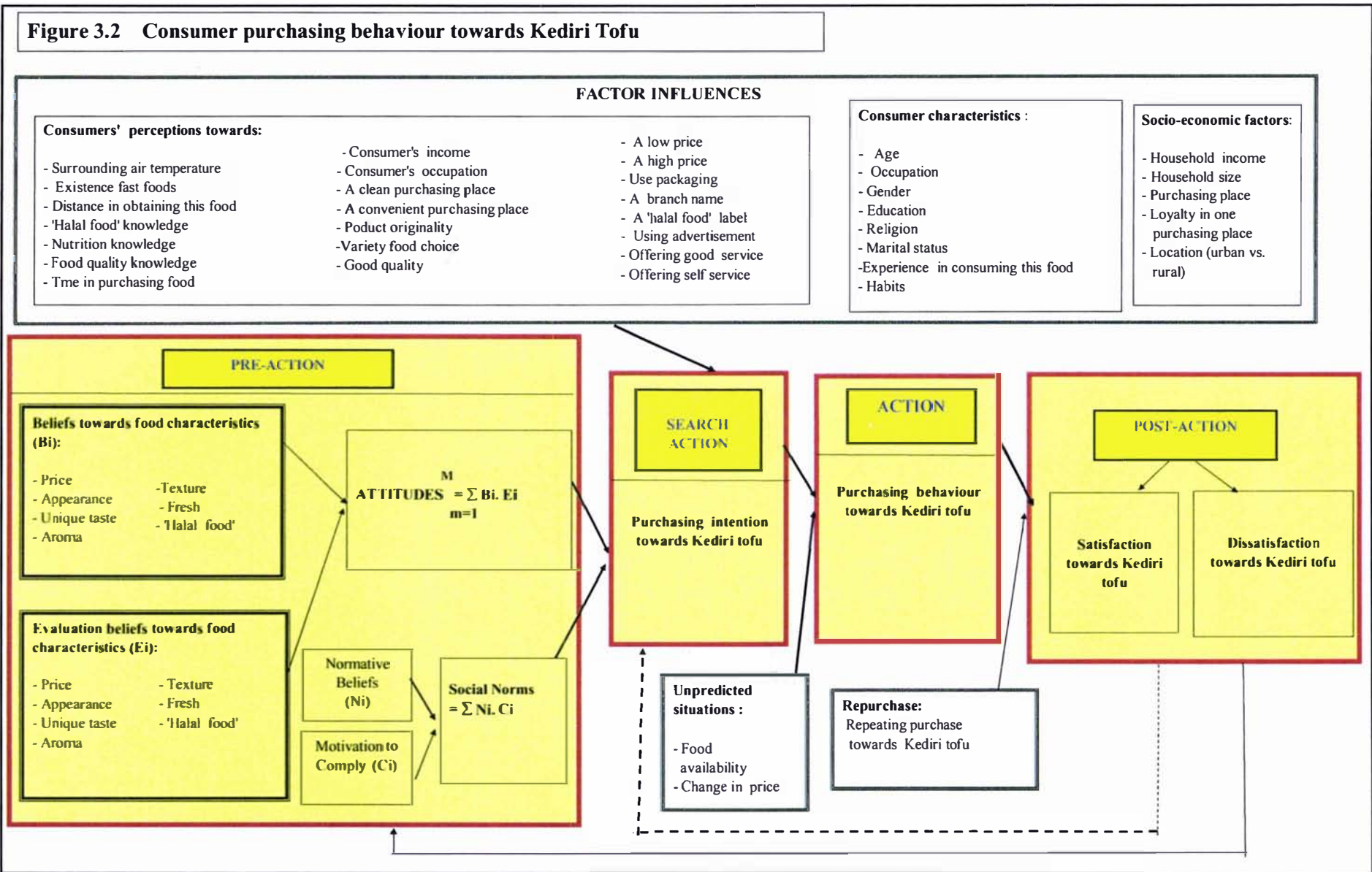
- Age
- Occupation
- Gender
- Education
- Religion
- Marital status
- Experience in consuming this food
- Habits

**Socio-economic factors:**

- Household income
- Household size
- Purchasing place
- Loyalty in one purchasing place
- Location (urban vs. rural)



**Figure 3.2 Consumer purchasing behaviour towards Kediri Tofu**



The satisfaction of consumers will occur when the decision to purchase ethnic food matches consumers' expectations. This can be measured by not only observing or tracking the purchasing frequency ( $P_i$ ), but also by repeat purchasing in the future. Consequently, in accordance with repurchase ( $R_{pi}$ ), satisfaction of purchasing ethnic food ( $U_i$ ) is assumed to be a function of :

$$U_i = u ( P_i, R_{pi} ) \quad (1)$$

where:

$U_i$  = satisfaction of consumer  $i$ ;

$R_{pi}$  = repurchase of consumer  $i$ ;

$P_i$  = behavioural purchasing activity of consumer  $i$ ;

The consumer behaviour in buying activity ( $P_i$ ) is assumed to be consistent with intentional behaviour in the purchase of ethnic food ( $IB_i$ ). However, unanticipated circumstances, such as a change in price, and food availability, may occur when consumers purchase ethnic food. The purchasing action is, then, defined as (Foxal *et al.*, 1998):

$$P_i = p ( IB_i, H_{pi}, U_{vi} ) \quad (2)$$

where:

$IB_i$  : intentional behavioural buying activity in respect of ethnic food of consumer  $i$ ;

$H_{pi}$  : the change in price faced by the consumer  $i$ ;

$U_{vi}$  : the availability of food wanted by the consumer  $i$ .

Purchasing intention towards ethnic food ( $IB_i$ ) is a function of some explanatory variables: (a) their attitudes, (b) social norms, (c) their perceptions, (d) consumer characteristics (i.e. age, occupation, gender, level of education, religion, marital status, experience in consuming this food, and habits), and (e) socio economic determinants (i.e. household income, the size of household, purchasing place, loyalty to one purchasing place, and the location of consumer living (rural vs. urban). The equation of purchasing intention is stated as:

$$IB_i = f(AT_i, SN_i, Te_i, Tf_i, Td_i, Tc_i, Tw_i, Tt_i, Th_i, Tn_i, Tq_i, Tp_i, Tb_i, To_i, Tv_i, Tg_i, Tl_i, Tx_i, Tk_i, Tm_i, Tr_i, Ta_i, Tr_i, Ts_i, Ca_i, Cw_i, Cg_i, Ce_i, Cr_i, Cs_i, Cx_i, Ch_i, Hc_i, Hs_i, Hl_i, Bp_i, Bl_i, Lc_i) \quad (3)$$

where:

- $AT_i$  : attitude to the ethnic food of consumer  $i$ ;  
 $SN_i$  : overall social norms regarding to ethnic food of consumer  $i$ .  
 $Te_i$  : the perceptions towards surrounding air temperature of consumer  $i$ ;  
 $Tf_i$  : the perceptions towards the existence of fast foods of consumer  $i$ ;  
 $Td_i$  : the perceptions towards distance in obtaining ethnic food of consumer  $i$ ;  
 $Tc_i$  : the perceptions towards his/her income in purchasing this product of consumer  $i$ ;  
 $Tw_i$  : the perceptions towards his/her work in purchasing this product of consumer  $i$ ;  
 $Tt_i$  : the perceptions towards his/her time in purchasing this product of consumer  $i$ ;  
 $Th_i$  : the perceptions towards 'halal food' knowledge of consumer  $i$ ;  
 $Tn_i$  : the perceptions towards nutrition knowledge of consumer  $i$ ;  
 $Tq_i$  : the perceptions towards quality knowledge of consumer  $i$ ;  
 $Tp_i$  : the perceptions towards a clean purchasing place of consumer  $i$ ;  
 $Tb_i$  : the perceptions towards a convenient purchasing place of consumer  $i$ ;  
 $To_i$  : the perceptions towards food originality of consumer  $i$ ;  
 $Tv_i$  : the perceptions towards variety of food choice of consumer  $i$ ;  
 $Tg_i$  : the perceptions towards good quality of consumer  $i$ ;  
 $Tl_i$  : the perceptions towards a low price of consumer  $i$ ;  
 $Tx_i$  : the perceptions towards a high price of consumer  $i$ ;  
 $Tk_i$  : the perceptions towards food packaging of consumer  $i$ ;  
 $Tm_i$  : the perceptions towards the branch name of consumer  $i$ ;  
 $Tr_i$  : the perceptions towards a 'halal food' label of consumer  $i$ ;  
 $Ta_i$  : the perceptions towards food advertisements of consumer  $i$ ;  
 $Tr_i$  : the perceptions towards the offering of a good service of consumer  $i$ ;  
 $Ts_i$  : the perceptions towards the offering of a self service of consumer  $i$ ;  
 $Ca_i$  : the age of consumer  $i$ ;  
 $Cw_i$  : the occupation of consumer  $i$ ;  
 $Cg_i$  : the gender of consumer  $i$ ;  
 $Ce_i$  : level education of consumer  $i$ ;  
 $Cr_i$  : the religion of consumer  $i$ ;  
 $Cs_i$  : the marital status of consumer  $i$ ;  
 $Cx_i$  : the experience in consuming ethnic food of consumer  $i$ ;  
 $Ch_i$  : the habits in respect of ethnic food of consumer  $i$ .  
 $Hc_i$  : household income of consumer  $i$ ;  
 $Hs_i$  : household size of consumer  $i$ ;  
 $Bp_i$  : the place when purchasing ethnic food of consumer  $i$ ;  
 $Bl_i$  : the loyalty to one place when purchasing ethnic food of consumer  $i$ ;  
 $Lci$  : The living location of consumer  $i$ (urban vs. rural).

Attitudes ( $AT_i$ ) are summed up from a combination of consumers' belief and evaluative criteria (Fishbein model). Consumers in this stage start to recognise the problem and it is called pre-action. The attitudes in purchasing ethnic food depend on the consumers' belief and the subjective importance of evaluative criteria. Attitudes are expressed as (Lunn, 1974):



$$AT_i = \sum_{i=1}^n (B_i, W_i) \quad (4)$$

where:

$B_i$  : belief to ethnic food of consumer  $i$ ;

$W_i$  : weighing or evaluative criteria to ethnic food of consumer  $i$ .

The beliefs ( $B_i$ ) relating to ethnic food refers to product specifications particularly the quality of these products. Consumers may infer the quality of ethnic food on the basis of food price, appearance, flavour, freshness, health and safety. As ethnic food is recognised by people because of its special flavour, these product attributes may differentiate between these foods with other food products. 'Umami' or brothy taste, tender, firm and juicy texture, and spherical shape appearance specified Malang meatballs. Whereas, Kediri tofu had a special savoury taste, firm texture, a yellow colour, and cube shaped appearance. Beliefs in regard to the ethnic foods can be formulated as (Lunn, 1974):

$$B_i = b(Pp_i, Pai, Pui, Pr_i, Pt_i, Pf_i, Ph_i) \quad (5)$$

Similar criteria hold for consumers' subjective weighing or evaluating factors. The weighing in regard to the ethnic foods can be defined as (Lunn, 1974)::

$$W_i = w (Pp_i, Pai, Pui, Pr_i, Pt_i, Pf_i, Ph_i) \quad (6)$$

Where:

$Pp_i$  = the beliefs /evaluative beliefs towards food price of consumer  $i$ ;

$Pai$  = the beliefs /evaluative beliefs towards food appearance of consumer  $i$ ;

$Pui$  = the beliefs /evaluative beliefs towards unique taste of consumer  $i$ ;

$Pr_i$  = the beliefs /evaluative beliefs towards food aroma of consumer  $i$ ;

$Pt_i$  = the beliefs /evaluative beliefs towards food texture of consumer  $i$ ;

$Pf_i$  = the beliefs /evaluative beliefs towards fresh food of consumer  $i$ ;

$Ph_i$  = the beliefs /evaluative beliefs towards 'halal food' of consumer  $i$ .

Social norms refer to how the consumer interacts with social groups to perform purchasing behaviour. The interacting between consumers with other people, such as friends, family or other reference groups may infer buying behaviour regarding the



food. Consumers perceive other people's beliefs as normative beliefs. Consumers' motivation to comply with the expectation of surrounding people is stated as individual motivation. The combination of normative beliefs (NB<sub>i</sub>) and consumer motivation (MC<sub>i</sub>) is viewed as the social norms (SN<sub>i</sub>). The social norms are stated as (Parthasarathy *et al.*, 1994; Schutte and Ciarlante, 1998):

$$SN_i = \sum_{j=1}^k NB_{ij} \cdot MC_i \quad (7)$$

where:

SN<sub>i</sub> = overall social norm regarding to ethnic food of consumer i;

NB<sub>i</sub> = normative beliefs about reference groups m regarding to ethnic food of consumer i;

MC<sub>i</sub> = motivation to comply with reference groups m of consumer i;

k = the number of reference groups.

#### ***Measurement of consumer behaviour variables***

- (1) Satisfaction can be measured on a five-point scale: (1) very dissatisfied, (2) dissatisfied, (3) neither satisfied nor dissatisfied, (4) satisfied, and (5) very satisfied toward ethnic food.
- (2) Repeat buying can be measured on a five-point scale: (1) definitely will not, (2) probably will not, (3) not sure, (4) probably will, and (5) definitely will buy ethnic food in the future.
- (3) Purchasing behaviour can be measured by asking respondents about their purchasing and selecting of ethnic food during the previous year. In order to reveal consumer preferences, the frequency of purchasing ethnic food will be recorded as: (1) Everyday; (2) 5-6 times a week, (3) 3-4 times a week, (4) 1-2 times a week, (5) 2-3 times a month, (6) < 2 times a month, (7) < 2 times a year, and (8) never .
- (4) Buying intention indicates how likely consumers would consider buying ethnic food if they were given alternative food choices in the given time. Meatballs were compared to street foods, namely 'soto' (either beef, chicken, or tripe soups, fried noodle with chicken), 'tahu campur' (tofu is mixed with small pieces of meat, fried blended cassava, vegetables and sweet and hot sauces), and fried noodle. Kediri tofu was selected rather than other side dishes, particularly soybean based food products, such as regular tofu, fried tofu, and 'tempe' (fermented soybean).

Respondents were asked to imagine that they would wish to take a food at a certain time of the day, and to rank those foods in order of preference.

- (5) Food availability can be measured by the availability of ethnic food at the time of purchase these foods. The five-point scale is used: (1) not-important, (2) a little important, (3) somewhat important, (4) rather important, and (5) very important.
- (6) Change in price is measured by asking the respondents about the importance of the increasing ethnic food price when purchasing this food. The five-points scale is used to measure this aspect, including (1) not-important, (2) a little important, (3) somewhat important, (4) rather important, and (5) very important.
- (7) Beliefs about the outcomes of buying ethnic food are measured by asking respondents using a five-point scale: 'not, a little, somewhat, rather, and very' scale of all seven evaluative criteria: price, appearance, flavour- including taste, aroma, and texture, the freshness, and safety of the ethnic food.
  - (a) Price of ethnic food may have influence on buying intent toward ethnic food. The price of ethnic food is perceived differently to consumers. Price is measured by a five-point scale: (1) not expensive, (2) a little expensive, (3) somewhat expensive, (4) rather expensive, and (5) very expensive.
  - (b) Appearance of ethnic food may have an influence on the preference of consumer to buy ethnic food. The appearance of ethnic food will indicate the specification of this food and will be perceived differently by consumers. The appearance of Malang meatballs is spherical shape, while Kediri tofu is cube shape. The appearance of ethnic food can be measured by a five-point scale: (1) not attractive, (2) a little attractive, (3) somewhat attractive, (4) rather attractive, and (5) very attractive.
  - (c) Unique taste of Malang meatballs are measured by a five-point scale: (1) not 'umami', (2) a little 'umami', (3) somewhat 'umami', (4) rather 'umami', and (5) very 'umami'. However, the unique taste of Kediri tofu is measured on a five-point scale: (1) not savoury, (2) a little savoury, (3) somewhat savoury, (4) rather savoury, and (5) very savoury.
  - (d) Aroma of Malang meatballs is measured on five-point scale: (1) not meaty, (2) a little meaty, (3) somewhat meaty, (4) rather meaty, and (5) very meaty.

- The aroma of Kediri tofu is measured by (1) not delicious, (2) a little delicious, (3) somewhat delicious, (4) rather delicious, and (5) very delicious.
- (e) Texture of Malang meatballs is measured by the following criteria: (1) not tender and juicy, (2) a little tender and juicy, (3) somewhat tender and juicy, (4) rather tender and juicy, (5) very tender and juicy. Kediri tofu is measured by this five-point scale: (1) not firm, (2) a little firm, (3) somewhat firm, (4) rather firm, and (5) very firm.
- (f) In this study the freshness of food means still fresh. Therefore, the freshness of ethnic food is measured by asking respondents whether ethnic food is (1) not fresh, (2) a little fresh, (3) somewhat fresh, (4) rather fresh, or (5) very fresh.
- (g) The safety of ethnic food means that consumer can eat ethnic food with confidence. The safety of ethnic food can be expressed by whether ethnic food is 'halal food' or not. It can be measured by a five-point scale: (1) not 'halal food', (2) a little 'halal food', (3) somewhat 'halal food', (4) rather 'halal food', and (5) very 'halal food'.
- (8) Weighing or evaluative beliefs about the outcomes of buying ethnic food are measured by asking respondents on 5-points: 'not, a little, somewhat, rather, and very' scale the importance of all seven evaluative criteria: price, appearance, flavour- including taste, aroma, and texture, the freshness, and safety of the ethnic food.
- (9) The perceptions towards ethnic food were measured by asking respondents' perceptions towards ethnic food on a 5-point scale ranging from (1) not important, 2) a little important, (3) somewhat important, (4) rather important, and (5) very important. There were 22 perceptions towards this product as presented in equation 3.
- (10) Consumer's age is used to explain the buying behaviour regarding an ethnic food, because increased age will increase the experiences with ethnic food and leads to opportunity for learning from previous experience. The age of the consumer can be classified into five intervals: (1) less than 20 years; (2) 21 to 30 years, (3) 31 to 40 years; (4) 41 to 50 years; and (5) 50 years and above.
- (11) Occupation can indicate the relationship between the type of occupation and buying behaviour toward ethnic food in which the person with a good occupation

- is assumed to be buying a good quality of ethnic food. Occupation can be measured by type of job, such as (1) government officer, (2) private company, (3) informal worker, (4) student, and (5) other.
- (12) Gender can be measured based on category (1) male, and (2) female.
- (13) Education is assumed to increase the buyer's information of ethnic food regarding nutrient value, such as protein content and lead to the likelihood of buying the ethnic food. The knowledge about ethnic food can be used to explain how the consumer will behave toward ethnic food.. Education can be divided into :
- (1) illiterate, (2) primary, (3) secondary, (4) tertiary school, and (5) university or academic.
- (14) Religion can be measured by using these categories: (1) Islam, (2) Christian, (3) Catholic, (3) Buddhist, and (5) Hindu.
- (15) Marital status is measured by using the following categories: (1) married, (2) single, (3) widow, and (4) other.
- (16) The experience in consuming ethnic food is measured by the number of years. This is grouped into 5 categories: (1) less than 1 year, (2) 1-5 years, (3) 6-10 years, (4) 11-15 years, and (5) 15 years and above.
- (17) Consumer habit is measured by the use of this product. Habits are classified into five categories, (1) snack, (2) side dishes, (3) both snack and side-dishes, and (4) other.
- (18) Household income is measured by income per month: (1) less than Rp.200,000,-, (2) Rp.200,000-<400,000,-, (3) Rp. 400,000-<600,000,-, (4) Rp.600,000 - 1000,000,-, and (5) Rp. 1000,000,- and above.
- (19) The family unit is measured by asking respondents about the household members. It is divided to two group: (a) 15 years old and above (working -age), and (b) less than 15 years old (non-working age). Each of group is, then, divided into female and male respondents.
- (20) The place of purchasing ethnic food is the location where consumers often purchase this food. It is measured by asking respondents for : (1) restaurants, (2) supermarkets, (3) street food, (4) food stalls, and (5) mobile vendors.
- (21) Loyalty to one purchasing place is measured by asking respondents whether they always buy this food in one place or in different places. It is measured

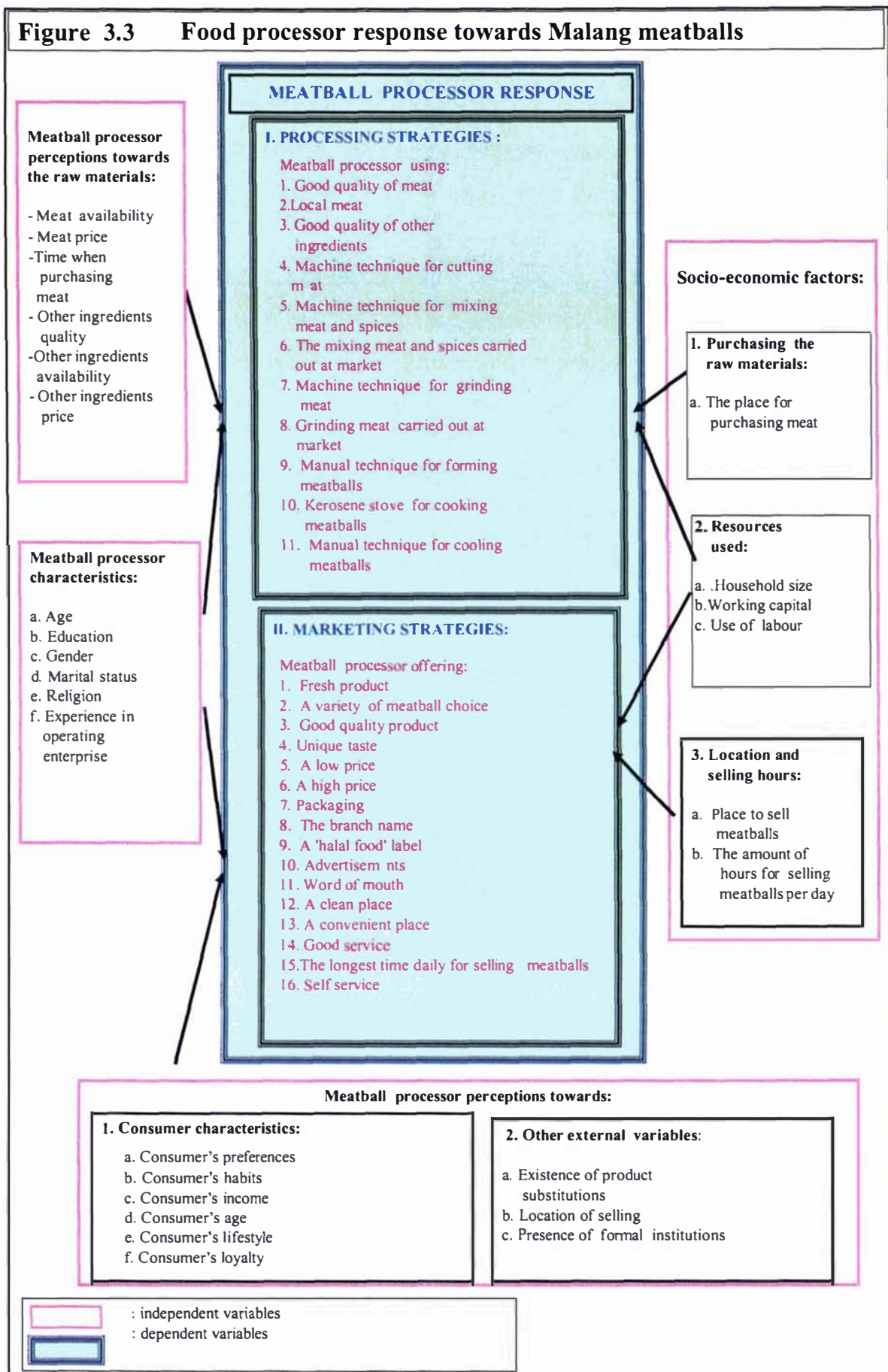
- by : (1) one place, (2) different places, and (3) both.
- (22) Location refers to where consumers live and is measured by : (1) urban area, and (2) rural Area.
- (23) Social norms are measured by the multiplying of normative beliefs and the motivation to comply.
- (24) Normative beliefs are measured by a 5-point 'unlikely-likely' scale. This relates to the likelihood that each reference group (for example, friend, family, salesperson) thinks that consumers should buy ethnic food when they need another one.
- (25) Motivation to comply (MC) is measured by a 5-point 'not at all-very much' scale by having subjects indicate how much consumers want to do what the reference group think they should do.

### **3.1.2 Food processor response**

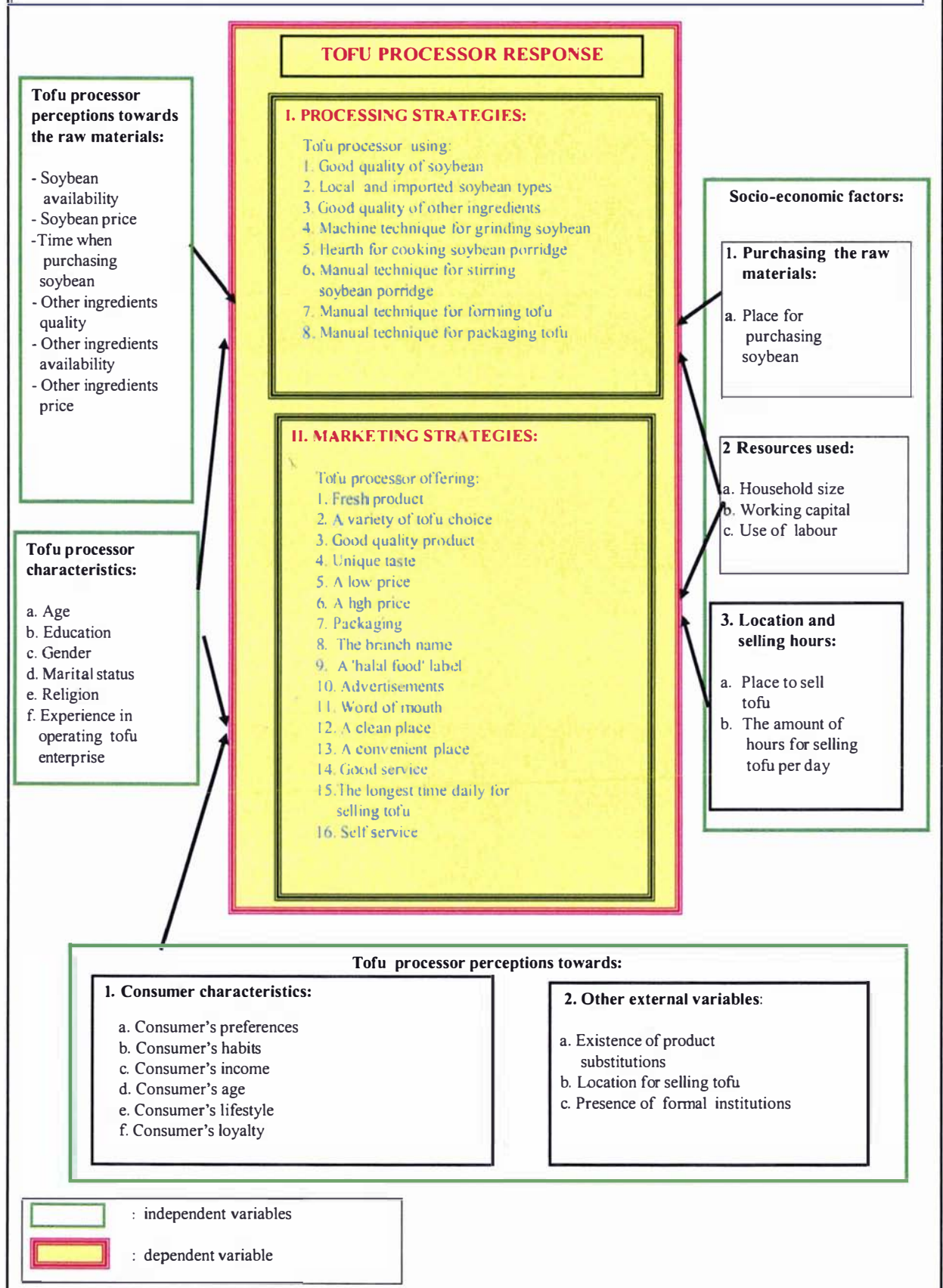
Food processors are represented by the home meatballs industries (HMIs) and the home tofu industries (HTIs), operated in complex situations in which they face consumers' actions and competitors' reactions in the market place. They perform a certain action or response upon these constraints for their enterprise to survive. The food processors' response will vary and can be expressed by using strategies in the producing and marketing of ethnic food which are influenced by several determinants (see Figure 3.3 and Figure 3.4).

#### **3.1.2.1 Processing strategy**

Processing strategy is aimed to maintain the product and make the product competitive to other food products. Processing strategies for meatballs processors include: (a) using good quality of meat, (b) using local meat, (c) using good quality other ingredients, (d) using machine technique for meat cutting, (e) using machine technique for mixing meat and other ingredients, (f) the mixing meat and other ingredients carried out at the market, (g) using machine technique for grinding meat, grinding meat carried out at the market, (h) using kerosene stove for cooking meatballs, (i) using manual technique for forming meatballs, and (j) using manual

**Figure 3.3 Food processor response towards Malang meatballs**



**Figure 3.4** Food processor response towards Kediri tofu



technique for cooling meatballs.

Processing strategies for tofu processors involve using: (a) good quality soybean, (b) local and imported soybean types, (c) good quality other ingredients, (d) machine technique for grinding soybean, (e) hearth for cooking soybean porridge, (f) manual technique for stirring soybean porridge, (g) manual technique for forming tofu, and (h) manual technique for packaging tofu.

Some determinants influence food processors when they produce a food-product. Before ethnic-foods (either meatballs or tofu) reach the hands of a consumer, they pass through every stage of the marketing chain both vertical (including backward and forward linkages) and horizontal channels. In the vertical distributive channel particularly the backward linkage has a significant role in producing a strategy for ethnic food. This indicates a relationship between the food processors and the raw material supplier who provides either meat or soybean and other ingredients - that are already available in the local market. Because raw materials are agricultural products, they have unique characteristics, such as: they are seasonal, perishable, and variable. Consequently, raw material supply is characterised by erratic supply, price fluctuation, and lack of adequate variety and quality. Availability ( $R_{ai}$ ), price ( $R_{pi}$ ), quality ( $R_{qi}$ ), and the time when purchasing ( $R_{ti}$ ) of main raw materials (meat or soybean), and availability ( $G_{ai}$ ), price ( $G_{pi}$ ), quality ( $G_{qi}$ ) of other ingredients, will have an influence on the producing strategy of ethnic food. Therefore, this can lead to variation in the quantitative and qualitative performance of food-product.

Decisions on processing are also associated with personal characteristics, those involving age ( $I_{ai}$ ), level of education ( $I_{di}$ ), experience in operating food enterprise ( $I_{xi}$ ), gender ( $I_{gi}$ ), marital status ( $I_{mi}$ ), and religion ( $I_{ri}$ ) of food processors. In addition, socio-economic influences, such as household characteristics including family-size ( $E_{si}$ ), use of labour ( $E_{wi}$ ), working capital ( $E_{ci}$ ), and purchasing place of raw materials ( $T_{pi}$ ), are considered as essential factors for the food-processor in deciding how to produce ethnic food. Working capital is described as how much capital is used to operate the enterprise. Food processors will operate in low, medium

and large scale production based on the capital they use. Consequently, each micro-enterprise has management decisions involving the best use of these resources that influence meatball or tofu production. In an attempt to describe the processor's response in producing the food products, the equation can be represented as:

$$Y_{pi} = f(R_{ai}, R_{pi}, R_{qi}, R_{ti}, G_{ai}, G_{pi}, G_{qi}, I_{ai}, I_{di}, I_{xi}, I_{gi}, I_{mi}, I_{ri}, E_{si}, E_{ci}, E_{wi}, T_{pi}) \quad (11)$$

where:

$Y_{pi}$  : processing strategy used by food-processor  $i$ ;

$R_{ai}$  : the food processors perceptions towards the availability either meat or soybean;

$R_{pi}$  : the food processors perceptions towards the price of either meat or soybean;

$R_{qi}$  : the food processors perceptions towards the quality of either meat or soybean;

$R_{ti}$  : the food processors perceptions towards the time when purchasing either meat or soybean;

$G_{ai}$  : the food processors perceptions towards the availability of other ingredients for either meatballs or tofu;

$G_{pi}$  : the food processors perceptions towards the price of other ingredients for either meatballs or tofu;

$G_{qi}$  : the food processor s perceptions towards the quality of other ingredients for either meatballs or tofu;

$I_{ai}$  : the age of the food-processor  $i$ ;

$I_{di}$  : the level education of the food-processor  $i$ ;

$I_{xi}$  : the experience in operating food enterprise of the food-processor  $i$ ;

$I_{gi}$  : the gender of the food-processor  $i$ ;

$I_{mi}$  : the marital status of the food-processor  $i$ ;

$I_{ri}$  : the religion of the food-processor  $i$ ;

$E_{si}$  : the household size of the food-processor  $i$ ;

$E_{ci}$  : the working capital in operating enterprise of the food-processor  $i$ ;

$E_{wi}$  : the labour use in engaging enterprise of the food-processor  $i$ ;

$T_{pi}$  : the purchasing place of raw materials for either meatballs or tofu.

### 3.1.2.2 Marketing strategy

A marketing strategy is used to make the consumer loyal to a food product and a strategy may be applied to supply food to the consumers at an adequate price, quantity and quality. Marketing strategies for meatball and tofu processors include offering of (a) a fresh product, (b) a variety of food choice, (c) a good quality, (d) unique taste, (e) a low price, (f) a high price, (g) packaging, (h) the branch name, (i) a 'halal food' label, (j) advertisements, (k) word of mouth, (l) a clean selling place, (m) a convenient selling location, (n) a good service, (o) the longest time for selling this food per day,

and (p) a self-service.

Marketing strategies are influenced by vertical linkage, such as forward linkage that operates between the food processors and consumers. In this channel consumer characteristics: preferences ( $C_{pi}$ ), habits ( $C_{hi}$ ), lifestyle ( $C_{li}$ ), age ( $C_{gi}$ ), income ( $C_{ci}$ ), religion ( $C_{ri}$ ), and loyalty ( $C_{li}$ ), are all critical leverage in marketing ethnic-food.

Horizontal linkage is the relationships between different food processors. Most food processors are likely to face significant competition with other food processors. This is performed by the selling location ( $O_{si}$ ), the availability of product substitutions ( $O_{si}$ ), and the existence of formal institutions ( $O_{fi}$ ). The existence of product substitutions enables the food processor to combat competition very effectively by differentiating their product or providing a specialised service. Successful product differentiation or service offered can enhance the market niche for food processors.

Also, food processor characteristics, household characteristics, and socio-economic influences will all shape the food processor's response to a marketing strategy. Food processor's characteristics refer to age ( $I_{ai}$ ), level of education ( $I_{di}$ ), experience in operating food enterprise ( $I_{xi}$ ), gender ( $I_{gi}$ ), marital status ( $I_{mi}$ ), and religion ( $I_{ri}$ ) of the food processors. Household size ( $E_{si}$ ) represent household characteristics. Socio-economic influences involve working capital ( $E_{ci}$ ), the use of labour ( $E_{wi}$ ), thr types of selling place (i.e. mobile, semi-permanent, and permanent) ( $T_{li}$ ), and the amount of hours for selling this product per day ( $T_{di}$ ).

The above determinants will affect the food processor's strategy when selling their food products. In an attempt to describe the processor response in marketing food products, the equation is stated as:

$$Y_{m_i} = f(C_{pi}, C_{bi}, C_{ci}, C_{gi}, C_{li}, C_{ri}, C_{yi}, O_{si}, O_{pi}, O_{fi}, I_{ai}, I_{di}, I_{xi}, I_{gi}, I_{mi}, I_{ri}, E_{si}, E_{ci}, E_{wi}, T_{si}, T_{di}) \quad (12)$$

Where:

$Y_{m_i}$ : marketing strategy of the food-processor i;

$C_{pi}$  : food processor's perceptions towards consumer's preferences;

$C_{bi}$  : food processor's perceptions towards consumer's habits;

$C_{ci}$  : food processor's perceptions towards consumer's income;

$C_{gi}$  : food processor's perceptions towards consumer's age;  
 $C_{li}$  : food processor's perceptions towards consumer's lifestyle;  
 $C_{ri}$  : food processor's perceptions towards consumer's religion;  
 $C_{yi}$  : food processor's perceptions towards consumer's loyalty;  
 $O_{si}$  : food processor's perceptions towards the location for selling this food;  
 $O_{pi}$  : food processor's perceptions towards the presence of product substitutions;  
 $O_{fi}$  : food processor's perceptions towards the existence of formal institutions;  
 $I_{ai}$  : the age of the food-processor  $i$ ;  
 $I_{di}$  : the level education of the food-processor  $i$ ;  
 $I_{xi}$  : the experience in operating food enterprise of the food-processor  $i$ ;  
 $I_{gi}$  : the gender of the food-processor  $i$ ;  
 $I_{mi}$  : the marital status of the food-processor  $i$ ;  
 $I_{ri}$  : the religion of the food-processor  $i$ ;  
 $E_{si}$  : the household size of the food-processor  $i$ ;  
 $E_{ci}$  : the use of working capital of the food processor  $i$ ;  
 $E_{wi}$  : the use of workers of the food-processor  $i$ ;  
 $T_{si}$  : the types of selling location;  
 $T_{di}$  : the amount of hours daily for selling this product.

### ***Measurement of food processors' variables***

- (1) Processing strategy is measured by asking respondents whether they used the strategy or not for the eleven (meatballs processors) and eight (tofu processors) processing strategies offered by the researcher (see Figure 3.3 and Figure 3.4).
- (2) Marketing strategy is measured by asking respondents whether they used the strategy or not for the sixteen marketing strategies offered by the researcher (see Figure 3.3 and Figure 3.4).
- (3) The six perceptions about raw materials are measured by a five-point scale 'not-important to very important'.
- (4) Food processor's age is measured by years: (1) less than 30 years, (2) 31 to 40 years; (3) 41-50 years, (4) 50-60 years, and (5) 60 years and above.
- (5) Food processor's education is measured by the school they finished. Education can be divided into : (1) illiterate, (2) primary, (3) secondary, (4) high school, and (5) university or academic.
- (6) The experience of food processor is the number of years experience in operating a food enterprise measured by a five point scale: (1) less than 5 years, (2) 6-10 years, (3) 11-15 years, (4) 15 -20 years, and (5) 20 years and above.
- (7) The household size of the food-processor is measured by the number of

- household's members divided into two groups: (a) 15 years old and above (working - age), and (b) less than 15 years old (non-working age). Each of the groups is then, divided into the number of female, and male respondents.
- (8) The use of labour is measured by the number of people employed by food processors in running their enterprise. It is then divided into female and male groups.
- (9) Working capital is measured by the amount of money for daily enterprise operations. It is measured by: (1) less than Rp. 200,000,-, (2) Rp. 200,000,-, 500,000,-, (3) Rp.500,000-1.000,000, (4) 1000,000-1500,000,-, and (5) Rp.1500,000,- and above.
- (10) The purchasing place for raw materials for meatballs is measured by (1) market; (2) meat stall; (3) butcher, and (4) others. While, the purchasing place for tofu is measured by : (1) market; (2) soybean stall; (3) Farmer; (4) others.
- (11) The place for selling meatballs/tofu is measured by (1) mobile traders; (2) street food (semi-permanent) sellers; (3) meatball/tofu stalls (permanent sellers); (4) supermarket; (5) restaurants, and (6) others.
- (12) The duration of time for selling meatballs/tofu is measured by asking how many hours per day is used by food processors when selling these foods. Then, the data is categorised into: (1) up to 8 hours a day, and (2) 8 hours and more per day.
- (13) Food processors' perception related to consumers and other external factors (10 perceptions), are measured by the five important orientations: (1) not important, (2) a little important, (3) somewhat important, (4) rather important, and (5) very important.

### **3.2 Area selection**

East Java, particularly Kediri and Malang municipalities, were chosen for both the consumer and food processor surveys. These areas were selected because, firstly Malang meatballs and Kediri tofu are produced in Malang and Kediri cities, respectively. Secondly, as these ethnic-foods are perishable, they are sold locally and marketed in urban and rural areas. Therefore, consumer respondents were selected in

both urban and rural areas, while food processor respondents were selected from urban areas where meatball and tofu processors were more presence.

### **3.2.1 The Selection of respondents**

Two different approaches to select respondents for consumer behaviour and food processor response were used.

#### **3.2.1.1 Selection of consumer respondents**

Multistage area sampling was used to select respondents for consumer behaviour. This method is another permutation of probability sampling (Weisberg and Bowen, 1977; Weisberg *et al.*, 1996). Multistage area sampling consists of several stages. Initially, it requires sampling a set of geographic regions then, a subset of the geographic area is sampled. This sampling strategy is recognised as area probability sampling in which a population is divided into geographic areas (Rosnow and Rosenthal, 1999). The method follows the rule known as 'probability proportionate to size' (PPS) (Warwick and Lininger, 1975; Weisberg *et al.*, 1996). It is assumed that within each of the areas, the sampling units will have the equal probability of being chosen (Rosnow and Rosenthal, 1996). Likewise, multistage area sampling can ensure that (i) all areas will have some chance of selection and (ii) that units within the areas are chosen impartially (Fowler, 1993). 'Probability proportionate to size' sampling can be adjusted to handle very large clusters (for example, by putting the largest cluster into the sample with probability one and then interviewing 2% of the samples) or very small clusters (for instance, by combining the smaller cluster into a single cluster) (Weisberg *et al.*, 1996). The benefit of using multistage area probability sampling is that it is very cost effective as it is unnecessary to complete a listing of the population (Fowler, 1993). Weisberg *et al.* (1996) added that using multistage area probability sampling lowered costs when compared with simple random sampling. There are, also, limitations to this sampling technique, such as a higher error rate than simple random sampling and a higher cost than cluster sampling. However, the advantages of this method outweigh the limitations, and on this basis it was chosen the sampling technique of consumer buying behaviour for this study.

The sample size of this study was 400 households selected randomly from either Malang or Kediri areas. A 400 household sample size with a 5.0% error could suffice (Lee, 1994). This sampling error is in the tolerable range (2.2 % to 10.3% of sampling error) (Weisberg and Bowen, 1977; Weisberg *et al.*, 1996). Also, a major consideration in deciding the size of the sample is the budget (Creative Research Systems, 1998). More interviews cost more money, and the time limitation is another consideration when choosing the sample size (Creative Research Systems, 1998).

The stages of selection of 400 respondents from either Malang or Kediri municipalities (see Figure 3.5) were:

Stage one: Respondents were selected from the population in either Kediri or Malang municipalities.

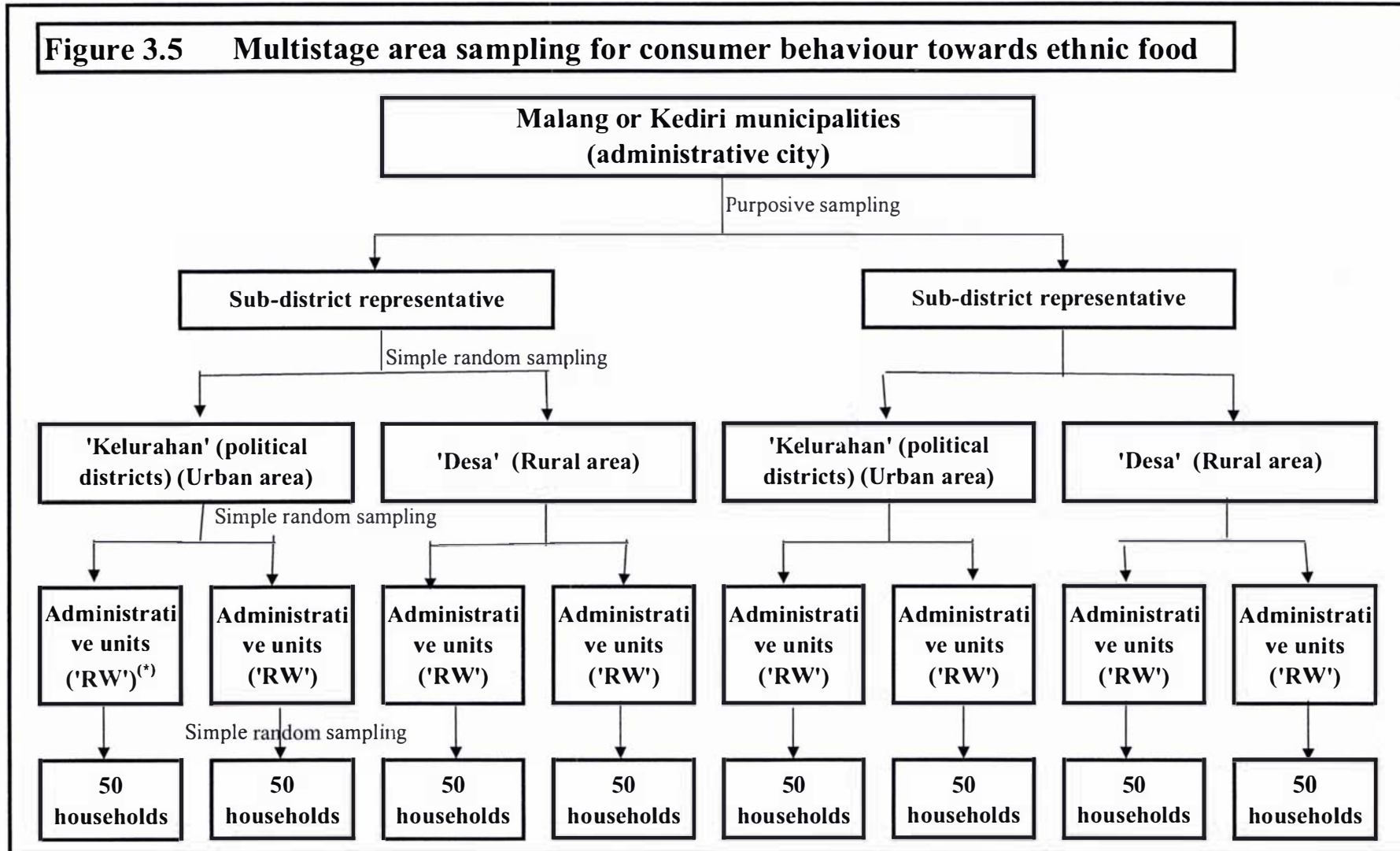
Based on Brawijaya University's permission letter, the researcher went to Malang and Kediri municipalities to introduce herself and request permission regarding conducting survey research in their areas. The municipality officers, then, provided a permission letter and secondary data needed by the researcher.

Stage two: Two sub-districts were chosen in each municipality using a purposive sampling method based on location close to the centre city where many ethnic food processors are located.

Two sub-district ('Kecamatan') out of five and three sub-districts from Malang and Kediri municipalities, respectively, were purposively selected. Data from these sub-districts were obtained from the secondary data of municipality. Two 'kecamatan' were selected from either Malang, or Kediri municipalities. Next, with municipality's permission letter, the researcher went to the four selected sub-districts at Malang and Kediri to introduce and request a permission to conduct research in their areas. The sub-district officers, then, provided permission letter and secondary data required by the researcher.

Stage three: Urban ('Kelurahan') and rural ('Desa') areas were randomly selected from each sub-district.



**Figure 3.5 Multistage area sampling for consumer behaviour towards ethnic food**

Note:

(\*) Each administrative units ('RW') have controll of 5-7 neighbourhood association ('RT').

The secondary data indicated that each sub-district at Malang controlled 12 villages, whereas the two sub-districts at Kediri controlled 15 and 17 villages, respectively. The name of villages were written on small paper and separately placed in a box based on their sub-district. From each sub-district, two village names were randomly taken out from the box (each representing urban and rural areas, respectively). Then, the researcher went to eight selected villages (four urban and four rural villages) from both municipalities to introduce herself and request permission to conduct survey research in their areas. The eight urban and rural villages provided a permission letter and secondary data requested by the researcher. 'Kelurahan' (a urban village or political district) and 'Desa' (a rural village) were already determined on the basis of standard criteria of Indonesia government.

Stage four: From either urban or rural areas, two administrative units ('RW') were selected using simple random sampling.

Each 'Kelurahan' or 'Desa' controlled about six to seven administrative units ('RW'). The number of 'RW' were written on a small paper and put in the box on the basis of either 'Kelurahan' or 'Desa'. Two 'RW' were selected from the box. From each sub-district four 'RW' was selected. Therefore, eight 'RW' were representative of each municipality of either Malang or Kediri. Next, on the basis of the permission letter from either 'Kelurahan' or 'Desa', the researcher went to 16 'RW' (eight at Malang and eight at Kediri) to introduce and request permission to conduct survey research in their areas.

Stage five: Within each administrative units ('RW') 50 households were randomly selected

The 'RW' provided the households data based on family cards, which recorded the name of the head of household, household members, occupation, age, and address. Each 'RW' controlled from five to seven neighbourhood associations ('RT'). About 200-300 household cards per 'RW' were separately placed at about 5 to 7 bundles dependent on the number of 'RT'. Initially, households were randomly selected by withdrawing the family cards from the bundles of their 'RT'. Then, from each administrative unit, 60 -70 households were randomly selected. Next, the researcher

noted the selected household, including the name of the head of household, address, and the number of family members. Fifty households out of 60-70 households per administrative unit were eventually selected. Thus, 100 households were sampled from each of either 'Kelurahan' or 'Desa'. Then, 200 households were sampled from each of 'Kecamatan' (sub-district). Therefore, a total sample of respondents was represented by 400 households from Malang municipality and 400 households from Kediri municipality.

Stage six: From the selected households, respondents were chosen using a simple random method.

This was obtained by writing the number of household members in a small paper, for example head household is coded by number one, and wife is coded number two and children as number three, and so on. Then, one of household members was randomly selected as representative respondent. The selected respondent, then, being matched with the criteria that he/she had experience in purchasing ethnic food (Malang meatballs or Kediri tofu) for at least one year and were aged 15 years or older in 2001. The age restriction is to ensure that consumers could express their perceptions and attitudes towards ethnic-food. The respondents who had those criteria were selected as representative respondents. If the selected respondent did not fit the criteria then another simple random sampling technique was carried out to select one other household member. To deal with this before conducting the interview survey, the researcher and enumerators (for explanation other enumerators selection see page 100) selected two household members using simple random sampling techniques on the basis of the number of family members. Also, the researcher and enumerators always keep the small papers with written code number to make another random sampling whenever needed.

This study used four techniques to obtain a 100% response from the 800 respondents (from Malang and Kediri municipalities). Firstly, an excess number of household samples were required. For instance, from each administrative unit 'RW', 60 -70 households were randomly selected although only 50 household were eventually selected. The aims of this was to deal with unpredictable situations such as replacing

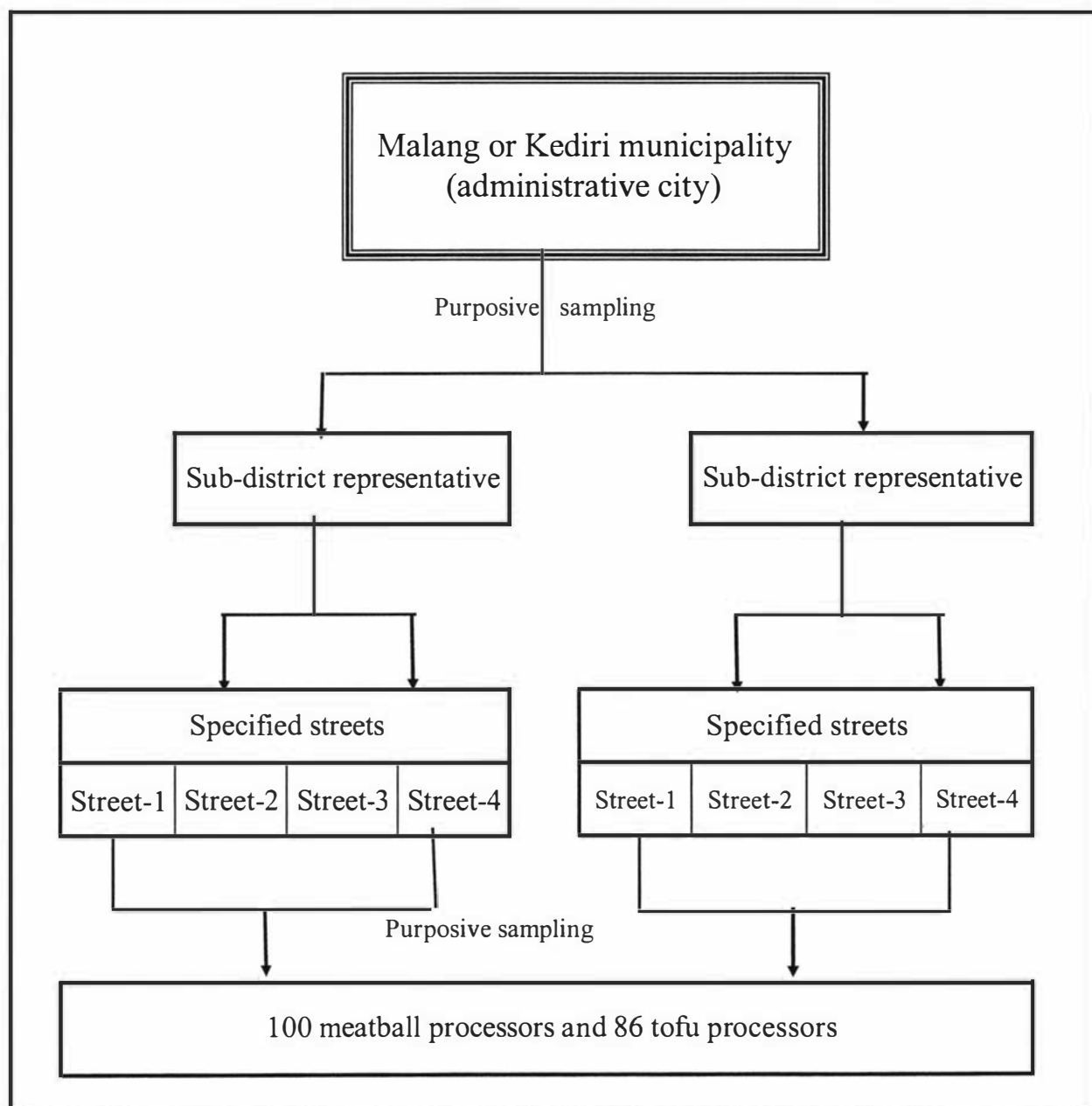
respondents who could not answer the questionnaire (i.e. old people, or disabled people); or respondents who had already moved from the area; respondents who could not answer a complete questionnaire. Secondly, before carrying out the survey, the researcher requested permission from the head of 'RW' regarding the research, and determined the time of conducting the survey. Then, the head of 'RW' informed to all the head of 'RT' within his or her areas. The head of 'RT' passed through this message to households they controlled. This was important to let household know about the research survey, therefore respondents were not surprised and suspicious when the researcher and enumerators visited. Also, respondents were ready to be interviewed by the researcher and enumerators. Thirdly, in ensuring the availability of respondents, the researcher and enumerators usually visited respondents in the afternoon or evening when household members were already at home from their occupations or schools. Finally, the researcher and enumerators might need to return when the questionnaire was not completed or to make another appointment when respondents were not at home.

### **3.2.1.2 The selection of food processor respondents**

Multistage cluster sampling involves successive creation of sampling units and sampling to acquire a reasonable number of ever smaller clusters of desired and distribution of elements. For instance, in the first stage, an accurate listing of groups of elements are randomly selected and called primary sampling units. In the second stage, the samples are subdivided into smaller clusters and these are considered secondary sampling units. The advantage of cluster sampling is that it is an economically efficient sampling technique because the primary sampling unit is not the individual element in the population but a large cluster of elements (Zikmund, 1997). Also, the primary sampling unit is a geographic area. Finally, there is no required listing of the sample population.

Therefore, multistage cluster sampling was used to select the food processor respondents (see Figure 3.6). This is because a listing of ethnic food processors was not available. Firstly, either Kediri or Malang municipality areas are defined as the

**Figure 3.6** Multistage cluster sampling for food processor response towards ethnic food



primary sampling units, with sub-districts within the regions. The sub-districts, are then further divided into streets, which have concentrated areas of ethnic food sellers. Finally, the food processors that live in each selected street were selected by purposive sampling. The selection of food processors is based on two criteria namely, that they were owner operators and had been in business for at least one year. This is to guarantee that the food processors have had experience in running their food enterprises. Food processors that met those criteria were selected as representative respondents.

Sedlack and Stanley (1992) noted that most statisticians agree that 30 samples are the minimum required number for a legitimate interpretation without involving other procedures specially designed for smaller numbers and based upon different theoretical distributions, for instance the binomial distribution. The sample size in this study was 100 meatballs processors and 86 tofu processors.

### **3.3 Data collection**

Consumer behaviour and food processors data collection was carried out by survey using a structured interview method. Survey method techniques are classified into personal interviews, telephone surveys, and mail surveys (Loudon and Bitta, 1979). Data was collected by a combination of interviews and direct observations. The selection of face-to-face interviews has several advantages over other type of surveys (Warwick and Lininger, 1975). Firstly, the target population can be easily reached. Direct surveys and interviews can cover limitations and other deficiencies of postal and telephone surveys (Crawford, 1997). Secondly, the quality of the answers increases as the questions can be clarified, while at the same time response rate increase, as questionnaires are better understood. Thirdly, preventing subjects from looking ahead or back, or comparing answers with those in other experimental conditions can control the sequence of the questions. A major disadvantage of this approach, however, is its high cost (Loudon and Bitta, 1979).

Data was collected from August to December 2001. Before collecting data for consumer behaviour and food processors, several stages were carried out. Firstly, the researcher trained enumerators (from Malang and Kediri areas) with regard to data collection using a structured questionnaire. Enumerators were students from faculty of animal husbandry of Brawijaya University (at Malang city) and faculty of agriculture of Kediri Islamic University (at Kediri city). Students who have criteria, (a) majoring in socio-economic, (b) being in the fourth year of their undergraduate program ('Stratum-1'), and (c) having an experience in conducting research survey, were selected as enumerators. In interviewing the 800 respondents in both Malang and Kediri areas, 10 trained enumerators from each area assisted the researcher. In addition, four trained enumerators from each area helped the researcher obtain data from 100 meatball processors and 86 tofu processors. Secondly, the researcher and enumerators engaged pre-test questionnaire. Thirdly, potential problems of field research during interviews and how to solve these problems were discussed. Fourthly, the researcher reworked the questionnaire on the basis of results of the pre-test questionnaire. Finally, the survey was conducted.

Data for consumer behaviour includes primary and secondary data. Primary data of the consumer survey were categorised into three main questions: (a) identifying consumers whether they buy or do not buy ethnic food; (b) determining the reasons why consumers are interested or not interested in buying ethnic food; and (c) examining determinants, including consumer, product and environment characteristics to explain variations in consumer behaviour towards ethnic food (see Appendix-10 and Appendix-12). The data collected from food processors involved three main types of information: (a) the food processors in general, involving number of employees, and working capital used; (b) the strategy used by food processors to deal with both consumers and competitors, including producing and marketing strategies; and (c) factors affecting the strategy used in either processing or marketing (see Appendix-11 and Appendix-13). Secondary data covered the socio-economic conditions and geographical conditions of Malang and Kediri areas.



### 3.4 Analytical methods

The objective of analysing consumer behaviour in this study was to study consumer purchasing decision process regarding ethnic food. Analysis of the food processor response examined factors associated with adopting processing and marketing strategies. The following paragraphs discuss the methods used for analysing consumer behaviour and food processor response towards ethnic food.

#### 3.4.1 Analytical methods for consumer purchasing behaviour

There are several analysis methods that can be used to study consumer buying behaviour. A binominal logit function was developed to investigate the probability for shopping for saltine crackers (Bucklin and Lattin, 1991). A two-state model of logit analysis was used to examine the purchase incidence and brand choice for a certain fish species or fish product (Houston *et al.*, 1998). A nested logit model was used to study purchase decisions towards yoghurt (Chintagunta, 1992), brand choice, purchase incidence, and segmentation of the liquid laundry (Bucklin and Gupta, 1992), and the probability of buying decision to saltine crackers and liquid laundry detergent (Bell and Bucklin, 1999). The ordered probit model of consumer choice-study using an ordinary least squares or a multinominal probit or logit model for analysis, was applied to study purchasing seafood in Norway (Myrland *et al.*, 2000). Tobit models have been used to estimate fluid milk expenditure functions for predicting future changes in milk consumption (Cornick *et al.*, 1994). The Lisrel VI analysis was used in an attempt to study performance of Korean consumers toward sneaker (Lee, 1990). Canonical analysis was used to study convenience food products (Farley and Ring, 1974), buying behaviour on durable goods (Westbrook and Fornell, 1979), and the factors influencing buying and consumption behaviour towards liquid milk (Termorshuizen *et al.*, 1986). Also, cluster analysis has been used to examine consumer attitudes and behaviour towards organic foods in Ireland (Roddy *et al.*, 1996). Factor analysis is used to measure food buyer avoidance behaviour - eating habits regarding weekday and weekend meals and snacking, food preparation, and eating at home and away from home (Alreck and Settle, 1998).

Considering the research questions and hypothesis to be tested, logit analysis was used for analysing consumer behaviour towards ethnic food. In this study, purchasing intention, purchasing action, and satisfaction towards ethnic food, were considered as binary and discrete dependent variables. All independent variables were measured by continuous and discrete variables.

Logit analysis or discriminant analysis may be appropriate to analyse discrete dependent variables. Likewise, Sheth (1971) mentioned that multiple discriminant analysis might be only suitable to predict a discrete dependent variable with a set of independent variables. However, logit analysis may better utilise a binary dependent variable than discriminant analysis for several reasons (Hair *et al.*, 1995). Firstly, logit analysis, does not rely on strict assumptions (multivariate normality and equal variance-covariance assumptions), so its analysis can apply to most situations. Secondly, logit analysis is preferable to discriminant analysis because it is similar to regression with its straightforward statistical tests, ability to incorporate non-linear effects, and wide range of diagnostics.

### **3.4.2 Analytical methods for food processors**

Multiple regression and logistic procedures were applied to analyse food processor response towards ethnic food. Multiple regression analysis was used to assess the relationship between a single dependent variable and a set of independent variables. Its analysis can be used to investigate the simultaneous effect of two or more independent variables on a single dependent variable (Zikmund, 1997). This method is used to predict the variability of a dependent variable based on its covariance with all the independent variables (Sheth, 1971). Likewise, in the study of the HMIs (the home meatball industries) and the HTIs (the home tofu industries), the dependent variable is the producing and marketing strategies. The number of dependent variables is restricted to either the producing or marketing strategies used by the food processor. Continuous and discrete variables were used for dependent variables and all independent variables. Therefore, a multiple regression analysis was used for the food processor response analysis of either the HMIs or the HTIs. When the dependent

variables were binary variables, a logistic regression procedure was used to test the relationship between processing and marketing strategies with the explanatory variables.

### 3.4.3 Data analysis procedures

All survey data were coded and entered using Excel Software. Several analyses, descriptive, factor analysis, bivariate and multivariate analyses were performed using SAS package (DiIorio and Hardy, 1996). Firstly, descriptive analysis were carried out to generate descriptive information (Zikmund, 2003). This analysis was used to analyse the profile of consumer and food processor respondents. Secondly, the principal component factor analysis with a varimax rotation was performed to investigate consumers' attitudes and perceptions towards ethnic food and food processor perceptions (i.e. towards raw materials, and consumers and other external factors). Factor analysis was a statistical procedure to summarise or condense a large variable into smaller set of inter-correlated variables (Neuman, 1994; Hair *et al.*, 1995; Wilson, 2003). In an attempt to identify the underlying structure of relationships between variables, the factor analysis is extracted through principal component analysis. According to principal component analysis, factors are determined to account a maximum inter-correlation of the variables (Reyment and Joreskog, 1993). This analysis is appropriate to summarise most of the original information (variance) in minimum number of factors for prediction purpose (Hair *et al.*, 1995). The extracted factors are rotated by varimax method. Varimax rotation is a rotation technique used to maximally redistribute the sum of variances for factor loadings (Comrey and Lee, 1992; Hair *et al.*, 1995). Such factor loadings would have a large variance of the squared loadings because the values are maximally spread out (Comrey and Lee, 1992). The varimax method is used to obtain theoretical meaningful factors and the simple factor structure (Hair *et al.*, 1995). High loadings (i.e. close to -1 or +1), indicates a clear positive or negative association between factor loadings and loadings near 0, indicates a lack of association between factor loadings. Factor loadings are the correlation between the original variables and the factors which higher loadings indicate the variable representative of the factor. Factor loadings with

values of  $\pm 0.3$  or higher are considered significant (Child, 1990). Factor loadings are considered poor (0.32), fair (0.45), good (0.55), very good (0.63) and excellent (0.71) according to Comrey and Lee (1992). The variables with the highest factor loading on each factor were selected as a representative for that particular factor, and were used for subsequent bivariate and multivariate analyses.

Thirdly, bivariate statistical analysis is data analysis about the simultaneous relationship between two variables (Neuman, 1994; Zikmund, 2003). The correlation between independent variables was analysed using this procedure. Fourthly, multivariate analysis is used to allow the simultaneous investigation of more than two variables (Zikmund, 1997). Logistic and multiple regression analysis were conducted for consumers' purchasing behaviour process and food processors' processing and marketing strategies. The following sections explain the procedures in analysing data for consumer behaviour and food processors' response towards both Malang meatballs and Kediri tofu.

### 3.4.3.1 Consumer purchasing behaviour towards Malang meatballs

The procedure of data analysis of consumer behaviour was divided into two sections:

#### I. Consumer behaviour in general

This section covers three sub-sections of data analysis: purchasing intention, purchasing action, and satisfaction regarding ethnic food.

#### I-1. The stages of data analysis for purchasing intention towards this food

**First** Running factor analysis for independent variables of attitudes and social norms

#### Stage-1: Creating an index for belief and evaluations variables

The index represented the composite of scores assigned to individual attributes (Babbie, 2001). The advantage of creating an index is the range of gradations it offers in the measurement of a variable. In creating an index, current data of 1, 2, 3, 4, 5 ranking of measurement levels were weighted according to the proportions of 0.2, 0.4, 0.6, 0.8, and 1.0 index scores, respectively. Seven indices resulted from food

characteristics. They are a belief towards food price, food appearance, food taste, food aroma, food texture, freshness of food and 'halal food'.

Also, seven indexes are created from consumer's perceptions of the importance of ethnic food, including: an evaluative belief towards price, appearance, taste, aroma, texture, freshness, and 'halal food'.

Stage-2: Calculating attitudes by multiplying between indices of beliefs and indices of evaluations

Attitude is a multiplication between the weighed index of belief with the weighed index of evaluative beliefs (Lunn, 1974). Seven types of attitudes toward ethnic food are explained in the following section.

- (a) Consumers' attitude towards food price is a multiple of the index of consumer belief (the rank) of price and the index of evaluative belief (the importance) of the food price.
- (b) Consumers' attitude towards food appearance was the multiple of the index of the rank of the interesting food appearance and the index of the importance of the food appearance.
- (c) Consumer's attitude towards food taste is obtained by multiplying the index of rank of unique taste of food and the importance of unique taste of food.
- (d) Consumer's attitude towards food aroma is obtained by multiplying between the index of the rank of aroma and the index of the importance of the food aroma.
- (e) Consumer's attitude towards food texture is the multiple of the index of the rank of the firm food texture and the index of the importance of the food texture.
- (f) Consumer's attitude towards a healthy food is obtained by multiplying the index of the rank of food freshness and the index of the importance of the fresh food.
- (g) Consumer's attitude towards the 'halal food' is obtained by multiplying the index of the rank of 'halal food' and the index of the importance of the 'halal food'.

Stage-3: Creating an index of variables for normative beliefs and the motivation to comply

The rank of measurements of 1, 2, 3, 4, and 5 of the normative beliefs and motivation to comply variables were transformed to 0.2, 0.4, 0.6, 0.8, and 1 respectively, to create indices. Two indices were consumers' normative beliefs towards the influence of surrounding people in buying Malang meatballs (ranged from very unlikely to very likely) and consumers' motivation to follow the influenced people (ranged from not at all to very much).

Stage-4: Calculating variable social norms

Social norms were calculated by multiplying the index of consumers' normative belief and the index of consumer's motivation to comply towards ethnic food.

Stage-5 : Running factor analysis for attitudes and social norms variables

Seven variables in attitudes and one variable of social norms were computed by factor analysis, and only those variables having high correlation with other variables were used in the principal component factor analysis with varimax rotation. The purpose of using principal component factor analysis here was to reduce the number of variables to a manageable size.

Stage-6: Creating factor scores and making new names from those factors analysis

After thorough examination of the loading on the factors, a name was given to each factor according to each of the dimensions to create a new data set.

**Second** Running factor analysis of consumers' perception towards Malang meatballs

This is aimed at summarising consumers' perception variables, rated by a consumer on a five-point scale (1, 2, 3, 4, and to 5). It involved three stages:

Stage -1: Running factor analysis with consumers' perception variables

A principal components factor analysis with varimax rotation was conducted on the responses to consumers' perception variables. Results showed that three perception

variables related to: (a) distance in purchasing meatballs, (b) the packaging, and (c) using advertising, were eliminated from the model since those variables were not important in determining intention to buy Malang meatballs. So only 19 variables were used for the factor analysis.

#### Stage -2: Running factor analysis for perception variables

A principal components factor analysis with varimax rotation was conducted on the responses to the 19 perception variables, respectively. Results indicated that all variables were significantly summarised into seven factors.

#### Stage-3: Creating factor scores and making new names for index variables

Factor analysis was conducted for seven indices. After thorough examination of the loading on the factors, a name was given to each factor according to each of the dimensions to create a new data set.

#### **Third** Running multicollinearity test for predictor variables

A multicollinearity test was performed for four set independent variables. There are (a) four indices of consumers' attitudes, (b) seven indices of consumers' perceptions, (c) six consumer characteristics, and (d) seven the socio-economic variables. Two multicollinearity tests were conducted involving:

- (1) Running correlation analysis of all independent variables
- (2) Running regression analysis of all independent variables

The results found that six variables have a high correlation with other independent variables (see appendix-1). Therefore, only 18 variables were used for further analysis.

#### **Fourth** Running regression analysis for consumers' purchasing intention

Logistic regression analysis with 18 predictor variables (Malang meatballs) was separately carried out to examine the factors explaining consumer's purchasing intention.



## I-2 The stages of data analysis for consumers' purchasing action

This was aimed at the relationship between purchasing action with estimated probability of purchasing intention, food availability, and the change in price. Two stages were carried out including:

### Stage-1: Creating the estimated probability of purchasing intention

Purchasing intention was regressed with 18 independent variables to create the estimated probability of purchasing intention.

### Stage-2: Running logistic regression of purchasing action

The logistic regression analysis method was carried out to examine the factors influencing purchasing action. Purchasing action was regressed along with the estimated probability of purchasing intention, food availability, and the change in price. Results indicated that first and the second variables were significant ( $p < 0.15$ ).

## I-3 The stages of data analysis for satisfaction about Malang meatballs

This stage is aimed at determining the relationship between consumers' satisfaction and two independent variables, the estimated probability of the purchasing action, and repeat purchase in future. It involved two stages:

### Stage-1: Creating estimated probability of purchasing action

Purchasing action was regressed with estimated probability of purchasing intention, the availability of food, and the change in price to create the estimated probability of purchasing action.

### Stage-2: Running logistic regression for consumers' satisfaction

Consumers' satisfaction was regressed with repeat purchase in future, and the estimated probability of purchasing action towards Malang meatballs.

## II. Consumer behaviour towards ethnic food by location (urban vs. rural)

This section covers three sub-sections of data analysis: purchasing intention, purchasing action, and satisfaction towards ethnic food for urban and rural consumers. Similar analysis stages as used for consumer behaviour in general, were applied to urban and rural consumers' behaviour towards Malang meatballs.

### 3.4.3.2 Consumer purchasing behaviour towards Kediri tofu

The procedure of data analysis of consumer behaviour towards Kediri tofu used the similar analysis steps as performed for consumer behaviour towards Malang meatballs.

### 3.4.3.3 Food processor's response towards Malang meatballs

The procedures of data analysis of the food processor response towards Malang meatballs were divided into two sections:

#### I. Processing strategies used by meatball processors

This section covered both the stages of data analysis for processing strategies in general and among groups of meatball processors.

##### I-1. The stages of data analysis for processing strategies used by meatball processors in general

###### **First** Examining independent variables used by processing strategies analysis

Stage-1: Running factor analysis for independent variables of perceptions related to raw materials

Factor analysis was conducted for seven perceptions towards raw materials for Malang meatballs including: (a) the importance of meat availability, (b) meat quality, (c) meat price, (d) time when purchasing meat, (e) other ingredients availability, (f) quality other ingredients, and (g) price of other ingredients. Results showed that the seven perception variables were grouped into three meaningful

indices (R) for meatball processors based on factor analysis using varimax rotation.

Stage-2: Creating factor scores and name making of new variables for three indices  
Factor analysis with 3 indices was carried out to create factor scores. After thorough examination of the loading of the factors, and name was given to each factor according to each of the dimensions.

Stage-3: Running multicollinearity test for independent variables

Multicollinearity test was performed for three set independent variables for meatball processors: (a) three indices of perception about raw materials, (b) three food processor characteristics, and (c) five the socio-economic variables. It was:

- (1) Running a correlation analysis of all independent variables
- (2) Running a regression analysis of all independent variables

Results found that 3 variables: food processor experience in operating enterprise, the number of females in the household, and the number of male workers were excluded, because they have high correlation with other independent variables (see appendix-2).

Therefore, only eight variables, (a) 'meat quality and other ingredients', (b) 'meat availability and price', (c) 'quality of other ingredients consciousness', (d) food processor's age, (e) food processor's education, (f) the number of males in the household, (g) number of female workers, and (h) working capital, were used for further analysis.

**Second** Examining dependent variables for processing strategies

Stage-1: Selecting the processing strategies used by food processors

Processing strategies that had less than 80 percent of the frequency (the optimum frequency range) was selected. Results indicated that three out of eleven processing strategies, namely the use of (a) machine technique for cutting meat, (b) machine technique for mixing meat with other ingredients, and (c) the mixing of meat and other ingredients carried out at the market, were selected as representative of processing strategies used by meatball processors (see Appendix-4). Representative of

processing strategies means the processing strategies used by meatball processors that considered different among them.

Stage-2: Running the Chi-square test for the selected processing strategies

The Chi-square test was conducted for the three selected processing strategies to examine whether processing strategies differ between groups (the 'small' vs. the 'medium to large' groups).

Stage-3: Running factor analysis for dependent variables of processing strategies

Principal components of factor analysis with varimax rotation exhibited that three selected processing strategies used by meatball processors, could be represented by one index. Therefore, two selected processing strategies were separately used.

Stage-4: Creating factor scores and name making of new variables

Factor analysis with one factor was carried out to create factor score. After thorough examination of the loading of the factors, a name was given to this factor according to the dimensions.

**Third** Running regression analysis for dependent variables of processing strategies

One index processing strategies was regressed with eight predictor variables as presented at stage-3 of the first section to examine factors associated with this processing strategy.

I-2 The stages of data analysis for processing strategies used by the groups of meatball processors (the 'small' vs. the 'medium to large' groups)

The similar stages as performed for processing strategies in general, were applied for the 'small' and the 'medium to large' groups of meatball processors.

II. Procedures of data analysis marketing strategies used by meatball processors

II-1. The stages of analysis of marketing strategies used by meatball processors

### **First** Examining independent variables used for marketing strategies analysis

Stage-1: Running factor analysis for independent variables of meatball processors' perceptions towards consumers and other external factors

Ten of the meatball processors' perceptions toward (a) consumer's preference, (b) consumer's age, (c) consumer's income, (d) consumer's lifestyle, (e) consumer's habits, (f) consumer's religion, (g) consumer's loyalty, (h) product substitutions, (i) the existence of formal institutions, and (j) the selling location were summarised by principal factor analysis into two indices.

Stage-2: Creating factor scores and making the new variable names for indices

Factor analysis with three indices was carried out to create factor scores. After thorough examination of the loading of the factors, a name was given to each factor according to each of the dimensions.

Stage-3: Running multicollinearity test for independent variables

Multicollinearity test was performed for four sets of independent variables for meatball processors, including (a) two indices of perceptions related consumers and other external factors, (b) three food processor characteristics, and (d) seven socio-economic variables. Two multicollinearity tests were conducted, involving:

- (1) Running correlation analysis of all independent variables
- (2) Running regression analysis of all independent variables

Results found that five variables had high correlation with other independent variables (see Appendix-3). Therefore, only seven variables, (a) 'consumer characteristics and competition', (b) 'loyalty of consumers and formal institutions', (c) food processor's education, (d) food processor's experience in operating the meatball enterprise, (e) number of males in the household, (f) number of female workers, and (g) working capital, were used for further analysis.

### **Second** Examining dependent variables for marketing strategies

Stage-1: Selecting the marketing strategies used by food processors

Marketing strategies that has less than 80 percent frequency (the optimum frequency

range) were selected. Results showed that nine out of sixteen marketing strategies were selected as representative of the marketing strategies used by meatball processors (see Appendix-4). Representative of marketing strategies means marketing strategies offered by meatball processors that indicated different among them. Nine marketing strategies, namely offering of (a) unique taste, (b) a low price, (c) the branch name, (d) a 'halal food' label, (e) advertisements, (f) a clean selling place, (g) a convenient selling location, (h) the longest time daily for selling meatballs, and (i) a good service, met the criteria.

**Stage-2:** Running the Chi-square test for analysing marketing strategies used by groups of meatball processors (the 'small' vs. the 'medium to large' group)  
The chi-square test was conducted for the nine selected marketing strategies were used to examine whether marketing strategies differ between groups.

**Stage-3:** Running factor analysis for dependent variables of marketing strategies  
For those selected marketing strategies, eight marketing strategies applied by meatball processors (excluded those offering of a low price), were reduced into two indices by the principal components factor analysis with varimax rotation. Offering of a low price, was excluded from factorial analysis, because this strategy did not fit the factorial models of the marketing strategies.

**Stage-4:** Creating factor scores and naming for new variables

Running factor analysis with two indices was carried out to create factor scores. After thorough examination of the loading on the factors, a name was given to this factor according to the dimensions.

**Third** Running logistic and multiple regression analysis for dependent variables for marketing strategies

The seven predictor variables as presented at stage three for section one, were regressed with two indices marketing strategies for meatball processors: (a) 'unique taste and promotional tools strategies', and (b) 'convenience strategies' by using separate multiple regression procedure since the two marketing strategies are a

continuous variable. Whereas, these predictor variables were regressed with offering of a low price strategy by using logistic regression technique since this marketing strategy is a dummy variable.

II-2. The stage analysis of marketing strategies used by the 'small' and the 'medium to large' groups of meatball processors

The similar stages as performed for marketing strategies in general, were applied for the 'small' and the 'medium to large' groups of meatball processors.

#### **3.4.3.4 Food processor's response towards Kediri tofu**

The data analysis of food processors' response towards Kediri tofu used similar stages as those used for food processors' response towards Malang meatballs.



## **CHAPTER FOUR**

This chapter covers the results of the analysis undertaken to explain consumer behaviour towards Malang meatballs. It addresses three questions: (a) how do consumers behave towards Malang meatballs; (b) what factors influence consumer purchasing decisions; and (c) how urban consumer behaviour towards Malang meatballs differs from their rural counterparts. These objectives are incorporated into several hypotheses (hypothesis 4.1 to 4.6) presented in Chapter one.

Before addressing the above questions, it was deemed appropriate to profile meatball consumers, and this is presented in section 4.1. Section 4.2 examines consumers' behaviour towards Malang meatballs and the factors associated with their behaviour. Section 4.3 compares urban and rural consumers' behaviour towards the product. Finally, section 4.4 discusses the overall results.

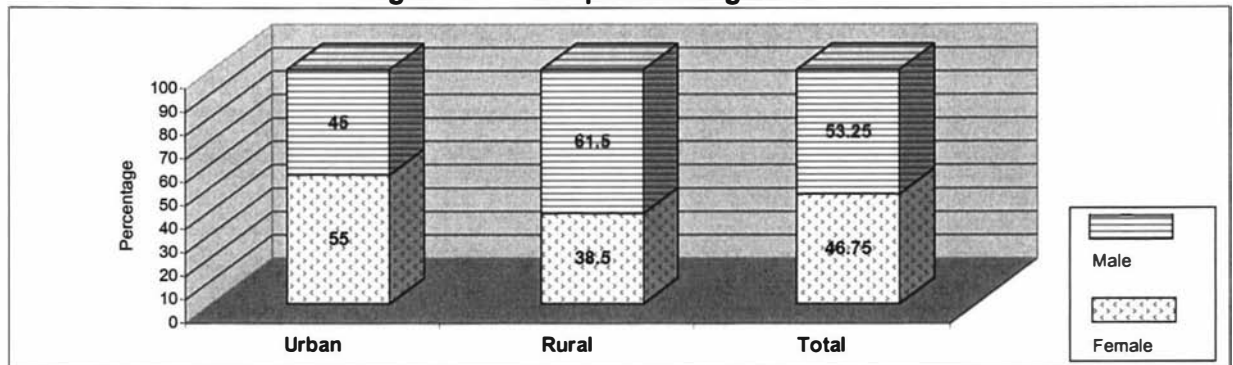
### **4.1 The profile of Malang meatball consumer respondents**

A total of 400 consumer respondents (200 urban and 200 rural), were interviewed using a structured questionnaire. The profile of respondents (predominantly Islam (95%)) indicates that:

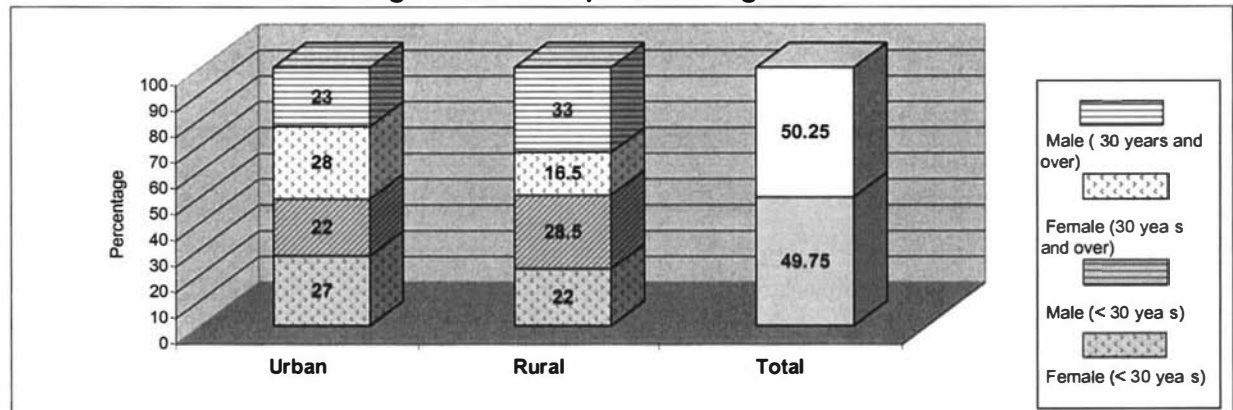
- (a) Slightly more than half of the respondents were males. Females were proportionally more represented in urban areas, while males dominated in the rural areas (Figure 4.1).
- (b) Older (aged 30 years and more) and younger respondents (aged less than 30 years) were equally represented in the sample (Figure 4.2). However, proportionately more female respondents in the older age group were found in urban areas compared to their rural counterparts.
- (c) Married respondents accounted for slightly more than three-fifths of all respondents and they outnumbered unmarried respondents in both urban and rural areas (Figure 4.3). There were more married male respondents in rural areas compared to their urban counterparts.

**Figure 4** The profile of meatball consumer respondents

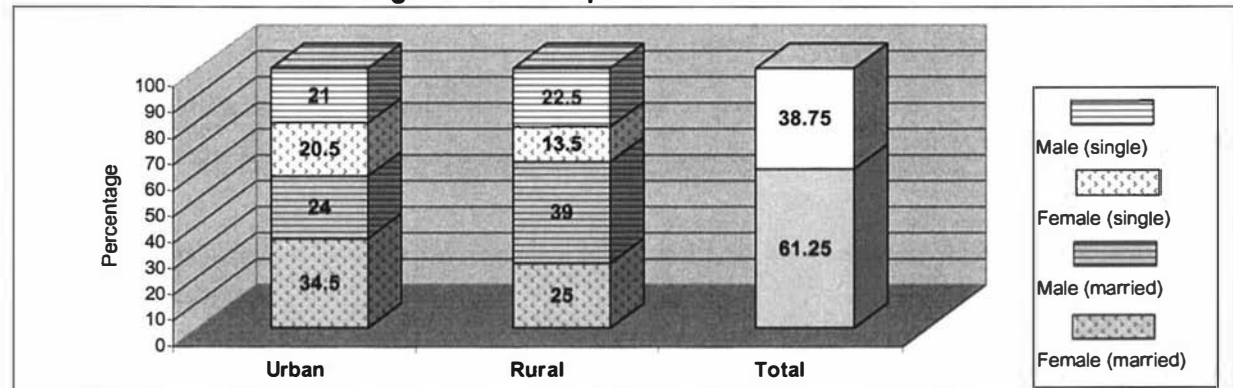
**Figure 4.1** Respondent's gender



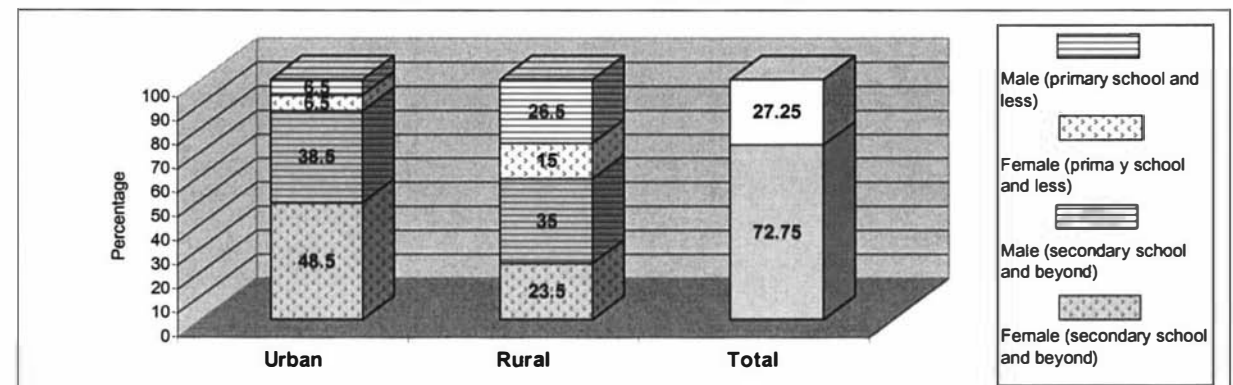
**Figure 4.2** Respondent's age



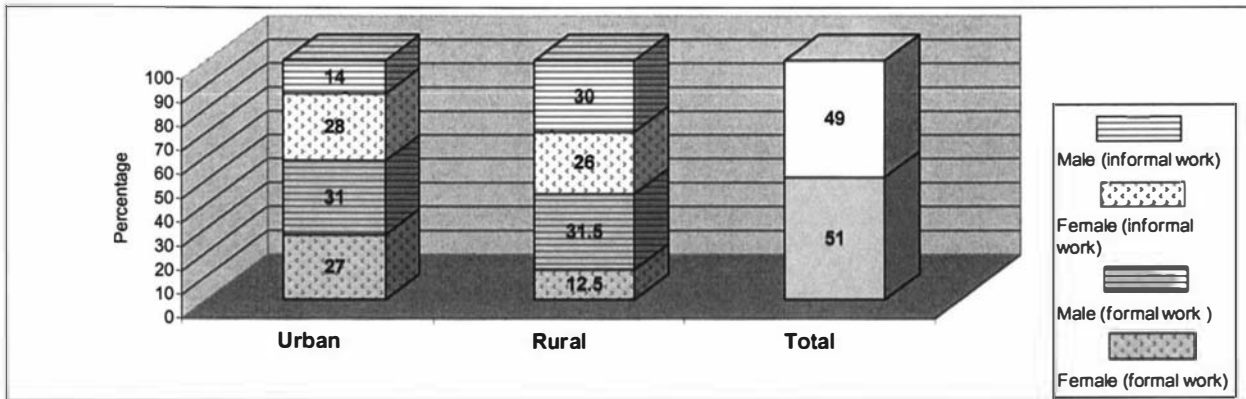
**Figure 4.3** Respondent's marital status



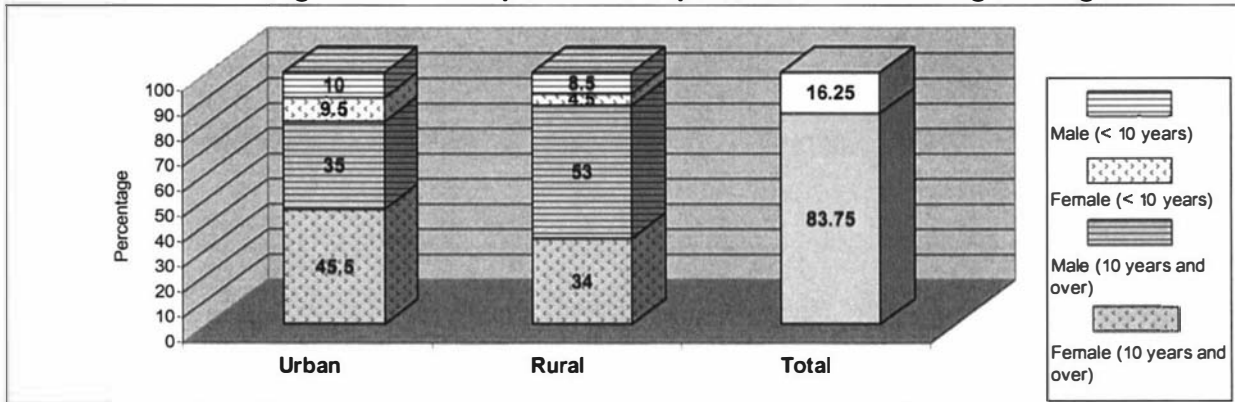
**Figure 4.4** Respondent's education



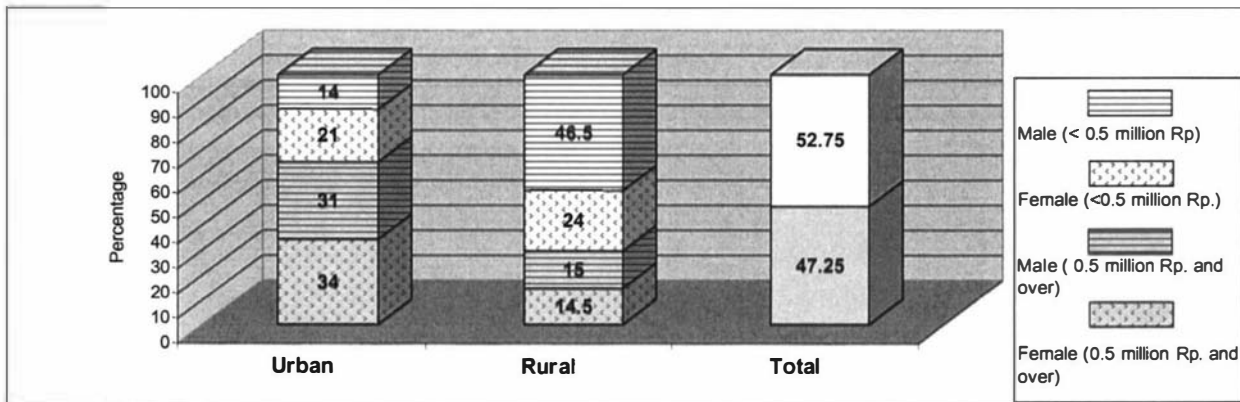
**Figure 4.5 Respondent's occupation**



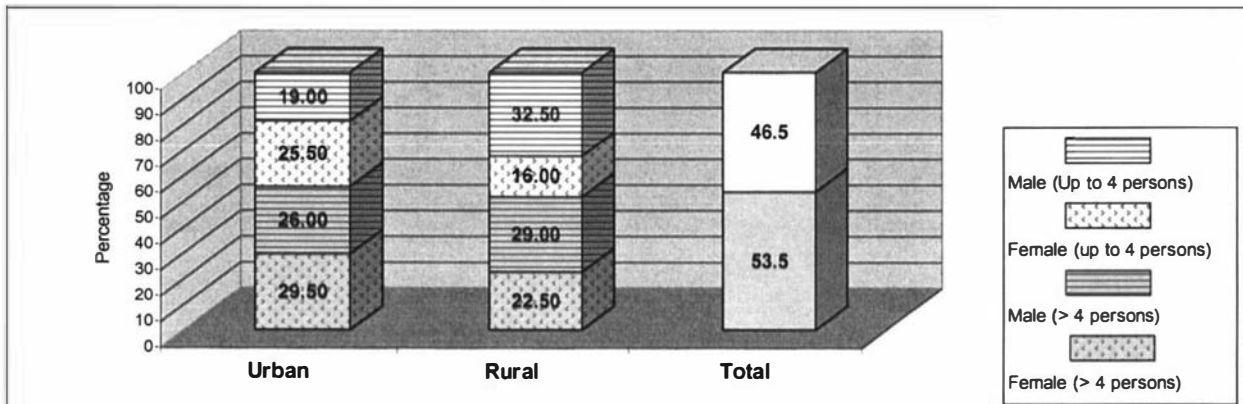
**Figure 4.6 Respondent's experience in consuming Malang meatballs**



**Figure 4.7 Household's income**



**Figure 4.8 Household's members**



- (d) In general, respondents were modestly educated (secondary school and beyond) in both rural and urban areas but urban respondents were relatively more educated than their rural counterparts (Figure 4.4). Also proportionally a higher number of urban female and rural male respondents had educational attainment at secondary level and higher.
- (e) The types of occupation either formal (ranging from government officer, private company worker, police and army, to student) or informal (including, trader, service sector, craft sector, farmer, off-farm worker and housewife) were evenly spread among respondents (Figure 4.5). Formal employment was more prevalent among urban respondents, while informal employment dominated rural respondents. A higher number of urban male respondents were employed in the formal sector, while their female counterparts took informal jobs. In rural areas, males dominated both formal and informal occupation.
- (f) An overwhelming majority of respondents had 10 years or more experience in consuming Malang meatballs (Figure 4.6). A somewhat higher proportion of respondents with longer experience (10 years or more) of consuming this food product lived in rural areas compared to those with shorter consumption spans (less than 10 years). Likewise, more than two-fifths of urban female respondents and more than half of the rural male respondents had longer experiences of consuming Malang meatballs.
- (g) The proportion of respondents with lower household incomes (less than 0.50 million Rupiah<sup>(\*)</sup> per month) was about the same as the proportion of those with higher household incomes (0.50 million Rupiah and more per month) (Figure 4.7). The rural respondents had lower household incomes compared to their urban counterparts. Also, a proportionally higher number of female respondents reported that they had household incomes of less than 0.50 million Rupiah.
- (h) Slightly more than half of the respondents came from larger households (more than 4 persons) (Figure 4.8). A higher number of urban respondents were represented in households with a larger size, while rural respondents came from smaller households (up to 4 persons).

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(\*) In 2003, the exchange rate was Rp.8300,- equivalent to one US dollar.

## 4.2 Consumer behaviour towards Malang meatballs

In an attempt to examine consumer behaviour towards Malang meatballs, the model of consumer behaviour was studied as a process of purchasing decision. As consumers differ in terms of their attitudes and perceptions about this food, they have their own sets of preferences that may lead to differences in purchasing behaviour, and in the corresponding satisfaction towards this food. Therefore, this section presents the sequential phases of consumer purchasing behaviour towards Malang meatballs, namely consumer attitudes and social norms, consumer perceptions, purchasing intention, purchasing action, and satisfaction towards this product.

### 4.2.1 Consumers' attitudes towards Malang meatballs and social norms

The results based on principal components factor analysis with varimax rotation showed that eight defined consumer attitude variables were represented by four indices (factors) with factor loadings ranging from 0.55 to 0.98 (Table 4.1). These factor loadings indicated a good to excellent level of association between these eight attitudes and the four indices. The four indices collectively accounted for 74% of the total variation in the eight attitude variables. Consumers' attitudes towards Malang meatballs were represented by the following four indices.

- (a) 'Sensory attributes related to attitudes'
- (b) 'Freshness and halal food related to attitudes'
- (c) 'Appearance related to attitudes and social norms'
- (d) 'Price related to attitudes'

The first index, 'sensory attributes related to attitudes' loaded the three variables: unique taste, aroma, and texture of Malang meatballs. Factor loadings ranged from 0.55 to 0.90. This indicated a good to excellent level of correlation for these three attitudes (i.e. unique taste, aroma, and texture) with 'sensory attributes related to attitudes'. Similar explanations can be given for the other three attitude indices (see Table 4.1).

**TABLE 4.1** Factor loading patterns of consumers' attitudes and social norms towards Malang meatballs (varimax rotation)

Consumer attitudes	Factor loadings			
	Factor1	Factor2	Factor3	Factor4
<b>Index one: 'Sensory attributes related to attitudes'</b>				
- Unique taste	<b>0.87<sup>(a)</sup></b>	0.12	-0.08	-0.01
- Aroma	<b>0.90</b>	0.07	0.00	-0.02
- Texture	<b>0.55</b>	0.24	0.25	0.03
<b>Index two: 'Freshness and halal food related to attitudes'</b>				
- Freshness	0.29	<b>0.80</b>	0.08	-0.08
- 'Halal food'	0.04	<b>0.91</b>	0.00	-0.02
<b>Index three: 'Appearance related to attitudes and social norms'</b>				
- Appearance	0.33	-0.09	<b>0.75</b>	0.16
- Social norms <sup>(b)</sup>	-0.20	0.15	<b>0.76</b>	-0.20
<b>Index four: 'Price related to attitudes'</b>				
- Price	-0.03	-0.07	-0.04	<b>0.98</b>
<b>Variance explained (%)</b>	30.90	17.20	14.41	11.57

Note:

<sup>(a)</sup> Level of factor correlation: 0.32= poor; 0.45= fair; 0.55= good; 0.63= very good; 0.71= excellent (Comrey and Lee, 1992).

<sup>(b)</sup> Multiplying between the index of consumers' normative belief and the index of consumers' motivation to comply towards other people's influence.

#### 4.2.2 Consumers' perceptions towards Malang meatballs

Nineteen perception variables were subjected to factor analysis (varimax rotation). These nineteen variables were summarised into seven indices (factors) which collectively explained 71% of the total variation in perception variables (Table 4.2). The seven indices that explained consumers' perceptions towards Malang meatballs were:

- (a) 'Food attributes '
- (b) 'Hygiene and convenience'
- (c) 'Social status and the value of time'
- (d) 'Knowledge accessibility'
- (e) 'Price consciousness'
- (f) 'Competition and branch image'
- (g) 'Environmental consciousness'

'Food attributes' were loaded in the first index and were represented by the four consumer perception variables, the importance of originality, a variety of meatballs choice, good quality, and the existence of a 'halal food' label. This index had factor loadings ranging from 0.68 to 0.75. This can be interpreted that 'food attributes' had an excellent level of association with three perception variables (i.e. towards originality, good quality, and existence of a 'halal food' label), and a very good loadings on perceptions towards a variety of meatballs choice. Likewise, the second to seven indices were explained in a similar way (see Table 4.2).

#### 4.2.3 Purchasing intentions towards Malang meatballs

The results showed that significantly ( $\chi^2 = 49.00$ ,  $p < 0.0001$ ) more consumers selected Malang meatballs than other street foods. Of those consumers, 67.5% had the propensity to purchase this food, while 32.5% selected other street foods. This result failed to reject hypothesis 4.1, namely, more consumers intend to buy Malang meatballs than other street foods. Furthermore, over half (56%) of consumers consider Malang meatballs as their favourite food. In addition, 66% of respondents possessed



**TABLE 4.2** Factor loading patterns of consumers' perceptions towards Malang meatballs (varimax rotation)

Consumer perceptions	Factor Loadings						
	Factor1	Factor2	Factor3	Factor4	Factor5	Factor6	Factor7
<b>Index one: 'Food attributes'</b>							
- Originality of Malang meatballs	<b>0.74<sup>(a)</sup></b>	0.27	-0.07	0.21	0.05	0.10	-0.13
- Variety of meatballs choice	<b>0.68</b>	-0.14	0.22	-0.09	0.02	0.25	0.30
- Good quality	<b>0.75</b>	0.25	0.06	0.29	0.06	0.21	-0.01
- Existence of a 'halal food' label	<b>0.71</b>	0.05	-0.08	0.19	0.20	-0.22	0.07
<b>Index two: 'Hygiene and convenience'</b>							
- A clean purchasing place	0.24	<b>0.83</b>	-0.10	0.02	-0.04	0.00	0.15
- A convenient purchasing place	0.18	<b>0.90</b>	-0.06	0.02	0.01	0.03	-0.01
- Offering of a good service	-0.08	<b>0.84</b>	-0.05	0.04	0.00	0.14	0.07
<b>Index three: 'Social status and the value of time'</b>							
- Consumer's income	-0.02	-0.06	<b>0.73</b>	-0.10	0.13	-0.30	0.23
- Consumer's job	-0.09	-0.03	<b>0.76</b>	0.19	-0.01	0.18	-0.08
- Availability of time for purchasing Malang meatballs	0.15	-0.14	<b>0.77</b>	0.10	0.02	0.15	-0.06
<b>Index four: 'Knowledge accessibility'</b>							
- Knowledge of nutrition	0.10	0.14	0.37	<b>0.70</b>	-0.23	0.20	0.01
- Knowledge of 'halal food'	0.12	-0.02	-0.06	<b>0.76</b>	0.15	-0.21	0.27
- Knowledge of food quality	0.36	0.00	0.11	<b>0.75</b>	0.00	0.13	0.04
<b>Index five: 'Price consciousness'</b>							
- A low price	0.33	-0.04	0.10	0.01	<b>0.83</b>	-0.08	0.04
- A high price	-0.03	0.02	0.02	-0.01	<b>0.91</b>	0.10	-0.11
<b>Index six: 'Competition and branch image'</b>							
- Presence of fast foods	-0.01	-0.03	0.33	0.21	0.10	<b>0.59</b>	0.18
- The branch name	0.19	0.19	-0.05	-0.08	-0.03	<b>0.76</b>	0.13
<b>Index seven: 'Environmental consciousness'</b>							
- Surrounding air temperature	-0.13	0.08	-0.07	0.12	-0.16	0.15	<b>0.70</b>
- Offering of a self service	0.25	0.12	0.10	0.11	0.07	0.08	<b>0.71</b>
<b>Variance explained (%)</b>	21.11	14.13	10.49	7.87	6.39	6.04	5.01

Note:

<sup>(a)</sup> See Table 4.1

a proud feeling towards this food and therefore either purchased or consumed this food. Moreover, consumer attitudes, consumer perceptions, personal characteristics, and socio-economic variables all significantly contributed to explaining purchasing intention.

#### **4.2.3.1 Factors associated with consumers' purchasing intentions towards Malang meatballs**

Logistic regression was used to determine factors influencing buying intention. Four sets of variables: (a) attitude indices, (b) perception indices, (c) personal characteristics, and (d) socio-economic variables in total representing sixteen variables were regressed on purchasing intention. The results of the logistic regression model showed that seven of the 18 variables significantly ( $p < 0.15$ ) influenced purchasing intention towards Malang meatballs (Table 4.3.1).

However, 'sensory attributes related to attitudes' which represent the attitudes of unique taste, aroma and texture together, had a negative and non significant association with purchasing intention. Therefore, this perception variable as a proxy of unique taste rejected hypothesis 4.1.1. The results differed from the previous studies (Norton *et al.*, 2000; Moon *et al.*, 1999; Weinstein *et al.*, 1999); Mojduszka *et al.*, 2001; and Bissonnette and Contento, 2001). It is possible consumers' propensity to buy Malang meatballs for social activity was more important than its unique taste. Purchasing places (i.e. street foods and meatball stalls) were more likely to provide a good atmosphere for social activity. Also, consumers' purchasing intention corresponded with their attitudes (i.e. towards freshness, 'halal food', appearance, and social norms); their perceptions about the surrounding air temperature; and the presence of female household members than attitudes towards unique taste.

#### ***'Freshness and halal food related to attitudes'***

This variable was positively associated with an intention to buy Malang meatballs. The favourable attitudes regarding freshness and 'halal food', is more likely to increase the intention to purchase this product. The perception about the freshness of

**Table 4.3.1 Factors associated with consumers' purchasing intention towards Malang meatballs**

Parameter	Estimate	Odds Ratio
Intercept	1.20	
'Sensory attributes related to attitudes'	-0.01	0.99
'Freshness and halal food related to attitudes'	0.29***	1.34
'Appearance related to attitudes and social norms'	0.25**	1.28
'Price related to attitudes'	-0.13	0.88
'Food attributes'	-0.24**	0.78
'Social status and the value of time'	0.02	1.02
'Knowledge accessibility'	0.14	1.15
'Price consciousness'	-0.18*	0.83
'Competition and branch image'	0.08	1.09
'Environmental consciousness'	0.20**	1.23
Consumer's age	-1.04*****	0.35
Consumer's gender	-0.22	0.80
Consumer's occupation	-0.15	0.86
Consumer's experience in consuming Malang meatballs	-0.22	0.80
The number of females in the household	0.2141***	1.24
The use of Malang meatballs	0.21	1.24
Loyalty to one purchasing place	-0.11	0.90
Purchasing place of Malang meatballs	-0.13	0.88
X2(Score)		54.18
% Correct Prediction		69.3
N		400

Note: \*\*\*\*\*p<0.0001; \*\*\*p<0.05; \*\*p<0.1; \*p<0.15.

**Table 4.3.2 Factors associated with consumers' purchasing action towards Malang meatballs**

Parameter	Estimate	Odds Ratio
Intercept	-1.27	
Predicted probability of purchasing intention towards Malang meatballs	1.46***	4.32
Availability of Malang meatballs	0.65*****	1.91
Change in price	-0.26	0.77
X2(Score)		17.34
% Correct Prediction		56.3
N		400

Note: \*\*\*\*\*p<0.005; \*\*\*p<0.05.

**Table 4.3.3 Factors associated with consumers' satisfaction towards Malang meatballs**

Parameter	Estimate	Odds Ratio
Intercept	-3.58	
Predicted probability of purchasing action towards Malang meatballs	8.07*****	>999.99
Repeat purchase	1.51*****	4.55
X2(Score)		85.82
% Correct Prediction		77.8
N		400

Note: \*\*\*\*\*p<0.0001.

meatballs is associated with healthy food as the perception that the food is 'halal' which instils a favourable sentiment in consumers. Houston *et al.* (1998) found that health consciousness is an important factor in increasing the demand for milk and dairy products in Japan. Furthermore, as most (95%) consumers are Muslim, and they place a high priority on the importance of eating 'halal food'. Hence, the consumers' desire for safe food and food must meet their religious beliefs.

#### ***'Appearance related to attitudes and social norms'***

This variable showed a positive influence on purchasing intention. This positive sign indicated a pleasant attitude towards the appearance of meatballs and the importance of other people attitudes, were more likely to confirm a consumer intention to purchase this food. A 10% increase in the these two attitudes would have a corresponding 2.53% improvement in the likelihood of buying intention, when all other variables are held constant. Two explanations can be put forward. Firstly, perceptions that unique and variety of Malang meatballs' appearance may attract consumers. Also, as a 'ready meal', Malang meatballs might be better than other street foods in terms of keeping a specific and a convenient presentation, thereby encouraging consumers to select this food. Secondly, consumers' behavioural intention may be influenced by the surrounding people. This means consumers perceive other people's attitudes, such as family, friends, other buyers and sellers, and that encourage them to select Malang meatballs. This finding is similar to the study of Lee (1990) who found purchasing intention depends on the consumer's group orientation and their perception of the importance of group norms. Likewise, the perception of social influences (i.e. friends) can explain the variance of consumers' purchasing intention for organic foods (Bissonnette and Contento, 2001).

#### ***'Environmental consciousness'***

This variable had a positive relationship to purchasing intention. A 10% increase in the level of perception about the importance of the surrounding environment and self service offered by meatball sellers would have a corresponding 2.02% increase in the

likelihood of purchasing intention, if other predictors are held constant. When the surrounding air temperature is cold, consumers are more likely to have purchasing intention because Malang meatballs are served as a hot food. Also, meatball sellers often offered self-service that is not found with other street foods. The offering self service provided an opportunity to be more selective in terms of size and appearance of meatballs and this would enhance consumers' intention to purchase this food. Moreover, Malang meatballs were highly preferred than other street food in terms of availability and price. The availability of this food where throughout the Malang region led to a greater preference for selecting Malang meatballs over other street foods. Also, an inexpensive price could increase the purchasing intention towards this food since consumers from all income levels can afford Malang meatballs.

#### ***'Food attributes'***

This variable was negatively related to consumers' purchasing intention. A negative sign indicated that the perception regarding the importance of originality, a variety of meatballs choice, good quality and the 'halal food' label, are less likely to select Malang meatballs. A 10% improvement of the level of perception about the importance of the Malang meatballs attributes would have a corresponding 2.37% decrease in the likelihood of buying intention, if other factors are assumed constant. This is because of the heterogeneous nature of the consumer respondents. Some consumers may consider the importance of Malang meatballs attributes a limitation factors in selecting this food, while, other consumers perceived the importance of these food attributes. This finding was supported by the evidence that most of the consumers (73%) knew that Malang meatballs are the specific food in their region, and consequently, they had no doubt towards the originality of this food. Also, as many of the Malang meatballs were sold in this region, consumers may be more familiar regarding the quality and the variety of choices of Malang meatballs. Moreover, consumers do belief that Malang meatballs are the 'halal food' with or without the label, since they have recognised the meatball sellers as Muslim.

### **'Price consciousness'**

The perception about price was negatively related to consumer intention to purchase Malang meatballs. When other factors are held constant, a 10% increase of the level of perception towards the price of Malang meatball would have a corresponding 1.78% reduction in the likelihood of purchasing intention. It is consistent with the theory of demand that consumers consider the importance of price when purchasing food. As the price rises, the quantity of food purchased goes down (Bareham, 1995). For instance, the low price of fermented lamb sausage (Helgensen *et al.*, 1997) and the high price of cooked restructured beef steaks (Cheng *et al.*, 1990) have a strong and weak impact on purchase intention, respectively. However, the relationship between the propensity to buy Malang meatballs and the price seems to go in the other direction. The evidence indicated that consumers perceive the importance of food prices both cheap and expensive as having effect on reduction the intention to purchase Malang meatballs. This may be associated with the heterogeneous nature of consumer respondents. One group may react to the price negatively if they perceive quality would deteriorate. That is, if the price goes down, the intention to buy also declines. Another group may react purely on economic grounds that when price goes up, intention to buy may decline.

### **Consumer's age**

With regards to consumer characteristics, only consumer's age had a negative relationship to purchasing intention towards Malang meatballs. One-third (odds ratio=0.35) of the older consumers (aged 30 years and beyond), were more likely to have purchasing intention towards Malang meatballs compared to younger consumer respondents (under 30 years of age). This result is consistent with other research where consumer's age varied considerably across the types of meals (Rappoport *et al.*, 1992; Peters *et al.*, 1995), and the level of FAFH (food away from home) expenditure (Mihalopoulos and Demousis, 2001). In the present study, younger consumers tended to select this food which is consistent with other studies where teenagers preferred foods, such as 'bubur ayam' (chicken rice porridge), 'bakso kuah' (meatball

broth), fried banana and sweet bread in Indonesia (Howden *et al.*, 1993), patacone-traditional plantain slices, in Columbia (Diaz *et al.*, 1998), and fermented lamb sausage in Norway (Helgensen *et al.*, 1998). Younger consumers are also more mobile and prefer 'eating out'. This argument is supported in that many teenagers tend to have eating out styles (Howden *et al.*, 1993) and contribute significantly more to FAFH (food away from home) expenditures (Byrne *et al.*, 1996).

### ***The number of females in the household***

This variable was positively associated with purchasing intention towards Malang meatballs. Consumers who came from larger households with more female members were more likely to have purchasing intention towards Malang meatballs than those who came from smaller households with fewer female members. This evidence may be due to many women being engaged in the work force (55% and 38.5% for urban and rural consumers, respectively) (see Figure 4.5) and have led to the changes in lifestyle, which probably have resulted in the reduction of time allocated for meal preparation. Since many women have become employed in paid jobs, they have limited or even no time to spend on food preparation at home. The reduced time devoted to food preparation has the consequence of an increasing demand for ready made meals such as Malang meatballs. Bareham (1995) noted that an improvement of participation of women in the labour force had an impact on the increased demand for convenience products with a shorter preparation time.

#### **4.2.4 Factors associated with consumers' purchasing actions towards Malang meatballs**

In an attempt to investigate the relationships between purchasing intention and purchasing action, purchasing decision was regressed on predicted probability of purchasing intention along with consumer perceptions towards the importance of availability and change in market price. The results from logistic regression analysis indicate the predicted probability of buying intention was found to have a significant ( $p < 0.05$ ) relationship with the purchasing action towards Malang meatballs and the availability of this food (Table 4.3.2).

### ***Predicted probability of purchasing intention***

This variable was positively associated with consumers' purchasing Malang meatballs and hence hypothesis 4.2 is not rejected (a positive relationship between purchasing intention and purchasing action towards Malang meatballs). A 10% improvement of the predicted probability buying intention level would increase to 15.72% (calculated from exponent  $(1.46 * 10\%)$ ) (Table 4.3.2) likelihood actually purchase, if other factors are held constant. The actual purchasing behaviour towards Malang meatballs can be seen as a representative behaviour to express preference towards this food. Likewise, the actual choice is a way of performing preferences (Mela, 2001). This is supported by strong evidence in that 67.5% of consumers prefer to select Malang meatballs than other street foods.

### ***The availability of Malang meatballs***

The findings showed that if meatballs are available, then consumers are twice (odds ratio = 1.91) (Table 4.3.2) as likely to actually purchase the food. Likewise, the availability of food was an important factor in the choice decisions towards fish (i.e. fresh, frozen, canned, and iced) (Houston *et al.*, 1998), and in the consumption of Korean foods (Lee *et al.*, 1999). Easier availability of the product reduces search cost for the consumers, both in terms of time and money. Also, when a food that is the favourite is easily available, it is likely to lead to repeat purchases. On the other hand, if the favourite food is not available as the consumers' needs, then consumers are likely to switch to alternative food products. Furthermore, a positive relationship between purchase intention and purchasing action is consistent with the theory of the problem-solving activity (Engel *et al.*, 1995; Craig-Lees *et al.*, 1995).

#### **4.2.5 Factors associated with consumers' satisfaction towards Malang meatballs**

Logistic regression procedures were carried out to examine the relationship between purchasing action and satisfaction towards Malang meatballs. The satisfaction variable was regressed with the predicted probability of purchasing action and the



perception of the importance of repurchasing Malang meatballs in the future. Both variables were statistically significant ( $p < 0.0001$ ) (Table 4.3.3).

### ***Predicted probability of purchasing action***

The result failed to reject hypothesis 4.3, that there is a positive relationship between purchasing action and satisfaction towards Malang meatballs. This translates to a 10% improvement of the predicted probability of purchase decision level and would have a corresponding 24.12% increase in the satisfaction towards Malang meatballs, when other factors were controlled. This suggests that consumers' purchasing this food were strongly predictive of corresponding satisfaction towards the food based for the following reasons. Firstly, most of the consumers (83%) have more than 10-years experience of Malang meatballs. Having experience in purchasing Malang meatballs is related to values of satisfaction. This is consistent with the theory of food satisfaction that the high level of satisfaction of procuring the product can be obtained if the perception of the product performance either matches or exceeds its expected performance (Crawford, 1997). Secondly, Malang meatballs may be better than other street foods in terms of keeping a specific taste or aroma, convenience and presentation. The indication may attract consumers to buy this food more frequently. Thirdly, about 66% of consumers had a proud feeling towards Malang meatballs when they were either purchasing or consuming this food.

### ***Repeat purchasing towards Malang meatballs***

The decision to repurchase does reflect satisfaction from consumption. This variable is found to have a positive effect on consumer satisfaction. It is predicted that an increase probability of repeated purchases in the future is more likely to improve the level of satisfaction. Consumers repurchasing this food are likely to yield more than four times (odds ratio = 4.55) (Table 4.3.3) the satisfaction compared to consume without such action. This finding is consistent with the theory that the consumer will exhibit a higher probability of repeat purchasing of a product if they are satisfied (Kotler, 1997). In regards to Malang meatballs, a higher correlation between

repurchase in the future and satisfaction may imply that the appearance of Malang meatballs can meet consumer's expectation towards this food. Another reason is that repeating purchase towards this food may be regarded as a way of expressing their satisfaction towards Malang meatballs.

### **4.3 Comparison of urban and rural consumers' purchasing behaviour towards Malang meatballs**

Urban and rural consumers differed in terms of gender, age, marital status, education, occupation, and experience when consuming Malang meatballs. There were also distinctions regarding household characteristics (i.e. household income and household size). In this section, urban and rural consumers' behaviour towards Malang meatballs are studied using the purchasing decision process. Thereafter, the study identifies differentiating factors of urban and rural consumers' purchasing behaviour.

The purchasing decision for urban and rural consumers may vary because of the differences of their attitudes and perceptions towards Malang meatballs. Hence, results are presented in the sequential phases of the purchasing decision process (consumers' attitudes and social norms, consumers' perceptions, their purchasing intention, their purchasing action, and their satisfaction from Malang meatballs).

#### **4.3.1 Similarity urban and rural consumers' attitudes and social norms towards Malang meatballs**

Eight attitudes related to urban consumers and to rural consumers were identified in the study. The data was subjected to factor analysis and the results revealed that these eight variables could be represented by four indices (factors). The four factor loadings ranged from 0.64 to 0.93 for urban consumers, and 0.46 to 0.97 for rural consumers (Table 4.4). These four indices had a very good to excellent level of association with urban consumers' attitudes, and a fair to an excellent level of correlation with rural consumers' attitudes. The four factors collectively accounted for 74% (urban consumers) and 76% (rural consumers) of the total variation of the eight attitude variables. Urban and rural consumers' attitudes towards Malang meatballs were represented by four indices. They were:

**Table 4.4** Factor loading patterns of urban and rural consumers' attitudes and social norms towards Malang meatballs (varimax rotation)

Consumer attitudes	Urban				Rural			
	Factor loadings				Factor loadings			
	Factor				Factor			
	1	2	3	4	1	2	3	4
<b>Index one: 'Sensory attributes related to attitudes'</b>								
- Unique taste	<b>0.84<sup>(a)</sup></b>	0.18	-0.10	-0.04	<b>0.89</b>	0.12	-0.08	0.05
- Aroma	<b>0.88</b>	0.02	-0.03	-0.03	<b>0.91</b>	0.16	0.01	-0.02
- Texture	<b>0.64</b>	0.12	0.20	0.01	<b>0.46</b>	0.35	0.33	0.08
<b>Index two: 'Freshness and halal food related to attitudes'</b>								
-Freshness	0.26	<b>0.84</b>	0.01	0.14	0.30	<b>0.76</b>	0.13	-0.30
- 'Halal food'	0.02	<b>0.88</b>	0.07	-0.19	0.06	<b>0.91</b>	-0.02	0.05
<b>Index three: 'Appearance related to attitudes and social norms'</b>								
- Appearance of Malang meatballs	0.29	-0.01	<b>0.75</b>	0.31	0.45	-0.24	<b>0.63</b>	-0.10
- Social norms <sup>(b)</sup>	-0.17	0.09	<b>0.77</b>	-0.29	-0.21	0.18	<b>0.81</b>	-0.02
<b>Index four: 'Price related to attitudes'</b>								
- Price	-0.08	-0.04	-0.02	<b>0.93</b>	0.05	-0.09	-0.05	<b>0.97</b>
<b>Variance explained (%)</b>	29.49	16.97	14.61	12.92	32.38	17.57	14.41	11.45

Note:

<sup>(a)</sup> See Table 4.1

<sup>(b)</sup> Multiplying between the index of consumers' normative belief and the index of consumers' motivation to comply towards other people's influence.

- (a) 'Sensory attributes related to attitudes'
- (b) 'Freshness and halal food related to attitudes'
- (c) 'Appearance related to attitudes and social norms'
- (d) 'Price related to attitudes'

For example, index two, 'freshness and halal food related to attitudes' represented urban and rural consumers' attitudes towards freshness and 'halal food' aspects of Malang meatballs. Factor loadings ranged from 0.84 to 0.88 for urban consumers and from 0.76 to 0.91 for rural consumers. 'Freshness and halal food related to attitudes' indicated an excellent level association with urban and rural consumers' attitudes towards freshness and 'halal food'. Similar explanations are given for the other attitude indices in Table 4.4.

### **4.3.2 Urban and rural consumers' perceptions towards Malang meatballs**

Nineteen variables representing urban and rural consumer perceptions were reduced by principal factor analysis into seven indices (factors) which explained 70% and 74% of the total variation for urban and rural consumers, respectively (Table 4.5). The following paragraphs explain the similarities and differences between urban and rural consumers' perception indices.

#### **4.3.2.1 Similarity urban and rural consumers' perceptions towards Malang meatballs**

Three perception indices related to Malang meatballs were found to be similar across urban and rural consumers. They were:

- (a) 'Hygiene and convenience'
- (b) 'Social status and the value of time'
- (c) 'Price consciousness'

'Hygiene and convenience' can be interpreted as urban and rural consumers' perceptions associated with importance of a clean place, a convenient place, and

**TABLE 4.5 Factor loading patterns of urban and rural consumers' perceptions towards Malang meatballs (varimax rotation)**

Consumer perceptions	Urban							Rural						
	Factor Loadings							Factor Loadings						
	Factor							Factor						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
<b>A. The similarity perceptions</b>														
<b>Index 2: 'Hygiene and convenience'</b>														
- A clean purchasing place	0.17	<b>0.82<sup>(a)</sup></b>	-0.08	0.02	0.02	-0.04	0.09	0.27	<b>0.82</b>	0.03	-0.19	-0.07	0.01	0.15
- A convenient purchasing place	0.17	<b>0.91</b>	-0.05	0.04	0.03	-0.04	0.01	0.20	<b>0.89</b>	0.01	-0.11	-0.02	-0.02	-0.02
- Offering of a good service	-0.04	<b>0.85</b>	-0.08	0.02	0.16	0.04	0.06	-0.16	<b>0.83</b>	0.05	0.02	-0.04	0.15	-0.01
<b>Index 3,4: 'Social status and the value of time'<sup>(b)</sup></b>														
- Consumer's income	-0.21	-0.05	<b>0.67</b>	0.14	0.13	0.03	0.03	0.02	-0.10	-0.05	<b>0.67</b>	0.19	-0.42	0.23
- Consumer's job	0.03	-0.02	<b>0.80</b>	-0.03	0.06	-0.03	-0.04	-0.12	-0.07	0.22	<b>0.77</b>	-0.05	0.16	-0.11
- Consumer's time for purchasing Malang me	0.20	-0.17	<b>0.78</b>	0.05	0.01	-0.12	-0.03	0.20	-0.14	0.07	<b>0.73</b>	0.04	0.21	0.06
<b>Index 4,5: 'Price consciousness'<sup>(c)</sup></b>														
- A low price	0.16	0.01	0.06	<b>0.86</b>	0.08	0.09	-0.05	0.37	-0.07	0.04	0.11	<b>0.81</b>	-0.10	0.04
- A high price	0.03	0.07	0.11	<b>0.84</b>	-0.12	-0.07	0.04	-0.07	-0.03	0.01	-0.01	<b>0.92</b>	0.09	-0.11
<b>B. The differences in perceptions for urban consumers</b>														
<b>Index 1: 'Knowledge accessibility and food attributes'</b>														
- Knowledge of nutrition	<b>0.59</b>	0.10	0.41	-0.41	-0.03	0.23	0.06							
- Knowledge of food quality	<b>0.70</b>	-0.01	0.26	-0.13	-0.01	0.33	0.10							
- Originality of Malang meatballs	<b>0.76</b>	0.14	-0.15	0.17	0.14	-0.01	0.00							
- Good quality	<b>0.81</b>	0.16	-0.02	0.20	0.14	-0.05	0.05							
<b>Index 5: 'Branch image, variety, and self service'</b>														
- The branch name	0.20	0.19	-0.08	-0.08	<b>0.46</b>	-0.24	0.36							
- A variety of meatballs choice	0.22	-0.09	0.19	0.05	<b>0.73</b>	-0.21	-0.04							
- Offering of a self-service	-0.03	0.32	0.12	-0.06	<b>0.75</b>	0.24	0.10							
<b>Index 6: 'Halal food awareness'</b>														
- Knowledge of 'halal food'	0.10	-0.03	-0.07	-0.06	-0.12	<b>0.88</b>	0.04							
- Existence of a 'halal food' label	0.44	0.01	-0.17	0.32	0.19	<b>0.50</b>	-0.06							
<b>Index 7: 'Environment and competition'</b>														
- Surrounding air temperature	0.00	0.09	-0.16	-0.04	0.05	0.10	<b>0.82</b>							
- Presence of fast foods	0.10	0.03	0.45	0.06	0.05	-0.09	<b>0.59</b>							
<b>C. The differences in perceptions for rural consumers</b>														
<b>Index 1: 'Food attributes'</b>														
- Originality of Malang meatballs								<b>0.74</b>	0.31	0.14	-0.03	0.02	0.08	-0.18
- A variety of meatballs choice								<b>0.74</b>	-0.17	0.08	0.11	0.07	0.24	0.26
- Good quality								<b>0.77</b>	0.24	0.27	0.08	-0.01	0.23	0.04
- Existence of a 'halal food' label								<b>0.76</b>	0.02	0.06	-0.03	0.18	-0.20	0.05
<b>Index 3: 'Knowledge accessibility'</b>														
- Knowledge of nutrition								-0.03	0.18	<b>0.68</b>	0.45	-0.15	0.23	0.08
- Knowledge of 'halal food'								0.14	-0.02	<b>0.79</b>	0.07	0.14	-0.18	0.28
- Knowledge of food quality								0.39	0.02	<b>0.77</b>	0.05	0.00	0.08	0.05
<b>Index 6: 'Branch image and competition'</b>														
- The branch name								0.11	0.19	-0.13	0.04	0.01	<b>0.82</b>	0.12
- Presence of fast foods								0.08	-0.09	0.28	0.31	0.04	<b>0.58</b>	0.13
<b>Index 7: 'Environmental consciousness'</b>														
- Surrounding air temperature								-0.10	0.11	0.09	0.11	-0.26	0.13	<b>0.78</b>
- Offering of a self-service								0.25	0.00	0.32	-0.03	0.17	0.08	<b>0.68</b>
<b>Variance explained (%)</b>	18.5	13.92	10.5	9.68	6.44	5.66	5.07	21.88	15.06	11.95	7.34	6.96	5.77	4.96

Note:

(a) See Table 4.1

(b) Index three and index four for urban and rural perceptions towards Malang meatballs, respectively.

(c) Index four and index five for urban and rural perceptions towards Malang meatballs, respectively.

offering of a good service. Factor loadings ranged from 0.82 to 0.91 for urban consumers and from 0.82 to 0.89 for rural consumers. Urban and rural consumers' perceptions toward Malang meatballs therefore had an excellent level of association with 'hygiene and convenience'. Another index was explained in the same way (see Table 4.5).

#### **4.3.2.2 Different between urban and rural consumers' perceptions towards Malang meatballs**

Urban and rural consumers showed that they had different perceptions towards Malang meatballs and these were summarised in the following four points.

##### **(a) Perceptions towards food attributes**

Urban consumers perceive originality and good quality, as important attributes as the possessing of knowledge of nutrition and food quality. Whereas, rural consumers' perceptions related to importance of originality and good quality associated with their perceptions about the importance of a variety of meatballs choice and the presence of a 'halal food' label.

##### **(b) Perceptions towards 'halal food' knowledge**

Urban consumers' perceived the knowledge of 'halal food' and the existence of a 'halal food' label are equally important. On the contrary, rural consumers considered the 'halal food' knowledge as important as nutrient and food quality knowledge.

##### **(c) Perceptions towards the branch name**

Urban consumers perceived importance of branch name are important as a variety of meatball choice and offering a self-service. Whereas rural consumers considered using branch name as important as the presence of fast foods.

##### **(d) Perceptions related to surrounding air temperature**

Perception towards importance of surrounding air temperature was associated with the presence of fast food for urban consumers, while being related to offering of a self-service for rural consumers.

The above differences in perception between urban and rural consumers were explained as follows:

1. The four different urban consumers' perceptions were:

- (a) 'Knowledge accessibility and food attributes'
- (b) 'Branch image, variety, and self service'
- (c) 'Halal food awareness'
- (d) 'Environment and competition'

'Knowledge accessibility and food attributes' is interpreted as the first index that represents the four urban consumer perceptions associated with possessing of knowledge of nutrition and food quality as well as the importance of originality and good quality of Malang meatballs. The first index for urban consumers had factor loadings ranging from 0.59 to 0.81. 'Knowledge accessibility and food attributes' had a good level of correlation with perceptions about knowledge of nutrition and an excellent level association with three urban perceptions (i.e. towards originality, good quality, and knowledge of food quality). Other indices followed a similar pattern of interpretation (see Table 4.5).

2. Four distinctive of rural consumers' perceptions were accordingly presented as:

- (a) 'Food attributes'
- (b) 'Knowledge accessibility'
- (c) 'Branch image and competition'
- (d) 'Environmental consciousness'

'Food attributes' (index one) summarised consumers' perceptions towards the importance of four food attributes: originality, good quality, variety of meatball choice, and presence of a 'halal food' label. This index had factor loadings ranging from 0.74 to 0.77 (Table 4.5). Rural consumers' perceptions (i.e. towards originality, variety of meatball choice, good quality, and existence of a 'halal food' label) had an excellent level of association with 'food attributes'. A similar interpretation was applied for index two, three, and four.

### **4.3.3 Urban and rural consumers' purchasing intentions towards Malang meatballs**

Results showed that the proportion of urban consumers (68%) is similar to rural consumers (67%) when selecting Malang meatballs. Such differences were non significant ( $\chi^2 = 0.0456$ ,  $p > 0.15$ ). Hence, hypothesis 4.4 rejected (more urban consumers intend to buy Malang meatballs than rural consumers). This is due to the fact that more than half of urban and rural consumers considered Malang meatballs as their favourite food. In addition, 76% of urban consumers and 70% of rural consumers revealed that they have a proud feeling towards Malang meatballs. Furthermore, consumer attitudes, perceptions, personal characteristics, and socio-economic variables contributed significantly roles in explaining urban and rural consumers purchasing intention towards this food as discussed in the following paragraphs.

#### **4.3.3.1 Similarity factors associated with urban and rural consumers' purchasing intentions towards Malang meatballs**

Purchasing intention was regressed with eighteen explanatory variables of attitudes, perceptions, personal characteristics, and socio-economic variables, respectively. Four variables were significantly ( $p < 0.15$ ) related to urban consumers' buying intention. Whereas, rural consumers' purchasing intention showed a significant ( $p < 0.15$ ) association with the nine explanatory variables (Table 4.6.1).

#### ***Consumer's gender***

This variable was negatively associated with urban and rural consumers' purchasing intention towards Malang meatballs. The negative sign indicated that urban and rural males were 0.60 and 0.54 times, respectively, less likely to have purchasing intention towards this food compared to their female counterparts. This finding contradicted with previous research in that gender associated with food choice (Peters *et al.*, 1995), the preference for Akara-fried cowpea paste (McWatters *et al.*, 1997), the probability of purchasing peanuts (Moon *et al.*, 1999), and the frequency in choosing fast-foods



**Table 4.6.1 Factors associated with urban and rural consumers' purchasing intention towards Malang meatballs**

Parameter	Urban		Rural	
	Estimate	Odds Ratio	Estimate	Odds Ratio
Intercept	1.10		2.42	
'Sensory attributes related to attitudes'	0.13	1.14	-0.32**	0.73
'Appearance related to attitudes and social norms'	0.20	1.22	0.27*	1.31
'Hygiene and convenience' <sup>(a)</sup>			0.19	1.21
'Social status and the value of time'	0.02	0.98	-0.79	0.92
'Price consciousness'	-0.06	0.95	-0.22	0.81
'Food attributes' <sup>(b)</sup>			-0.44***	0.65
'Branch image, variety, and self service' <sup>(c)</sup>	-0.32**	0.73		
'Halal food awareness' <sup>(c)</sup>	-0.01	0.99		
'Environment and competition' <sup>(c)</sup>	0.03	1.03		
'Knowledge accessibility' <sup>(b)</sup>			0.38***	1.46
'Branch image and competition' <sup>(b)</sup>			0.13	1.13
Environmental consciousness <sup>(b)</sup>			0.53*****	1.72
Consumer's gender	-0.51*	0.60	-0.62**	0.54
Consumer's marital status <sup>(d)</sup>	-0.79***	0.45		
Consumer's occupation <sup>(e)</sup>			0.33	1.39
Consumer's experience in consuming Malang meatballs	0.09	1.10	-1.43***	0.24
The number of females in the household <sup>(f)</sup>	0.27**	1.32		
The number of males in the household <sup>(g)</sup>			-0.00	1.00
Household's income	-0.41	0.67	-0.25	0.79
The use of Malang meatballs <sup>(h)</sup>			0.57*	1.77
Loyalty to one purchasing place	-0.41	0.66	0.31	1.36
Purchasing place of Malang meatballs	0.19	1.21	-0.72**	0.49
X <sup>2</sup> (Score)		20.55		37.28
% Correct prediction		63.5		72
N		200		200

Note:

<sup>(a)</sup> This variable highly correlated with seven variables, 'appearance related to attitudes and social norms', 'social status and the value of time', consumer's occupation, consumer's gender, consumer's status, consumer's experience in consuming Malang meatballs, and the number of females in the household (see Appendix-1.1 and Appendix-1.3).

<sup>(b)</sup> Perception index of rural consumers only.

<sup>(c)</sup> Perception index of urban consumers only.

<sup>(d)</sup> This variable highly correlated with 6 variables, 'branch image and competition', consumer's experience in consuming Malang meatballs, household income, the number males in the household, loyalty to one purchasing place, and purchasing place of meatballs (see Appendix-1.2 and 1.3)

<sup>(e)</sup> This variable highly correlated with 5 variables, 'halal food awareness', 'environment and competition', consumer's gender, consumer's experience in consuming Malang meatballs, and the number of females in the household (see appendix 1-1 and 1.3).

<sup>(f)</sup> This variable was represented by the number of males in the household.

<sup>(g)</sup> This variable was represented by the number of females in the household.

<sup>(h)</sup> This variable highly correlated with consumer's marital status (see-appendix-1.1).

\*\*\*\*\*p<0.005; \*\*\*\*p<0.01; \*\*\*p<0.05; \*\*p<0.1; \*p<0.15.

**Table 4.6.2 Factors associated with urban and rural consumers' purchasing action towards Malang meatballs**

Parameter	Urban		Rural	
	Estimate	Odds Ratio	Estimate	Odds Ratio
Intercept	-1.78		-1.35	
Predicted probability of purchasing intention towards Malang meatballs	1.87***	6.51	1.84****	6.30
Availability of Malang meatballs	0.81****	2.24	0.58**	1.78
Change in price	-0.30	0.74	-0.12	0.89
X <sup>2</sup> (Score)		11.29		11.24
% Correct prediction		56.5		54
N		200		200

Note:

\*\*\*\*p<0.01; \*\*\*p<0.05; \*\*p<0.1; \*p<0.15.

**Table 4.6.3 Factors associated with urban and rural consumers' satisfaction towards Malang meatballs**

Parameter	Urban		Rural	
	Estimate	Odds Ratio	Estimate	Odds Ratio
Intercept	-2.61		-3.42	
Predicted probability of purchasing action towards Malang meatballs	6.34*****	564.40	7.14*****	>999.99
Repeat purchase	1.77*****	5.88	1.30*****	3.68
X <sup>2</sup> (Score)		43.28		42.58
% Correct prediction		81.00		74.50
N		200		200

Note:

\*\*\*\*\*p<0.0001; \*\*\*\*\*p<0.0005\*\*\*\*\*p<0.001.

(Lancia *et al.*, 1999). Alternatively, female consumers intended to select Malang meatballs more than male consumers. This maybe due to the fact that female consumers were employed in the labour force (55% and 38.5% for urban and rural consumers, respectively) which has increased financial availability. This has resulted in the habit of eating outside the home in which Malang meatballs becomes an alternative food choice. This finding was consistent with a study carried out by Paulson and Williamson (1990) that as the number of women in employment increases, the availability of both financial resources and time to devote to activities in the consumption of ethnic food, such as eating out increases.

#### **4.3.3.2 Different factors associated with urban and rural consumers' purchasing intentions towards Malang meatballs**

The differentiating factors associated with urban and rural consumers' purchasing intention were summarised into four points: attitudes, perceptions, personal characteristics, and socio-economic influences. They were:

(a) Consumers' attitudes

Rural consumers' purchasing intention had a negative relationship with 'sensory attributes related to attitudes', whereas it was positively related to 'appearance related to attitudes and social norms'.

(b) Consumers' perceptions

Urban consumers' purchasing intention had a negative relationship to 'branch image, variety, and self service'. Whereas, rural consumers' purchasing intention was negatively explained by 'food attributes' and it was positively influenced by 'knowledge accessibility' and 'environmental consciousness'.

(c) Consumer characteristics

Consumer's marital status and consumer's experience in consuming Malang meatballs were negatively associated with urban and rural consumers' purchasing intention towards this food, respectively.

(d) Socio-economic variables

Urban consumers' purchasing intention towards Malang meatballs was positively associated with the presence of females in the household. Whereas, purchasing place and the use of Malang meatballs influenced negatively and positively on

rural consumers' purchasing intention.

1. With respect to urban consumers, as shown in Table 4.6.1, three variables had a significant influence on urban consumers' purchasing intention as presented in the following sections.

#### *'Branch image, variety, and self service'*

These variables were negatively associated with urban consumers' purchasing intention. A 10% improvement of the level of perception index for 'branch image, variety, and self service', would have a corresponding 3.15% decrease in purchasing intention, if other factors are held constant. This finding indicated that urban consumers perceive the importance of these three perceptions as having impact on reduction on their purchasing intention on the basis of several premises. Urban consumers can easily buy a greater variety of meatballs, since many meatball sellers are in urban areas and there is strong mobility from one place to another. In addition, the consumer's image about the branch name might not become a critical limiting factor in buying intention towards this food, because there are many branch names of Malang meatballs, each with their own salient specifications. Hence, urban consumers intended to buy from many as the branches of Malang meatballs instead of one or two branches to catch the differences among these branches (i.e. taste). Moreover, the offering of self-service may be less important over other factors, such as taste. This finding is similar to the study of Biloukha and Utermohlen (2000), who noted the importance of the perception of taste in the food choice process in the Ukraine.

#### *Consumer's marital status*

This variable had a negative association with urban consumers buying intention. It is estimated that purchasing intention towards Malang meatballs is 0.45 times less for married consumers compared to single consumers. Unlike this finding, consumer's marital status was discovered as important factor in explaining and predicting eating out decisions (Byrne *et al.*, 1996) or the level of FAFH (food away from home)

expenditure (Mihalopoulos and Demousis, 2001), and demand for organic foods (Thompson, 1998). The evidence from the present study indicated that urban single consumers intended to purchase Malang meatballs. They may prefer to choose this food since they often spend their time at an educational activity or working place, thereby enabling them to select this food as an eating out alternative. This is supported by the urban single consumers have high educational attainment, and therefore they would be likely to possess health food consciousness. In attempting to obtain a better dietary practices, they may select Malang meatballs as they contain the animal protein (24.7%) which be bought at an acceptable or even cheap price.

### *The number of females in the household*

This variable gave a positive relationship regarding intention to buy among urban consumers. It can be interpreted, as when controlling all other variables, a 10% increase of the number female family members, would have a corresponding 2.74% improvement in the likelihood for urban consumers buying intention. The study demonstrated that the presence of females in the household is more likely to increase the urban consumer's intention to choose Malang meatballs. The reasons for this finding were similar to section 4.2.3.1 above in the sub-section on the number of females in the household.

1. The results showed that eight variables were significantly related especially to rural consumer's purchasing intention and are discussed in the following paragraphs.

### *'Sensory attributes related to attitudes'*

The perceptions towards food sensory attributes were negatively associated with rural consumers purchasing intention. This perception index used as a proxy of unique taste, rejected hypothesis 4.4.1 that unique taste is positively associated with rural consumers' purchasing intention towards Malang meatballs. This suggested that when other factors are held constant, a 10% increase in the level of attitudes related to the

sensory attributes of Malang meatballs, there would be a corresponding 3.15% reduction in the likelihood of intention to buy this food. This finding can be explained by the availability of Malang meatballs in rural areas. As rural areas had a smaller number of sellers, rural consumers had only a few choices of this food. As a consequence, the taste, aroma and texture of Malang meatballs might not become a critical limiting factor in purchasing intention, over the importance of other factors, such as availability and a close distance. Another possible reason is that most (87%) of rural consumers had longer (10 years and more) experience of consuming Malang meatballs. This had an impact on the acceptance of the unique taste, aroma and texture of Malang meatballs and by that time consumers had become more familiar with these food sensory attributes. Hence, consumers' choice towards Malang meatballs are not limited by the food sensory attributes.

#### ***'Appearance related to attitudes and social norms'***

This variable was positively related to rural buying intention. The positive signs indicated a pleasant attitude about the appearance of meatballs and the importance of other people, which raises the likelihood of the choice of Malang meatballs among rural consumers. It is estimated that a 10% improvement of the level of attitude regarding 'appearance related to attitudes and social norms' would have a corresponding 2.74% increasing in the likelihood on rural buying intention, holding all other variables constant. The favourable attitude related to food appearance and the attempt to deal with the importance of surrounding people may enhance rural consumer's purchasing intention. The reasons for this finding were similar to section 4.2.3.1 above in the sub-section on 'appearance related to attitudes and social norms'.

#### ***'Food attributes'***

This variable was negatively associated with rural consumers purchasing intention towards Malang meatballs. A 10% improvement of the level of perception index towards Malang meatballs attributes would have a corresponding 4.30% decrease on

rural consumers having intention to purchase this food, if other factors were assumed constant. The finding exhibited interesting evidence that consumers' perception about the importance of originality, many choices and good quality of this food can reduce consumers' choice towards Malang meatballs. The reasons for this finding are similar to section 4.2.3.1 above in the sub-section on 'food attributes'.

### ***'Knowledge accessibility'***

Rural consumer perceptions about knowledge possession were positively related to buying intention. A 10% increase in the consumer perception index for 'knowledge accessibility', would have a corresponding 3.87% improvement in the buying intention, when all other variables are controlled. The finding suggests that rural consumers perceive the importance of accessing this knowledge (i.e. nutrition, food quality, and 'halal food) as having effect on increasing their purchasing intention. This is because the perception of the importance of knowledge about nutrition might inspire consumers to choose Malang meatballs as this food contains animal protein. Also, the consumers' perceptions about importance of knowledge of food quality might bring consumers to select type of foods with good quality. For instance, rural consumers might prefer to choose Malang meatballs, which are an acceptable price and as alternative to consume meat. Furthermore, the perception about knowledge regarding 'halal food' can guide consumers to easily determine safe foods on the basis of Islamic religion. Malang meatballs might be considered as a 'halal food' and, hence can enhance the buying intention towards this food.

### ***'Environmental consciousness'***

Rural consumer perceptions of 'environmental consciousness' was positively associated with purchasing intention. A 10% improvement of the consumer's level of perception index toward 'environment consciousness' would have a corresponding 5.44% rise in the likelihood on purchasing intention across rural consumers when other predictors are held constant. Consumers therefore perceived surrounding air temperature, such as cold, as well as the importance of self-service offered by sellers,

as having an important role in their purchasing intention. This is further explained with several reasons that are similar to section 4.2.3.1 above in the sub-section on 'environment consciousness'.

### ***Consumer's experience in consuming Malang meatballs***

This variable had a negative association with rural consumers buying intention. The negative sign indicated those consumers who had longest experience (10 years and more), are more likely to decline in the buying intention towards Malang meatballs. It is estimated that purchasing intention towards this food is 0.24 times less for consumers who had the longest experience towards this food compared to consumers who had shorter experience (less than 10 years). The evidence suggests that the longest experience in consuming Malang meatballs played a small role in purchasing intention among rural consumers. This is supported by the study of Gains (1994) that personalities affect consumers' behaviour toward food products.

### ***Use of Malang meatballs***

The use of Malang meatballs has a positive association with rural consumers buying intention. It is estimated that purchasing intention towards this product is nearly two times higher for consumers who used Malang meatballs as a snack compared to consumers who used this food for the following purposes: side dishes, both side dishes and snacks, and a food alternative. The evidence implies that the use of this food as a snack played an important role in the purchasing intention among rural consumers presumably as they had limited food choices in rural areas. Thereby rural consumers were more likely to select Malang meatballs as an alternative snack. In addition, the composition of younger consumers indicated slightly more (50.50%) compared to older consumers, and this led to their preference in eating food outside home such as Malang meatballs. This finding is consistent with Howden et al. (1993) that the eating out style was preferable among many younger consumers in Asian countries.



### ***Purchasing place***

Places where meatballs can be purchased had a negative association with rural consumers buying intention. It is estimated that purchasing intention towards Malang meatballs is 0.49 times less for consumers who purchased Malang meatballs at mobile sellers compared to consumers who bought them at semi-permanent or permanent traders. The evidence implies that the availability of mobile sellers plays a small role in the purchasing intention among rural consumers. This is due to the mobile sellers being more prevalent in rural areas, and as a consequence mobile sellers are the only place for purchasing Malang meatballs. Moreover, distance constraints might hamper rural consumers in purchasing this food in the city where there is various outlets of semi-permanent or permanent sellers.

#### **4.3.4 Factors explaining urban and rural consumers' purchasing actions towards Malang meatballs**

Logistic regression procedures were used to examine the relationship between purchasing intention and purchasing action towards Malang meatball. Predicted probability of the purchasing intention was found to be significant among urban consumers ( $p < 0.05$ ) and across rural consumers ( $p < 0.1$ ) in association with the purchasing activity (Table 4.6.2).

#### ***Predicted probability of purchasing intention***

This variable was positively associated with the buying activity among both urban and rural consumers. This finding failed to reject hypothesis 4.5. This indicated that a 10% improvement of the level of the buying intention towards Malang meatballs would have a corresponding increase of 20.56% (calculated from exponent  $(1.87 * 10\%)$ ) (Table 4.6.2) and 20.20% (calculated from exponent  $(1.84 * 10\%)$ ) (Table 4.6.2) in the likelihood of purchasing action among urban and rural consumers, respectively, if other factors are held constant. In this study, actual buying action may be used as proxy behaviour to express the preference towards this food across urban and rural consumers. The evidence that approximately 68% and 67% of urban and rural



consumers respectively selected Malang meatballs than other street foods supports this finding.

### ***The availability of Malang meatballs***

The perception of the importance of the meatball availability is positively associated with urban and rural consumers when purchasing this food. It is estimated that purchasing Malang meatballs are over two times higher for urban consumers and almost two times higher for rural consumers who have considered the importance of the availability of Malang meatballs than consumers who have not. This evidence indicated that consumers consider the importance of food availability as having potential to severely affect the frequency of buying Malang meatballs. The reasons for this finding were similar to section 4.3.4 above in the sub-section of the availability of Malang meatballs.

### **4.3.5 Factors explaining urban and rural consumers' satisfaction towards Malang meatballs**

In order to investigate the association between satisfaction and purchasing action, satisfaction regarding the consumption of this food was regressed on predicted probability of purchasing action and the repeat purchases in the future. The results of the logistic regression procedure revealed that both variables were found to have a significant ( $p < 0.05$ ) interaction with urban and rural consumers' satisfaction towards this food (Table 4.6.3).

### ***Predicted probability of purchasing action towards Malang meatballs***

This variable was positively associated with urban and rural consumer satisfaction towards this food. This finding failed to reject hypothesis 4.6. It was predicted that a 10% increase of the level of purchasing Malang meatballs, would yield 88.51% and 104.21% improvement of the level of satisfaction towards this food among urban and rural areas, respectively, if other factors were controlled. This evidence is based on the following reasons. Firstly, most of the consumers (82.8%) have more than 10

years experience in consuming Malang meatballs, therefore it related to their values of satisfaction. Secondly, more consumers (65.8%) indicated as having proud feelings towards Malang meatballs which they showed by either purchasing or consuming the food. This is consistent with the theory of food satisfaction in that the high level of satisfaction of procuring the product can be obtained if the product's perceived performance either matches or exceeds its expected performance (Crawford, 1997).

### ***Repeat purchasing of Malang meatballs***

This variable had a positive association with urban and rural consumers' satisfaction. This means that their satisfaction towards Malang meatballs was nearly six times (odds ratio = 5.88) higher and almost four times (odds ratio = 3.68) higher, respectively for consumers who will purchase this food in the future over consumers without such action. This finding is consistent with the theory that the consumer will exhibit a higher probability of repeat purchase of the product if they are satisfied (Kotler, 1997). Likewise, the considerably high correlation between repurchase and satisfaction may imply that the performance of Malang meatballs can meet consumers' expectation. In addition, the repeat purchasing may be regarded as the way of expressing their satisfaction towards this food.

## **4.4 General discussion**

This chapter sets out to address three questions: (a) how do consumers behave towards Malang meatballs; (b) what factors influence consumer purchasing decisions; and (c) how urban consumers behaviour towards Malang meatballs differs from their rural counterparts. Firstly, consumers revealed their preferences towards Malang meatballs that represented in terms of purchase intention, purchase action, and satisfaction when using the product. Consumers tended to select Malang meatballs more than other street foods, and this leads to the actual purchase and result in satisfaction towards this food. The findings were consistent with Craig-Lees *et al.*(1995) that the three key phases can be used for a problem-solving activity.

Secondly, each stage of consumers' purchasing decisions was differently influenced by predictor variables. Consumers' purchasing intention towards Malang meatballs did not include unique taste of this product. This finding differed from past studies (Norton *et al.*, 2000; Moon *et al.*, 1999; Weinstein *et al.*, 1999) where taste was important for food choice. Other factors such as, consumers who had a good attitudes towards foods freshness, a 'halal food', and appearance and considered the importance of other people influence can enhance consumers' choice towards Malang meatballs. Lee (1990) reported that the perception of social influences also had a significance influence on purchasing intention. In addition, their perceptions (i.e. about the surrounding air temperature and offering self-service), and the number of females in the household were important factor determining consumers' purchasing intention towards Malang meatballs.

Another interesting finding was that, younger consumers (aged less than 30 years) tended to select Malang meatballs. The finding confirms earlier studies that teenagers preferred foods, such as *patacone* (Diaz *et al.*, 1998), and fermented lamb sausage (Helgensen *et al.*, 1998). However, consumers' perceptions towards food attributes and price were found to reduce pre-purchase behaviour towards Malang meatballs.

Consumers' purchasing action towards Malang meatballs were mostly explained by availability of this product. Past studies also discovered that availability of food indicated an important factor in the choice decisions between fish choices (Houston *et al.*, 1998), and in the consumption of the Korean foods (Lee *et al.*, 1999).

Consumers' satisfaction corresponded with repeating purchase towards Malang meatballs. This finding is consistent with the theory that consumers will exhibit a higher probability of repeat purchasing of the product if they are satisfied (Kotler, 1997), when perceptions towards product's performance either matches or exceeds expectations its performance (Crawford, 1997; Assael, 1998). Consumers are more likely to feel satisfy when they considered the matching between the performance of Malang meatballs and their expectation towards this product.

Thirdly, on the basis of their location (urban and rural), both consumers passed through the three stages of purchasing decision process to reveal their preference towards Malang meatballs. Female consumers tended to select this food regardless of their location.

Urban consumers' purchasing intention towards Malang meatballs were less likely influenced by their perceptions (i.e. towards brand image, variety of meatball choice, and self-service), whereas it was dominated by single consumers and those who have more female household members. This finding contradicted with other studies that married consumers are an important factor in increasing the eating out (Byrne *et al.*, 1996; Mihalopoulos and Demousis, 2001).

Rural consumers' attitudes towards unique taste, perceptions (i.e. towards originality, a variety of meatballs choice, good quality, and presence of a 'halal food' label), experiences in consuming Malang meatballs, and the purchasing place can reduce consumers' purchasing intention toward this product. Rural consumers who had good attitudes (i.e. towards freshness, 'halal food', appearance, social norms) and perceived the importance of their knowledge (i.e. nutrition, food quality, and 'halal food'), surrounding air temperature, and offering self-service may select Malang meatballs when this food is used as snack. With regards to unique taste, the finding contrasted earlier studies that taste had a strong influence on food choice (Mojduszka *et al.*, 2001; and Bissonnette, and Contento, 2001).

It was also discovered that urban and rural consumers' actual purchase was explained by availability of Malang meatballs. Repeating purchase is performed as representative of consumers' satisfaction towards this food. Consumers perceived Malang meatballs as a value product, and thereby they purchased the product repeatedly. This finding was consistent with the theory (Blackwell *et al.*, 2001).

Thus, the questions that outlined at the start of this chapter have been addressed and the findings added to existing knowledge about consumer purchasing behaviour towards Malang meatballs and towards ethnic food in general.

## **CHAPTER FIVE**

Chapter five contains the results and discussions associated with meatball processors to address objective 4 (how food processors respond to consumer demand) and the set of hypotheses (hypothesis 5.1 to 5.2.2) outlined in Chapter one. The meatball processors' responses were analysed in terms of their processing and marketing strategies. This chapter is organised into four sections. The first section describes the profile of meatball processors. The second section identifies the processing strategy adopted by meatball processors. The third section explains the marketing strategies used by meatball processors. The fourth section discusses results of this chapter.

### **5.1 The profile of Malang meatball processor respondents**

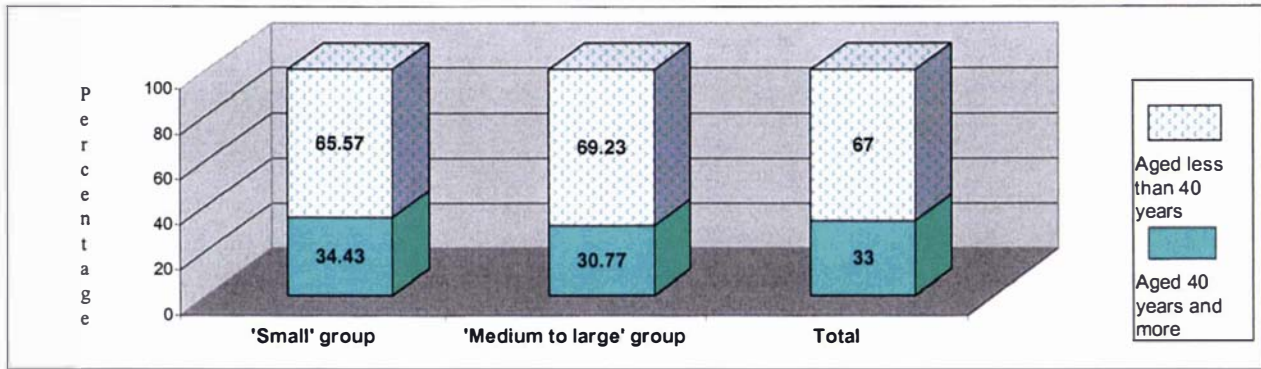
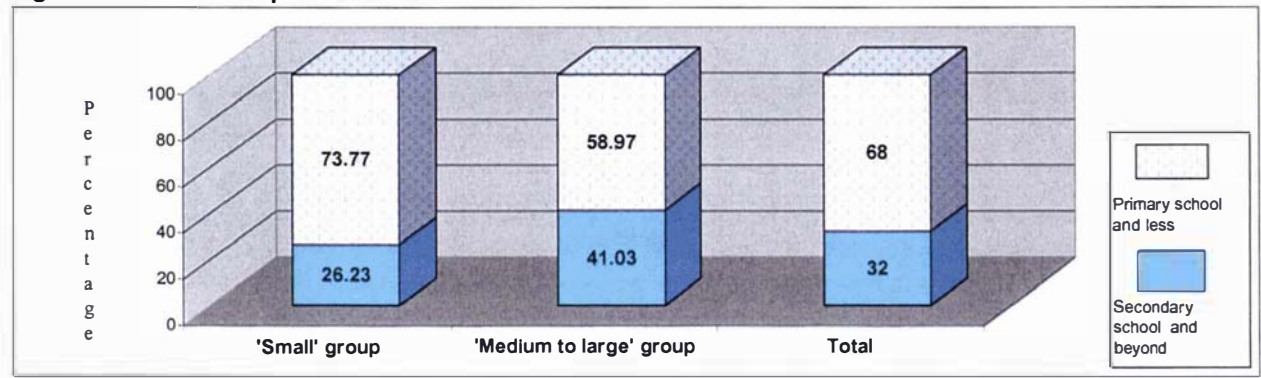
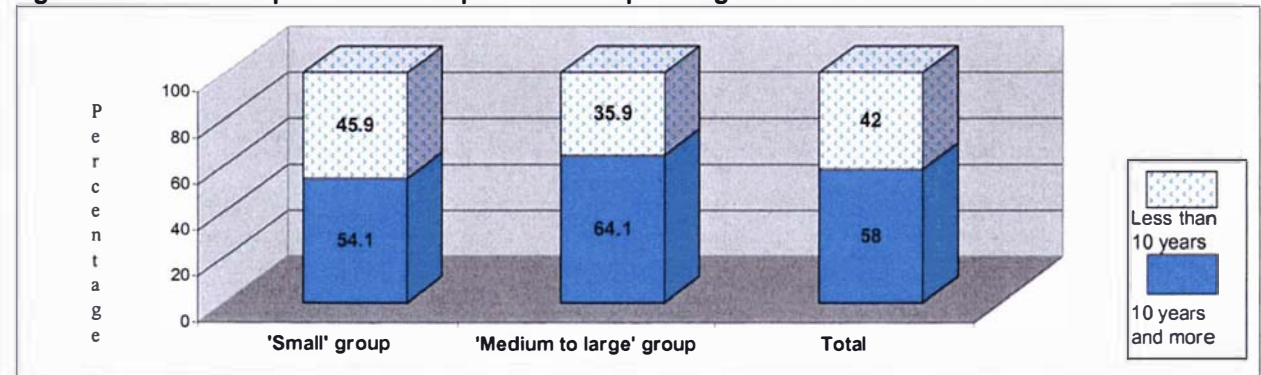
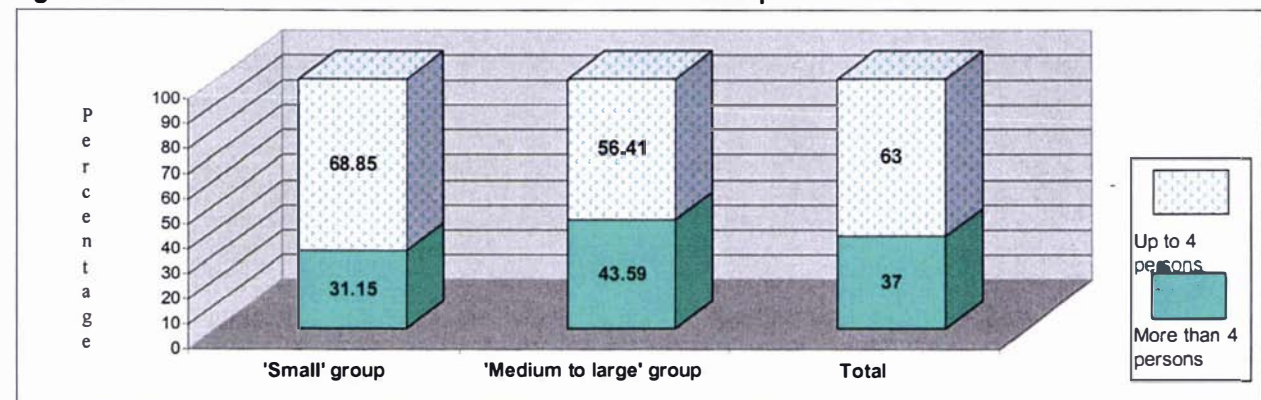
The meatball processor respondents were categorised into the 'small' (those using less than five kilograms of meat per day) and the 'medium to large' (those using five kilograms and more of meat per day) groups. In total 100 food processors were interviewed in person by the researcher and enumerators. This section is divided into three sub-sections, general characteristics of meatball processors, processor perceptions regarding the raw materials used in Malang meatballs, and processor perceptions concerning consumers and other external factors.

#### **5.1.1 General characteristics**

Of the 100 food processors, 61% belonged to the 'small' group of food processors and the remaining 39% represented the 'medium to large' group of food processors. The majority of respondents was males and had Islamic faith, and 92% of them were married. The results reveal that:

- (a) Two-thirds of the respondents were older respondents (aged 40 years and over), and the age distribution was somewhat similar between two groups of meatball processors (Figure 5.1).
- (b) Slightly more than two-thirds of the respondents had primary level education or



**Figure 5** The profile of Malang meatball processor respondents**Figure 5.1** Food processor's age**Figure 5.2** Food processor's education**Figure 5.3** Food processor's experience in operating the home meatball industries**Figure 5.4** Number of household members of meatball processors

less, but proportionately more come from the 'small' group of meatball processors (Figure 5.2).

- (c) Fifty-eight percent of respondents had been engaged in the meatball enterprise for more than 10 years (Figure 5.3). However, a higher proportion of the 'medium to large' group of meatball processors had a longer experience.
- (d) The majority of respondents belonged to smaller households (up to four members) in both groups of food processors (Figure 5.4).

### **5.1.2 Perceptions regarding the raw materials used for Malang meatballs**

Seven attributes governed the perceptions of food processors towards raw materials used for Malang meatballs. These included the importance of meat availability, meat quality, meat price, time when purchasing meat, the availability of other ingredients, quality, and price. These seven perception variables were grouped into three meaningful indices based on factor analysis using varimax rotation. The three indices collectively explained 68% of the variation in the seven perceptions (Table 5.1). The three perception indices towards the raw materials used in processing Malang meatballs were:

- (a) 'Meat quality, time of purchase, and other ingredients'
- (b) 'Meat availability and price'
- (c) 'Quality of other ingredients consciousness'

'Meat quality, time of purchase, and other ingredients' of the first index interpreted perceptions towards the importance of (a) meat quality, (b) time when purchasing meat, (c) availability of other ingredients, and (d) price of other ingredients. The factor loadings ranged from 0.60 to 0.83 indicating that 'meat quality, time of purchase, and other ingredients' had a good level of correlation with the price of other ingredients, a very good level of correlation with the quality of meat used, and an excellent level of correlation with time when purchasing meat and the availability of other ingredients. Index two and index three can be explained in a similar way (see Table 5.1).

**Table 5.1** Factor loading patterns of food processors' perceptions towards raw materials used for Malang meatballs (varimax rotation)

Food processor perceptions	Factor loadings		
	Factor1	Factor2	Factor3
<b>Index one: 'Meat quality, time of purchase, and other ingredients'</b>			
-Quality of meat	<b>0.66<sup>(a)</sup></b>	0.53	0.02
- Time when purchasing meat	<b>0.79</b>	-0.16	0.23
- Availability of other ingredients	<b>0.83</b>	0.12	-0.16
- Price of other ingredients	<b>0.60</b>	-0.09	0.50
<b>Index two: 'Meat availability and price'</b>			
- Availability of meat	0.02	<b>0.84</b>	-0.04
- Price of meat	-0.04	<b>0.68</b>	0.36
<b>Index three: 'Quality other ingredients'</b>			
- Quality of other ingredients	0.03	0.18	<b>0.83</b>
<b>Variance explained (%)</b>	34.02	20.83	13.72

Note:

<sup>(a)</sup> See Table 4.1



### **5.1.2.1 Perceptions regarding the raw materials used for Malang meatballs by the 'small' and the 'medium to large' groups of food processors**

Groups of meatball processors (the 'small' vs. the 'medium to large' groups) revealed that seven perceptions towards raw materials could be adequately represented into two indices for both groups (see Table 5.2).

#### **5.1.2.1.1 Perceptions regarding the raw materials used for Malang meatballs by the 'small' group of food processors**

Using a principal components factor analysis with varimax rotation, seven food processor perceptions were reduced into two indices with factor loadings ranging from 0.45 to 0.80 (Table 5.2). The two indices collectively accounted for 52% of the total variation in the seven perceptions. The 'small' group of food processors perceived the raw materials used for Malang meatballs as being represented in the following two indices.

- (a) 'Meat quality, time of purchase, and other ingredients'
- (b) 'Meat availability and price'

'Meat quality, time of purchase, and other ingredients' summarised the perceptions about the importance of: (a) meat quality, (b) time when purchasing meat, (c) availability of other ingredients, (d) price of other ingredients, and (e) quality of other ingredients, and together were loaded into the first index. Factor loadings ranged from 0.45 to 0.70. These factor loadings showed that the five perceptions towards raw materials had a fair to very good level of correlation with 'meat quality, time of purchase, and other ingredients'. Index two used a similar of interpretation as index one (see Table 5.2).

#### **5.1.2.1.2 Perceptions regarding the raw materials used for Malang meatballs by the 'medium to large' group of food processors**

Principal components factor analysis with varimax rotation was conducted on the responses of the seven food processor perceptions and two indices were extracted with factor loadings ranging from 0.63 to 0.92. This can be interpreted that these

**Table 5.2** Factor loading patterns of perceptions towards the raw materials by the 'small' and the 'medium to large' groups (varimax rotation)

Meatball processor perceptions	'Small' group <sup>(a)</sup>		'Medium to large' group <sup>(b)</sup>	
	Factor loadings		Factor loadings	
	Factor1	Factor2	Factor1	Factor2
<b>A. The perceptions for the 'small' group</b>				
<b>Index one: 'Meat quality, time of purchase, and other ingredients'</b>				
- Quality of meat	<b>0.67<sup>(c)</sup></b>	0.44		
- Time when purchasing meat	<b>0.70</b>	-0.34		
- Availability of other ingredients	<b>0.70</b>	-0.16		
- Price of other ingredients	<b>0.67</b>	0.01		
-Quality of other ingredients	<b>0.45</b>	0.25		
<b>Index two : 'Meat availability and price'</b>				
- Availability of meat	0.03	<b>0.71</b>		
- Price of meat	-0.08	<b>0.80</b>		
<b>B. The perceptions for the 'medium to large' group</b>				
<b>Index one: 'Meat quality, time of purchase, and other ingredients'</b>				
- Quality of meat			<b>0.63</b>	0.46
- Time when purchasing meat			<b>0.92</b>	0.04
- Availability of other ingredients			<b>0.89</b>	0.10
- Price of other ingredients			<b>0.69</b>	0.07
<b>Index two: 'Meat availability, price and and quality of other ingredients'</b>				
- Availability of meat			0.09	<b>0.79</b>
- Price of meat			0.32	<b>0.66</b>
-Quality of other ingredients			-0.04	<b>0.65</b>
<b>Variance explained (%)</b>	29.96	22.19	43.18	18.84

Note:

<sup>(a)</sup> Meatball processors using less than 5 Kg of meat per day<sup>(b)</sup> Meatball processors using 5 Kg and more meat per day<sup>(c)</sup> See Table 4.1

seven perceptions had a very good to excellent loading on two indices. The two indices together accounted for 62% of the total variation in the seven perceptions. The perceptions towards raw materials used for Malang meatballs for the 'medium to large' group of food processors were:

- (a) 'Meat quality, time of purchase, and other ingredients'
- (b) 'Meat availability, price, and quality of other ingredients'

'Meat quality, time of purchase, and other ingredients' represented the perceptions about the importance of (a) meat quality, (b) time when purchasing meat, (c) the availability of other ingredients, and (d) price of other ingredients and all were loaded into the first index. Factor loadings ranged from 0.63 to 0.92. 'Meat quality, time of purchase, and other ingredients' had a very good level of association with quality of meat and price of other ingredients, and an excellent level of correlation with the availability of other ingredients and time when purchasing meat. The second index explained with the same pattern to that of index one (see Table 5.2).

### **5.1.3 Perceptions towards consumers and other external factors**

Ten perceptions toward the importance of consumer characteristics and other external factors were reduced by principal factor analysis into two indices. The two indices together explained 70% of the total variation in the ten perception variables (Table 5.3). Factor loading ranged from 0.43 to 0.87 suggesting that the ten perception variables had a poor to an excellent level of correlation with these two indices. The meatball processors' perceptions regarding to consumers and other external factors were presented as:

- (a) 'Consumer characteristics and competition'
- (b) 'Loyalty of consumers and formal institutions'

The first index, 'consumer characteristics and competition' explained eight of the food processor perceptions relating to the importance of consumer characteristics (i.e. preference, age, income, lifestyle, habits, and religion), the importance of product substitutions, and location of selling meatballs. This index had factor loadings ranging

**Table 5.3** Factor loading patterns of food processors' perceptions towards consumers and other external factors (varimax rotation)

Food processor perceptions	Factor loadings	
	Factor1	Factor2
<b>Index one: 'Consumer characteristics and competition'</b>		
- Consumer's preference	<b>0.43<sup>(a)</sup></b>	0.07
- Consumer's age	<b>0.82</b>	0.02
- Consumer's income	<b>0.68</b>	0.42
- Consumer's lifestyle	<b>0.84</b>	0.10
- Consumer's habits	<b>0.83</b>	0.00
- Consumer's religion	<b>0.63</b>	-0.02
- Presence of product substitutions	<b>0.84</b>	0.13
- Location of selling Malang meatballs	<b>0.73</b>	-0.15
<b>Index two: 'Loyalty of consumers and formal institutions'</b>		
- Consumer's loyalty	-0.18	<b>0.87</b>
- Existence of formal institutions	0.46	<b>0.70</b>
<b>Variance explained (%)</b>	47.90	12.75

Note:

<sup>(a)</sup> See Table 4.1**Table 5.4** Factor loading patterns of perceptions towards consumers and other external factors by the 'small' and the 'medium to large' groups (varimax rotation)

Food processor perceptions	'Small' group <sup>(a)</sup>		'Medium to large' group <sup>(b)</sup>	
	Factor loadings		Factor loadings	
	Factor1	Factor2	Factor1	Factor2
<b>Index one : 'Consumer characteristics and product substitutions'</b>				
- Consumer's preference	<b>0.54</b>	-0.03	<b>0.41</b>	0.05
- Consumer's age	<b>0.85</b>	0.21	<b>0.74</b>	-0.23
- Consumer's income	<b>0.66</b>	0.53	<b>0.73</b>	0.31
- Consumer's lifestyle	<b>0.80</b>	0.23	<b>0.85</b>	0.01
- Consumer's habits	<b>0.82</b>	0.04	<b>0.82</b>	-0.01
- Consumer's religion	<b>0.67</b>	-0.03	<b>0.67</b>	0.13
- Presence of product substitutions	<b>0.82</b>	0.18	<b>0.82</b>	0.21
<b>Index two : 'Loyalty of consumers and formal institutions'</b>				
- Consumer's loyalty	-0.20	<b>0.87</b>	-0.15	<b>0.83</b>
- Existence of formal institutions	0.37	<b>0.73</b>	0.48	<b>0.74</b>
<b>Variance explained (%)</b>	48.14	15.11	45.98	14.84

Note:

<sup>(a)</sup> Meatball processors using less than 5 Kg of meat perday<sup>(b)</sup> Meatball processors using 5 Kg and more meat perday

from 0.43 to 0.84. This can be interpreted that 'consumer characteristics and competition' had a poor correlation with consumer's preference, a very good association with consumer's income and consumer's religion, and an excellent correlation with consumer's age, lifestyle, and habits, the presence of product substitutions, and location of selling Malang meatballs. The same interpretation was for the second index (see Table 5.3).

### **5.1.3.1 Perceptions towards consumers and other external factors by 'the small' and the 'medium to large' groups of meatball processors**

Nine perceptions associated with consumers and other external factors (excluding the perception towards location of selling) for the 'small' and the 'medium to large' groups of food processors, respectively, were reduced by principal factor analysis with varimax rotation into two indices. The perception towards location of selling is excluded since this perception did not fit the factor analysis model. The two indices together, accordingly explained 64% and 61% of the total variation with factor loadings from 0.54 to 0.87, and from 0.41 to 0.85 for the 'small' and the 'medium to large' groups, respectively (Table 5.4). Nine perceptions showed a fair to an excellent level of association for the 'small' group and a poor to an excellent correlation for the 'medium to large' group. Two perception indices of the 'small' and the 'medium to large' groups of food processors were:

- (a) 'Consumer characteristics and product substitutions'
- (b) 'Loyalty of consumers and formal institutions'

'Consumer characteristics and product substitutions' summarised seven perceptions about the importance of consumers in terms of preference, age, income, lifestyle, habits, religion, and the presence of product substitutions and all were absorbed into the first index for the 'small' and the 'medium to large' groups of meatball processors. Factor loadings ranged from 0.54 to 0.85 for the 'small' group, and from 0.41 to 0.85 for the 'medium to large' group of food processors. This indicated that a fair to an excellent level of correlation (for the 'small' group) and a good to an excellent level of association (for the 'medium to large' group) between these seven perceptions and 'consumer characteristics and product substitutions'. Likewise, the second index was

explained with a similar pattern to that of the first index (see Table 5.4).

## **5.2 Processing strategies used by meatball processors**

This section contains four sub-sections, the types of processing strategies used by meatball processors, factors influencing processing strategies, types of processing strategy used by the 'small' and the 'medium to large' groups of meatball processors, and factors influencing their processing strategies.

### **5.2.1 The types of processing strategies**

Processing strategies that had less than 80 percent of the frequency (the optimum frequency range) was selected as representative of processing strategies used by meatball processors. Results showed that three out of eleven processing strategies, namely the use of (a) machine technique for cutting meat, (b) machine technique for mixing meat with other ingredients, and (c) the mixing of meat and other ingredients carried out at the market, were selected (see Appendix-4). However, these three processing strategies did not significantly ( $p>0.15$ ) vary between the 'small' and the 'medium to large' groups of meatball processors (Table 5.5). Therefore, the three processing strategies for meatball processors rejected hypothesis 5.1 that meatball processors differ in their processing strategies. The following premises can explain this finding. Firstly, the cost for hiring a machine for meat cutting and meat mixing was inexpensive, hence meatball processors in both groups could not afford it. Secondly, this machine was available at the market where meatball processors had easy to access to it. Thirdly, they could save time processing meatballs, as only a few minutes were required for these processing activities.

Those selected processing strategies, were reduced into one index of processing strategy by using the principal components factor analysis.

#### **5.2.1.1 Factor analysis of processing strategies used by meatball processors**

Principal components factor analysis showed that three processing strategies could be

**Table 5.5 Percentage of processing strategies used by meatball processors**

Processing strategies	Processing strategies						Chi-square value ( $X^2$ )
	General(%)		'Small' group(%) <sup>(a)</sup>		'Medium to large' group(%) <sup>(b)</sup>		
	Yes	No	Yes	No	Yes	No	
- Using machine technique for meat cutting	69	31	73.77	26.23	61.54	38.46	1.64
- Using machine technique for mixing meat and other ingredients	72	28	73.77	26.23	69.23	30.77	0.24
- The mixing meat and other ingredients at the market	72	28	73.77	26.23	69.23	30.77	0.24

Note:

<sup>(a)</sup> Meatball processors using less than 5 Kg of meat per day

<sup>(b)</sup> Meatball processors using 5 Kg or more of meat per day

**Table 5.6 Factor loading patterns for processing strategies used by meatball processors**

Processing strategies	Factors loadings
	Factor 1
<b>Index one : 'Meat cutting and mixing strategies'</b>	
- Using machine technique for meat cutting	<b>0.97<sup>(a)</sup></b>
- Using machine technique for mixing meat with other ingredients	<b>0.99</b>
- The mixing meat with other ingredients at the market	<b>0.99</b>
<b>Variance explained (%)</b>	96.92

Note:

<sup>(a)</sup> See Table 4.1

represented by one index with factor loadings ranging from 0.97 to 0.99 (Table 5.6). These factor loadings represented an excellent level of correlation between index one and the three processing strategies. This index accounted for 97% of the total variation in the eight processing strategies as explained in the following paragraph.

'Meat cutting and mixing strategies' can be interpreted that three processing strategies, (a) use of machine technique for cutting meat, (b) use of machine technique for mixing meat with other ingredients, and (c) the mixing of meat and other ingredients carried out at the market, were loaded into the first index with factor loadings ranging from 0.97 to 0.99. These factor loadings indicated an excellent level of correlation between these three processing strategies and the 'meat cutting and mixing strategies'.

### **5.2.2 Factors explaining processing strategies used by meatball processors**

Multiple regression methods were used for the 'meat cutting and mixing strategies' because this processing strategy (obtained from factor analysis) was considered a continuous variable. Three sets of variables: (a) perceptions about raw materials, (b) personal characteristics, and (c) socio-economic variables were regressed with this processing strategy. The results of regression analysis showed that over 13% of the variation in the processing strategy can be explained by eight predictors (Table 5.7). Three variables were significantly ( $p < 0.05$ ) related to processing strategy.

#### ***'Meat availability and price'***

Perceptions related to availability and price of meat revealed a negative association with adopting of the 'meat cutting and mixing strategies'. This finding rejected hypothesis 5.1.1. This processing strategy will decrease 0.27 units, for a unit increase in the level of perceptions towards importance of availability and price of meat. It can be interpreted that food processors perceived meat (i.e. availability and price was not limited factor on adopting of the 'meat cutting and mixing strategies'. Meat is always available at market and easy to obtain. Also, whatever price it is, food processors need to purchase it, because meat is a main raw material of meatballs.



**Table 5.7** Factors explaining processing strategies used by meatball processors

Parameter	Processing strategies
	'Meat cutting and mixing strategies'
	Estimate
Intercept	-0.43
- 'Meat quality, time of purchase, and other ingredients'	0.03
- 'Meat availability and price'	-0.27****
- 'Quality of other ingredients consciousness'	0.30*****
- Food processor's age	0.06
- Food processor's education	-0.11
- The number of males in the household	0.05
- Number of female workers	0.15***
- Working capital	0.23
R <sup>2</sup> (adjusted)	0.13
F- Value	2.88
N	100

Note:

<sup>(a)</sup> Using multiple regression procedure

\*\*\*\*\*p&lt;0.005; \*\*\*\*p&lt;0.01; \*\*\*p&lt;0.05.

**Table 5.8** Factor loading patterns of processing strategies used by the 'small' and the 'medium to large' groups of meatball processors (varimax rotation)

Processing strategies	'Small' group <sup>(a)</sup>	'Medium to large' group <sup>(b)</sup>	
	Factor loadings	Factor loadings	
	Factor1	Factor1	Factor2
<b>A. The similarity among groups of meatball processors</b>			
<b>Index one: 'Meat cutting and mixing strategies'</b>			
- Using machine technique for meat cutting	1.0 <sup>(c)</sup>	0.89	-0.26
- Using machine technique for mixing meat and other ingredients	1.0	0.97	-0.15
- The mixing meat and other ingredients at the market	1.0	0.97	-0.15
<b>B. The differences in processing strategies used by the 'medium to large' group</b>			
<b>Index two : 'Other ingredients strategies'</b>			
- Using good quality other ingredients		-0.19	0.98
<b>Variance explained (%)</b>	100.00	74.69	20.33

Note:

<sup>(a)</sup> Meatball processors using less than 5 Kg of meat per day<sup>(b)</sup> Meatball processors using 5 Kg or more of meat per day<sup>(c)</sup> See Table 4.1

### ***'Quality of other ingredients consciousness'***

This variable was positively associated with processing strategy used by meatball processors. It suggests that the use of the 'meat cutting and mixing strategies' will increase 0.30 units, as an increase in unit level of their perceptions related to the importance of the other ingredients quality. This finding suggests that food processors perceived other ingredients quality as having the potential to severely affect their processing strategy. This is because processing meatballs involved not only the main raw materials (i.e. meat) but also the other ingredients (i.e. cassava flour, and spice). The increasing tendency for food processors to take into account other ingredients indicated the potential contribution of these ingredients to final product. The role of the raw material supply is important particularly in governing the product to be marketed (Brown *et al.*, 1994). The good quality of other ingredients can contribute to the good quality of meatballs produced. It might assist food processors in the offering of good quality meatballs.

### ***Number of female workers***

This variable was positively associated with adopting of the 'meat cutting and mixing strategies'. It is predicted that by applying of this processing strategy will improve 0.15 units, for each increase in number of female workers. The study demonstrated that food processors can increase this processing strategy as the presence of female workers. This is because, women labourers can do many tasks related to the meat processing, such as making a variety of meatball types (i.e. fried meatballs, rough meatballs, and meatballs with quail's egg inside). Also, women workers are required for preparing complementary food to Malang meatballs as this food is served with these complementary foods. The complementary foods included white and yellow noodles, steamed or deep fried tofu with meat and flour content, boiled or deep fried 'siomay'-ravioli filled with meat and open the top, deep fried innards, deep fried chicken gizzard or liver or testiness, and so on. Finally, the involvement of female in processing activities could increase the productivity in processing meatballs as a whole.

### **5.2.3 The types of processing strategies used by the 'small' and the 'medium to large' groups of meatball processors**

Processing strategies that had less than 80 percent of frequency (the optimum frequency range) was selected as representative of processing strategies used by groups of meatball processors. Results showed that three (for the 'small' group) and four (for the 'medium to large' group) out of eleven processing strategies used by meatball processors, were selected (see Appendix-4). These selected processing strategies, were reduced into one and two indices of processing strategies by principal components factor analysis for the 'small' and the 'medium to large' groups of food processors, respectively.

#### **5.2.3.1 Factor analysis of processing strategies used by the 'small' group of meatball processors**

Principal components factor analysis indicated that three processing strategies used by the 'small' group of food processors could be reduced into one index with similar factor loadings of 1.0 (Table 5.8). This index accounted for 100% of the total variation in these three processing strategies. Therefore, the 'small' group of meatball processors used the 'meat cutting and mixing strategies'

'Meat cutting and mixing strategies' explained that three processing strategies: (a) using machine technique for meat cutting, (b) using machine technique for mixing meat and other ingredients, and (c) the mixing meat and other ingredients carried out at the market, together were loaded into the first index with perfect factor loadings of 1.0.

#### **5.2.3.2 Factor analysis of processing strategies used by the 'medium to large' group of meatball processors**

Principal components factor analysis with varimax rotation indicated that four processing strategies used by the 'medium to large' group could be represented by two indices (Table 5.8). This index accounted for 95% of the total variation in these three processing strategies. Factor loadings ranged from 0.89 to 0.98, indicating an

excellent level of correlation between these four processing strategies and two indices. The 'medium to large' group of meatball processors employed two processing strategies:

- (a) 'Meat cutting and mixing strategies'
- (a) 'Other ingredients strategies'

'Meat cutting and mixing strategies' for index one represented three processing strategies, (a) use of machine technique for meat cutting, (b) use of machine technique for mixing meat and other ingredients, and (c) the mixing meat and other ingredients carried out at the market. This index had factor loadings ranging from 0.89 to 0.97, indicating an excellent level of correlation between these three processing strategies with 'meat cutting and mixing strategies'. The explanation for index two was similar to the first index.

#### **5.2.4 Factors associated with processing strategies used by the 'small' and the 'medium to large' groups of meatball processors**

The 'small' group adopted a 'mixed processing strategies', that is the 'meat cutting and mixing strategies'. Whereas, the 'medium to large' group of food processors employed: (a) the 'meat cutting and mixing strategies', and (b) the 'other ingredients strategies'. In order to test the hypothesis of factors influencing processing strategies among groups, separate multiple regression procedures were carried out. The results of analyses (Table 5.9) are presented in the following paragraphs.

Processing strategy for the 'small' group of meatball processors showed that less than 1% of the variability in adopting of the 'meat cutting and mixing strategies' was explained by four variables. This indicated that very little of how the processing strategy were explained by overall predictor variables. It means that the use of the 'meat cutting and mixing strategies' did not differ among the 'small' group of food processors.

Processing strategies used by the 'medium to large' group showed, 11% of the variation in implementing of the 'meat cutting and mixing strategies' was explained by

**Table 5.9 Factors associated with processing strategies used by the 'small' and the 'medium to large' groups of meatball processors**

Parameter	'Small' group <sup>(a)</sup>	'Medium to large' group <sup>(b)</sup>	
	Processing strategies	Processing strategies	
	'Meat cutting and mixing strategies' <sup>(c)</sup>	'Meat cutting and mixing strategies' <sup>(c)</sup>	'Other ingredients strategies' <sup>(c)</sup>
	Estimate	Estimate	Estimate
Intercept	0.25	-0.17	0.63
- 'Meat availability and price' <sup>(d)</sup>	0.03		
- 'Meat quality, time of purchase, and other ingredients'	-0.00	0.34**	0.63*****
- 'Meat availability, price, and quality of other ingredients' <sup>(e)</sup>		-0.21	0.46*****
- Food processor's age	0.34		
- Food processor's education	-0.58	0.03	-0.25
- The number of females in the household <sup>(f)</sup>		-0.08	-0.16
- The number of males in the household <sup>(g)</sup>	-0.04		
- The number of male workers	-0.18	0.09**	-0.05
- Working capital <sup>(h)</sup>		-0.19	0.00
R <sup>2</sup> (adjusted)	-0.00	0.11	0.46
F value	0.96	1.82	6.43
N	61	39	39

Note:

<sup>(a)</sup> Meatball processors using less than 5 Kg of meat per day

<sup>(b)</sup> Meatball processors using 5 Kg or more of meat per day

<sup>(c)</sup> Using multiple regression procedure

<sup>(d)</sup> Perceptions about raw materials for the 'small' group only.

<sup>(e)</sup> Perceptions about raw materials for the 'medium to large' group only.

<sup>(f)</sup> This variable highly correlated with two variables: 'meat availability and price' and food processor's age (see Appendix-2).

<sup>(g)</sup> This variable highly correlated with working capital (see Appendix-2).

<sup>(h)</sup> This variable highly correlated with number of male workers (see Appendix-2).

\*\*\*\*\*p<0.0001; \*\*p<0.1

six variables. Of those predictors, two variables were found to be significantly ( $p < 0.1$ ) associated with this processing strategy. In addition, thirteen predictors accounted for 46% of the variance in the adopting of the 'other ingredients strategies'. Three variables had a significant ( $p < 0.0001$ ) effect on this processing strategy.

#### **5.2.4.1 Factors explaining processing strategies used by the 'medium to large' group of food processors**

'Meat quality, time of purchase, and other ingredients', as presented in Table 5.9, was found to be significantly associated with these two processing strategies used by the 'medium to large' group of food processors. However, the number of male workers associated with adopting of the 'meat cutting and mixing strategies'. Whereas, applying the 'other ingredient strategies' associated particularly with perceptions about the importance of 'meat availability, price, and quality of other ingredients'. These three significant variables are discussed in the following paragraphs.

##### ***'Meat quality, time of purchase, and other ingredients'***

This variable had a positive association with the implementing of the 'meat cutting and mixing strategies' and the 'other ingredients strategies'. This variable as representative of perceptions towards meat failed to reject hypothesis 5.1.2. Perceptions related to meat quality, time when purchasing meat, and other ingredients (availability, price and quality) would increase 0.34 units and 0.63 units when adopting the two processing strategies, respectively. The evidence revealed that food processors perceived the importance of these raw materials, they will enhance applying the processing strategies. The reason is that the quality meat and the timely availability meat significantly contributed to this processing strategy. In addition, meatball processors take into account the other ingredients as having a potential contribution to final meatball product. This is because processing meatballs involved the main raw materials (i.e. meat) and other ingredients (i.e. cassava flour and spicy). The good quality of other ingredients might help food processors in the offering of good quality meatballs. As mentioned by Brown *et al.* (1994) that the role of the raw material supply is important, particularly in governing the product to be marketed.

***'Meat availability, price, and quality of other ingredients'***

This variable was positively associated with adopting of the 'other ingredient strategies'. This variable is representative of the perceptions towards the importance of meat and hence failed to reject hypothesis 5.1.2. It predicted that a unit improvement of the level of perceptions about 'meat availability, price, and quality of other ingredients', would have an improvement of 0.46 units in applying this processing strategy. The evidence revealed that food processors perceived these raw materials as having a significant effect on adopting this processing strategy. The reasons were similar to section 5.2.2 above in the sub-section 'meat availability and price' and 'quality of other ingredients'.

***The number of male workers***

This variable was positively associated with applying of the 'meat cutting and mixing strategies'. It predicted that food processors will increase 0.09 units in practising this processing strategy when they employ one unit of male workers. The presence of male workers had the potential to influence adopting this processing strategy. The numerous activities were taken place between the raw products to the final product. Male labourers could be involved in most of the activities related to meatball processing, such as making variety meatball product and preparing the complementary foods (i.e. noodles, steamed or deep fried tofu with meat and flour content, boiled or deep fried 'siomay', and deep fried innards). Moreover, since the 'medium to large' group of food processors processed 5Kg and beyond amount of meat per day, they were unable to do by their own. Hence, the involvement of male labourer may be required to actively participate in the meatball processing to improve in the meatball productivity as a whole.

**5.3 Marketing strategies used by meatball processors**

In an attempt to investigate marketing strategies, the results are organised into four sub-sections, the types of marketing strategies used by meatball processors, factors influencing the marketing strategies, the types marketing strategy used by the 'small'

and the 'medium to large' groups of meatball processors, and factors explaining the marketing strategies used by these groups of meatball processors.

### **5.3.1 The types of marketing strategies**

Marketing strategies that had less than 80 percent of the frequency is selected as representative of marketing strategies used by meatball processors. Results showed that nine out of sixteen marketing strategies practised were selected (see Appendix-4). The result failed to reject hypothesis 5.2 concerning the differences in marketing strategies, particularly for use of the branch name ( $\chi^2 = 4.42$ ,  $p < 0.05$ ), a 'halal food' label ( $\chi^2 = 8.30$ ,  $p < 0.005$ ), advertisements ( $\chi^2 = 10.21$ ,  $p < 0.001$ ), and a good service ( $\chi^2 = 2.95$ ,  $p < 0.1$ ) (Table 5.10). All of those selected marketing strategies, except the one offering a low price strategy were reduced into two indices by principal components factor analysis.

#### **5.3.1.1 Factor analysis of marketing strategies used by meatball processors**

Principal components factor analysis with using varimax rotation indicated that eight marketing strategies could be represented by two indices (Table 5.11). The two indices collectively accounted for 64% of the total variation in the eight marketing strategies. The two marketing strategies were:

- (a) 'Unique taste and promotional tools strategies'
- (b) 'Convenience strategies'

'Unique taste and promotional tools strategies' represented four marketing strategies: offering of (a) unique taste, (b) the branch name, (c) a 'halal food' label, and (d) advertisements, and together loaded into the first index with factor loadings ranging from 0.31 to 0.92, indicating poor to an excellent level of correlation between these four marketing strategies and the 'unique taste and promotional tools strategies'. Likewise, the second index was used a similar explanation (see Table 5.11).



**Table 5.10 Percentage of marketing strategies used by meatball processors**

Marketing strategies	General (%)		'Small' group(%) <sup>(a)</sup>		'Medium to large' group(%) <sup>(b)</sup>		Chi-Square value (X <sup>2</sup> )
	Yes	No	Yes	No	Yes	No	
- Offering of unique taste	61	39	32.79	67.21	38.46	61.54	0.34
- Offering of a low price	61	39	60.66	39.34	61.54	38.46	0.08
- Using the branch name	70	30	62.3	37.7	82.05	17.95	4.42***
- Using a 'halal food' label	62	38	50.82	49.18	79.49	20.51	8.30*****
- Using advertisements	75	25	63.93	36.07	92.31	7.69	10.21*****
- Offering of a clean place	65	35	62.3	37.7	69.23	30.77	0.50
- Offering of a convenient place	55	45	54.1	45.9	56.41	43.59	0.05
- Offering of the longest time for selling meatballs per day	60	40	65.57	34.43	51.28	48.72	2.02
- Offering of a good service	44	56	50.82	49.18	33.33	66.67	2.95**

Note:

<sup>(a)</sup> Meatball processors using less than 5 Kg of meat per day

<sup>(b)</sup> Meatball processors using 5 Kg or more of meat per day

\*\*\*\*\*p<0.001; \*\*\*\*p<0.005; \*\*\*p<0.05; \*\*p<0.1.

**Table 5.11 Factor loading patterns of marketing strategies used by meatball processors (varimax rotation)**

Marketing strategies	Factor loadings	
	Factor1	Factor2
<b>Index one: 'Unique taste and promotional tools strategies'</b>		
- Offering of a unique taste	<b>0.31</b> <sup>(a)</sup>	-0.22
- Using the branch name	<b>0.89</b>	-0.02
- Using a 'halal food' label	<b>0.92</b>	-0.04
- Using advertisements	<b>0.43</b>	0.25
<b>Index two: ' Convenience strategies'</b>		
- Offering of a clean selling place	0.00	<b>0.75</b>
- offering of a convenient selling place	0.30	<b>0.78</b>
- Offering of the longest time daily for selling meatballs	-0.01	<b>0.72</b>
- Offering of a good service	-0.21	<b>0.45</b>
<b>Variance explained (%)</b>	28.28	24.68

Note:

<sup>(a)</sup> See Table 4.1

### 5.3.2 Factors influencing the marketing strategies used by meatball processors

There were three marketing strategies: (a) a low price strategy, (b) the 'unique taste and promotional tools strategies', and (c) the 'convenience strategies' ((b) and (c) were obtained from factor analysis). Three sets of predictor variables: (a) perception towards consumers and other external influence, (b) personal characteristics, and (c) socio-economic variables were regressed with a low price strategy by using logistic regression technique since this marketing strategy is considered a dummy variable (1= offering a low price strategy; 0= not using this marketing strategy). These predictor variables were regressed with the 'unique taste and promotional tools strategies', and the 'convenience strategies' by using separate multiple regression procedure since the two marketing strategies are a continuous variable. The results of the analyses were (Table 5.12) presented in the following paragraphs.

Firstly, a low price strategy was significantly ( $p < 0.1$ ) explained by four variables. Secondly, 23% of the variance in offering of the 'unique taste and promotional tools strategies' were accounted from eight predictors. Four variables are found to be significantly ( $p < 0.05$ ) associated with adopting this marketing strategy. Thirdly, 31% of the variability in implementing 'convenience strategies' were predicted by eight variables. Results showed that four variables are significant ( $p < 0.15$ ) predictors explaining in this marketing strategy.

#### *'Consumer characteristics and competition'*

This variable was positively related to the offering of the 'convenience strategies', while it was negatively associated with the use of a low price strategy. This variable used as proxy of consumer characteristics failed reject hypothesis 5.2.1 for adopting of the 'convenience strategies', and this hypothesis rejected for the offering of a low price strategy. It is interpreted that an increase in unit levels of perceptions towards importance of consumer characteristics, presence of product substitution, and location of selling collectively, will increase 0.54 units for the use of the 'convenience strategies'. Whereas, other factors are held constant, a 10% increase of these levels of

**Table 5.12 Factors associated with marketing strategies used by meatball processors**

Parameter	Marketing strategies			
	A low price strategy <sup>(a)</sup>		'Unique taste and promotional tools strategies' <sup>(b)</sup>	'Convenience strategies' <sup>(c)</sup>
	Estimate	Odds Ratio	Estimate	Estimate
Intercept	2.48		-0.08	0.21
- 'Consumer characteristics and competition'	-1.57*****	0.21	0.00	0.54*****
- Loyalty of consumers and formal institutions'	-0.72***	0.49	-0.09	0.16**
- Food processor's education	-0.04	0.96	0.56****	0.00
-Food processor's experience in operating the home meatball industries	0.67	1.95	0.39***	0.03
- The number of males in the household	-0.85***	0.43	-0.06	-0.20**
- The number of female workers	-0.42**	0.65	0.15***	0.10*
- Working capital	-0.42	0.66	-0.67*****	-0.02
- Place for selling Malang meatballs	0.63	1.88	-0.04	0.10
X <sup>2</sup> (Score)	46.80			
% Correct prediction	81			
R <sup>2</sup> (adjusted)			0.23	0.31
F value			4.7	6.63
N	100		100	100

Note:

(a) Using logistic regression procedure

(b),(c) Using multiple regression procedure

\*\*\*\*\*p<0.0001; \*\*\*\*p<0.005; \*\*\*p<0.01; \*\*p<0.05; \*p<0.1; p<0.15.

perceptions, would have a corresponding 14.53% reduction in the likelihood on the use of a low price strategy.

Plausible interpretation of this evidence is that food processors who perceived consumer characteristics, presence of product substitution, and the location of selling may increase offering of the 'convenience strategies', and decrease the use of a low price strategy. This finding was consistent with previous studies that the knowledge related to customers enables informal sellers to select what type of product to sell, the price, the place, and the promotion (Arellano, 1994). For example, highly educated consumers might tend to choose brands of Ready-to-eat (RTE) cereal closely matching their tastes (Jekanowski and Binkley, 2000). Consumer's religion had an impact on their tendency to consume more processed meats than fresh meats (chicken and turkey) (Heiman *et al.*, 2001).

#### ***'Loyalty of consumers and formal institutions'***

This variable had a negative influence on offering of a low price strategy, and this was positively related to 'convenience strategies'. As the representative of consumer characteristics, the finding failed to reject hypothesis 5.2.1 for the later marketing strategy, and this hypothesis is rejected for the former marketing strategies. An increase in unit level of perceptions towards importance of consumer loyalty and the existence of formal institutions together will increase 0.16 unit for conducting of the 'convenience strategies'. When other factors are held constant, a 10% improvement of these levels of perceptions, would result in a corresponding 6.95% reduction in the likelihood on the offering a low price strategy. The evidence confirmed the study of Wasilczuk (2000) that acquiring knowledge of customers did not much help in managing a firm growth. This is because meatball processors presume a loyal consumer will visit on the same place on all purchase occasions. This evidence was consistent with the previous study that consumers loyal to a brand respond to gain and loss with the same sensitivity in brand choice decisions (Krisnamurthi *et al.*, 1992). In addition, the formal institutions were not limited factor for their marketing strategies due presumably to the complicated procedures in getting a loan, which hamper access

to formal institutions. The study of Evers and Mehmet (1994) reported that sellers of products from home or cottage industries had greater difficulty gaining access to credit than traders in industrially produced goods. Hence, meatball processors might prefer to use family funding instead of interacting with formal institutions, for daily operation or enhancing their enterprise. This finding confirmed the study of Arellano (1994), in that informal sectors may interact less with formal institutions because they prefer to use family funding. Also, the success of the small enterprises depends on sufficient financial resources either contributed by the owner or generated through profits and cash flows from operations (Gadenne, 1999).

### ***Food processor's education***

This variable was positively related to the offering of the 'unique taste and promotional tools strategies'. It is estimated that applying this marketing strategy would increase 0.56 units for meatball processors who have a high of level education (secondary school and beyond). The finding confirmed the preceding studies (Basu and Goswami, 1999; Johnson *et al.*, 1999; Ramachandran and Shah, 1999; and Adenikinju *et al.*, 2002). It appears that the more educated food processors may increase offering the 'unique taste and promotional tools strategies'. This is due to education that can be used to enhance the marketing strategy to attract consumers. In this case, food processors have offered, such as unique taste and applying promotion tools (i.e. using a branch's name, a 'halal food' label, and inserting advertisements), as a marketing strategy is well adapted and has been used for a long time.

### ***Food processor's experience in operating the home meatball industries***

This variable has a positive relationship to the offering of the 'unique taste and promotional tools strategies'. It can be interpreted that meatball processors who have longer (10 years and more) experience in managing the home meatball industries would increase 0.39 units in this marketing strategy. Two premises explain this finding. One is that the experience in engaging the meatball's enterprise may be a strong constituent part of human capital and thus have influenced on the offering of

this marketing strategy. Similarly, experience showed some positive correlation with growth perspectives (Wasilczuk, 2000), and had a significance differences between male and female controlled businesses (Watson, 2001). Moreover, meatball processors experienced that offering the marketing strategies could contribute to a better profit than other marketing strategies. Therefore, meatball processors are consistent in their expectations and confident to rely on their experience in evaluating a marketing strategy practice.

#### ***The number of males in the household***

This variable was negatively related to the offering of the 'convenience strategies' and a low price strategy. It is estimated that the increase of the number of males in the household, would decrease 0.20 units in the use of the 'convenience strategies' when other factors are held constant. A 10% increase in the number of males in the household, would have a corresponding 8.15% reduction in the offering of a low price strategy. This finding indicated food processors may reduce offering these two marketing strategies because of the presence of males in the household. This is due to male family members who are still of school age or those who may be employed in other occupations. Also, male household members were unable involved in the marketing strategies because they had a lack of skill in marketing meatballs. In this case, food processors may respond more strongly to these marketing strategies, regardless whether there are more or less male family members.

#### ***Number of female workers***

This variable has a positive relationship with the offering of the 'unique taste and promotional tools strategies' and the 'convenience strategies', while it has a negative relationship with the use of a low price strategy. The former and the latter of marketing strategies would increase 0.15 and 0.10 units, respectively, for a unit increase of the number of female workers. On the other hand, when other factors are held constant, a 10% increase in the number of female workers, would have a corresponding 4.11% reduction in offering a low price strategy. This evidence was

explained on the basis of the following reasons. Women are appropriate for offering of the 'unique taste and promotional tools strategies' and the 'convenience strategies', as the marketing strategies presented as semi-permanent and permanent sellers. Moreover, the alternative of using female workers instead of male workers will enhance efficiency, since the female workers were often lower paid than male workers were. However, number of female labourer was less likely to apply a low price strategy because mobile sellers that used cart or vehicle in retailing meatballs often carried this marketing strategy. Hence, male workers were being highly required than female workers for selling meatballs.

### ***Working capital***

This variable was negatively related to the offering of the 'unique taste and promotional tools strategies'. It predicted that this marketing strategy practice would decrease 0.67 units for meatball processors who use low working capital (less than Rp. 200,000,-). Low working capital in daily operation had a small influence on using this marketing strategy because this marketing strategy costs very little. Limits in allocating expenses were common among informal traders (Arellano, 1994). In addition, other variables are more important than funding use in daily operation. For example, personal characteristics (i.e. education and experience in engaging meatball enterprise) were found as having control over this marketing strategy.

### **5.3.3 The types of marketing strategies used by the 'small' and the 'medium to large' groups of meatball processors**

One of marketing strategies that has less than 80 percent of frequency (the optimum frequency range) are selected as representative of marketing strategies used by groups of meatball processors. Results showed that nine and seven out of the sixteen marketing strategies practised by the 'small' and the 'medium to large' groups of meatball processors, respectively, were selected from both groups (see Appendix-4).

For the 'small' group of meatball processors, two factor analyses were conducted for nine selected marketing strategies. Firstly, factor analysis is for offering of (a) a low

price and (b) unique taste. Secondly, the factor analysis is used for seven selected marketing strategies, namely using of (a) the branch name, (b) a 'halal food' label, (c) advertisements, (d) a clean place, (e) a convenient selling location, (f) the longest duration of time daily for selling meatballs, and (g) a good service. For, the 'medium to large' group of meatball processors, the factor analysis was carried out for six selected marketing strategies, involving the offering of (a) unique taste, (b) a 'halal food' label, (c) a clean place, (d) a convenient selling location, (e) the longest of time daily for selling meatballs, and (f) a good service. While, only the offering of a low price, was excluded from factorial analysis, because this marketing strategy could not fit the factorial models of marketing strategy for the 'medium to large' group of food processors.

#### **5.3.3.1 Factor analysis-1 of marketing strategies used by the 'small' group of meatball processors**

Principal components factor analysis showed that two marketing strategies for the 'small' group of food processors could be reduced into one index with similar factor loadings of 0.78 (Table 5.13). This index accounted for 60% of the total variation in the marketing strategy. The resulting index is characterised by the 'unique taste and a low price strategies'. This means that two marketing strategies, offering of unique taste and a low price together were loaded into the first index with the same factor loadings of 0.78. The factor loadings indicated an excellent level of association between these two marketing strategies with the 'unique taste and a low price strategies'

#### **5.3.3.2 Factor analysis-2 of marketing strategies used by the 'small' group of meatball processors**

Principal components factor analysis with varimax rotation showed that seven marketing strategies could be represented by two indices (Table 5.13). Factor loadings ranged from 0.45 to 0.88, which collectively explained 59% of the total variation in the seven marketing strategies. These factor loadings showed a fair to an excellent correlation between the seven marketing strategies and the two indices. The two indices were:



- (a) 'Promotional tools strategies'
- (b) 'Convenience strategies'

'Promotional tools strategies' explained three marketing strategies namely offering of (a) the branch name, (b) a 'halal food' label, and (c) advertisements together were absorbed into the first index. Factor loadings ranged from 0.53 to 0.88. 'Promotional tools strategies' had a fair level of correlation with using advertisements, and an excellent level association with offering of the branch name, and a 'halal food' label. The second index was interpreted in a similar way to that of the first index (see Table 5.13).

#### **5.3.3.3 Factor analysis of marketing strategy used by the 'medium to large' group of meatball processors**

Principal components factor analysis with varimax rotation showed that six marketing strategies for the 'medium to large' group could be reduced into two indices (Table 5.13). Factor loadings ranged from 0.50 to 0.84 (fair to an excellent level of association) which together explained 59% of the total variation in the two marketing strategies. The indices were represented as:

- (a) 'Convenience strategies'
- (b) 'Unique taste and halal food strategies'

'Convenience strategies' means that the first index summarised four marketing strategies, namely offering of (a) a clean place, (b) a convenient selling location, (c) a good service and (d) the longest duration of time daily for selling meatballs. This index had factor loadings ranging from 0.50 to 0.79. 'Convenience strategies' had a fair level of association with the offering of a good service, a very good level of correlation with the use of a convenient selling place, and an excellent level of association with the offering of a clean place and the longest time daily for selling meatballs. The same pattern explanation was for index two (see Table 5.13).

**Table 5.13** Factor loading patterns of marketing strategies used by the 'small' and the 'medium to large' groups of meatball processors (varimax rotation)

Marketing strategies	'Small' group <sup>(a)</sup>			'Medium to large' group <sup>(b)</sup>	
	Factor loadings	Factor loadings		Factor loadings	
	Factor1	Factor1	Factor2	Factor1	Factor2
<b>A. The similarity of marketing strategies among groups of meatball processors</b>					
<b>Index two and index one<sup>(c)</sup>: 'Convenience strategies'</b>					
- Offering of a clean selling place		<b>0.78<sup>(g)</sup></b>	-0.13	<b>0.72</b>	0.03
- Offering of a convenient selling place		<b>0.86</b>	0.16	<b>0.66</b>	0.56
- Offering of the longest time daily for selling meatballs		<b>0.69</b>	0.21	<b>0.79</b>	-0.17
- Offering of a good service		<b>0.45</b>	-0.37	<b>0.50</b>	0.05
<b>B. The differences of marketing strategies used by the 'small' group</b>					
<b>Index one: 'Unique taste and a low price strategies' (Factor analysis-1)</b>					
- Offering of a low price <sup>(d)</sup>	<b>0.78</b>				
- Offering of unique taste	<b>0.78</b>				
<b>Index one : 'Promotional tools strategies' (Factor analysis-2)</b>					
- Using the branch name <sup>(e)</sup>		-0.03	<b>0.88</b>		
- Using a 'halal food' label		-0.05	<b>0.86</b>		
- Using advertisements <sup>(f)</sup>		0.23	<b>0.53</b>		
<b>C. The differences of marketing strategies used by the 'medium to large' group</b>					
<b>Index two: 'Unique taste and halal food strategies'</b>					
- Offering of unique taste				-0.15	<b>0.79</b>
- Using a 'halal food' label				0.11	<b>0.84</b>
<b>Variance explained (%)</b>	60.25	30.20	28.44	34.04	24.92

Note:

<sup>(a)</sup> Meatball processors using less than 5 Kg of meat per day

<sup>(b)</sup> Meatball processors using 5 Kg or more of meat per day

<sup>(c)</sup> The second index of marketing strategies for the 'small' group, and the first index of marketing strategies for the 'medium to large' group.

<sup>(d)</sup> offering of a low price was excluded since this variable did not fit the factor analysis for the 'medium to large' group.

<sup>(e), (f)</sup> These variables of the 'medium to large' group have a percentage of more than 80%.

<sup>(g)</sup> See Table 4.1

#### **5.3.4 Factors explaining the marketing strategies used by the 'small' and the 'medium to large' groups of meatball processors**

Three marketing strategies obtained from factor analysis procedure, namely (a) the 'unique taste and a low price strategies', (b) the 'promotional tools strategies', and (c) the 'convenience strategies' were employed by the 'small' group of meatball processors. While, (a) a low price strategy, (b) the 'convenience strategies', and (c) the 'unique taste and halal food strategies' were marketing strategies used by the 'medium to large' group of food processors (b and c extracted from the factor analysis method). Separate multiple regression techniques were conducted for five out of six marketing strategies for both groups, excluding a low price strategy because the five marketing strategies were a continuous variable (obtained from factor analysis). Logistic regression procedure was applied for the use of a low price strategy since this marketing strategy was a dummy variable (1= offering a low price; 0 = not offering a low price). The following sections discussed the result analyses of marketing strategies for groups of meatball processors (Table 5.14).

For the 'small' group of meatball processors, firstly, 28% of the variation of offering of the 'unique taste and a low price strategies' were explained by seven variables. Three variables were found to be significantly ( $p < 0.15$ ) associated with this marketing strategy. Secondly, seven variables explained 10% of the variability in adopting of the 'promotional tools strategies'. This means that the adoption of this marketing strategy did not differ among the 'small' group of meatball processors. Thirdly, seven predictors accounted for 31% of the variance in offering of the 'convenience strategies'. Three variables was found to be significantly ( $p < 0.15$ ) related to this marketing strategy.

For the 'medium to large' group of meatball processors, the logistic regression results suggest that two variables were significantly ( $p < 0.05$ ) associated with the offering of a low price strategy. Also, regression results showed that eight predictors accounted for 25% of the variance in applying of the 'convenience strategies'. Two variables revealed a significant ( $p < 0.10$ ) affect on possessing this marketing strategy. Finally, eight predictors accounted for 10% of the variance in adopting of the 'unique taste and

**Table 5.14 Factors associated with the marketing strategies used by the 'small' and the 'medium to large' groups of meatball processors**

Parameter	'Small' group <sup>(a)</sup>			'Medium to large' group <sup>(b)</sup>			
	Marketing strategies			Marketing strategies			
	'Unique taste and a low price strategies' <sup>(c)</sup>	'Promotional tools strategies' <sup>(c)</sup>	'Convenience strategies' <sup>(c)</sup>	A low price strategy <sup>(d)</sup>		'Convenience strategies' <sup>(c)</sup>	'Unique taste and halal food strategies' <sup>(c)</sup>
	Estimate	Estimate	Estimate	Estimate	Odds Ratio	Estimate	Estimate
Intercept	-0.50	-0.45	0.17	-0.32		0.71	0.83
- 'Consumer characteristics and product substitutions'	-0.48*****	0.02	0.52*****	-1.44***	0.24	0.49***	-0.06
- 'Loyalty of consumers and formal institutions'	-0.21**	-0.19	0.16*	-1.45***	0.23	0.12	0.11
- Food processor's age <sup>(e)</sup>				-0.64	0.53	-0.09	-0.45
- Food processor's education	-0.02	0.63	-0.14	0.40	1.49	-0.14	0.05
- Food processor's experience in operating the home meatball industries <sup>(f)</sup>	-0.12	0.29	-0.24				
- The number of females in the household <sup>(g)</sup>				0.81	2.25	0.34**	-0.19
- The number of males in the household <sup>(h)</sup>	-0.05	-0.26	-0.14				
- Number of male workers	0.26*	0.33	-0.08	-0.01	0.99	0.05	0.01
-Working capital <sup>(i)</sup>				-2.30	0.10	0.82	-1.78
- Place for selling meatballs	0.43	0.26	0.47*	-0.23	0.80	-0.18	-0.19
X <sup>2</sup> (Score)				15.66			
% Correct prediction				64.10			
R <sup>2</sup> (Adjusted)	0.28	0.10	0.31			0.25	0.10
F value	4.28	1.96	4.88			2.62	1.54
N	61	61	61	39		39	39

Note:

<sup>(a)</sup> Meatball processors using less than 5 Kg of meat per day

<sup>(b)</sup> Meatball processors using 5 Kg or more of meat per day

<sup>(c)</sup> Using multiple regression procedure.

<sup>(d)</sup> Using logistic regression procedure.

<sup>(e)</sup> This variable had a high correlation with three variables: food processor's experience, the number of males in the household, and place for selling meatballs (see Appendix-3.1).

<sup>(f)</sup> This variable had a high correlation with three variables: 'consumer characteristics and product substitutions', food processor's education, and working capital (see appendix-3.2).

<sup>(g)</sup> This variable had a high correlation with three variables: 'loyalty consumer and formal institutions', food processor's education, and food processor's experience in operating enterprise (see Appendix-3.1).

<sup>(h)</sup> This variable had a high correlation with the number of females in the household (see Appendix-3.2).

<sup>(i)</sup> This variable had a high correlation with two variables: number of male workers, and place for selling meatballs.

\*\*\*\*\*p<0.0001; \*\*\*\*p<0.01; \*\*\*p<0.05; \*\*p<0.1; \*p<0.15.

halal food strategies'. The F value was not significant ( $p > 0.15$ ). Hence, this marketing strategy had no difference among the 'medium to large' group of food processors.

#### **5.3.4.1 Similarity factors influencing the marketing strategies used by the 'small' and the 'medium to large' groups of meatball processors**

Two predictors had a significance influence on marketing strategies used by the 'small' and the 'medium to large' groups of meatball processors. They were:

##### ***'Consumer characteristics and competition'***

This variable was negatively related to offering of the 'unique taste and a low price strategies' for the 'small' group, and a low price strategy for the 'medium to large' group. Whereas, the perceptions toward the importance of 'consumer characteristics and competition' was positively associated with both groups in the applying of the 'convenience strategies'. This variable used as proxy of consumer characteristics, failed to reject hypothesis 5.2.2 for the offering of the 'convenience strategies' for both groups. However, this hypothesis rejected for applying of the 'unique taste and a low price strategies' (for the 'small' group) and a low price strategy (for the 'medium to large' group). It predicted that an increase in unit level perceptions related to consumer attributes and market situation, would improve 0.52 units and 0.49 units for adopting of the 'convenience strategies' for the 'small' and the 'medium to large' groups of meatball processors, and decrease 0.48 units for applying of the 'unique taste and a low price strategies'. While, a 10% increase in the level of this perception, would have a corresponding 13.41% reduction in employing a low price strategy for the 'medium to large' group of food processors. The reasons were similar to section 5.3.2 above in the sub-section on 'consumer characteristics and competition'.

##### ***'Loyalty of consumers and formal institutions'***

This variable had a negative association with the offering of the 'unique taste and a low price strategies' for the 'small' group and the use of a low price strategy for the 'medium to large' group. Whereas, this variable was positively related to applying of

the 'convenience strategies' for the 'small' group of meatball processors. 'Loyalty of consumers and formal institutions' used as proxy of consumer characteristics failed to reject hypothesis 5.2.2 for the offering of the 'convenience strategies', and this hypothesis is rejected for the use of the 'unique taste and a low price strategies' and a low price strategy. It is estimated that an increase in unit levels of these perceptions, would increase 0.16 units and decrease 0.21 units for the applying of the 'convenience strategies' and the 'unique taste and a low price strategies', respectively. Whereas, a 10% in increase the level of these perceptions, would have a corresponding 13.50% decrease in the use of a low price strategy. The reasons were similar to section 5.3.2 above in the sub-section on 'loyalty of consumers and formal institutions'.

#### **5.3.4.2 Different factors influencing the marketing strategies used by the 'small' and the 'medium to large' groups of meatball processors**

1. Two of the four significant variables, as presented at Table 5.14, had a significant influence on the marketing strategies used by the 'small' group of meatball processors. These variables were:

##### ***Number of male workers***

This variable was positively related to the 'unique taste and a low price strategies' used by the 'small' group of meatball processors. It is estimated that the unit increases in the number of male workers, increase 0.26 units for engaging this marketing strategy. This means that the existence of male workers influenced offering of the 'unique taste and a low price strategies' for the 'small' group. Mobile sellers often carried the marketing meatballs for the 'small' group. Male workers were required in retailing meatballs that are performed by vendors. Also, this evidence is due to male workers being highly required for selling meatballs that characterised by offering of low price and unique taste. Creating valuable products (Van Duren and Sparling, 1998) and offering of a low price (Fitzroy, 1989) were used to attract consumers to visit the shop (Raddet, 1996) and sustain the competitive advantage of the product (Kotler, 1997). Hence, this strategy may be appropriate for the 'small' group of meatball processors to obtain more buyers.

### ***The place for selling meatballs***

This variable was positively related to the 'convenience strategies' offered by the 'small' group of meatball processors. It is estimated that the employing this marketing strategy increase 0.47 units, for meatball processors who sold meatballs at permanent place (i.e. meatball stalls). Meatball stalls identified as having an important factor in employing this marketing strategy for the 'small' group, because this group had only a few options strategies for retailing meatballs. The use of a convenient place might become a way to attract more consumers. Marketing strategies were aimed to attract consumers to visit the shop (Raddet, 1996), such as offering service strategy by small firms (Jacobsen, 1986). Also, the offering of a convenient place became a strategy that will compete with other food processors in selling meatballs.

2. Marketing strategies of the 'medium to large' group of meatball processors were explained by the number of females in the household.

### ***The number of females in the household***

This variable was positively related to the offering of the 'convenience strategies' for the 'medium to large' group of food processors. The positive sign was estimated that the unit increase in the number females in household, would increase by 0.34 units for conducting this marketing strategy. This means that the presence of females in the household has a potential role to influence this marketing strategy. This is due to female family members who were able involved in the marketing strategies because they had a skill in marketing meatballs. In this case, food processors may employ female household members to reduce certain costs, and therefore could meet the better profits.

## **5.4 General discussion**

The main goal of this chapter explains food processor response towards Malang meatballs (an animal protein based food). This chapter aimed to answer the question of how food processors responding to consumer demand that being represented in



terms of processing and marketing strategies towards Malang meatballs. Firstly, processing strategies used by food processor were a 'mixed processing strategies' that is the 'meat cutting and mixing strategies'. A combination of production facilities in agri-food industries is to obtain value added product (Maurer and Wright, 1998) and therefore enhanced the profitability of the product (Bawcutt, 1997).

It was found that meatball processors may adopt processing strategies when they perceived an importance of the quality of other ingredients and employed the number of female workers. However, meatball processors may reduce using this processing strategy when they perceived the importance of meat availability and price. Processing meatballs involved the main raw materials (i.e. meat) and the other ingredients (i.e. cassava flour, and spice). Meat as a major raw material is always available at market and easy to obtain it. Food processors need to purchase meat, as it is the prime ingredients in their product. In addition, the good quality of other ingredients can contribute to the good quality of meatballs produced. It might help food processors in the offering of good quality meatballs. Likewise, Brown *et al.* (1994) noted that the role of the raw material supply is important particularly in governing the product to be marketed.

When meatball processors were split into groups, the 'small' group of meatball processors applied a 'mixed processing strategies': the 'meat cutting and mixing strategies', but this processing strategy was not different among this group. The 'medium to large' group also employed this marketing strategy and the 'other ingredients strategies'. The use of these processing strategies increased as food processors perceived the importance of meat (i.e. availability, price, quality and the time for purchase). However, the presence of male workers improved the adoption of the 'meat cutting and mixing strategies'. Male labourers were involved in some activities related to meatball processing, since the 'medium to large' group processed a higher amount of kilograms of meat (5Kg and more of meat) per day. Therefore, the involvement of male labourers would enable food processors to improve in the meatball productivity as a whole.



Secondly, meatball processors offered several marketing strategies, (a) a low price strategy and two 'combined marketing strategies', (b) the 'unique taste and promotional tools strategies', and (c) the 'convenience strategies'.

Food processors who perceived the importance of consumers may increase offering a low price strategy, and decrease the use of the 'convenience strategies'. The finding confirms the previous study that consumers loyal to a brand equally respond to gain and loss in brand choice decisions (Krisnamurthi *et al.*, 1992). Meatball processors who perceived the importance consumers' characteristics (i.e. preference, age, income, habits, lifestyle, religion, and loyalty) tended to increase the use of 'convenience strategies' to respond consumers' demand on the offering of good-service (see Chapter four). Service strategy can be used by small firms to attract consumers (Jacobsen, 1986). Also, implementing of the 'unique taste and promotional tools strategies' was to meet consumers' needs on unique taste and a 'halal food'.

Food processors who possessed a high education level (secondary school and beyond) and experienced in engaging meatball enterprise (10 years and more) can improve in the offering 'unique taste and promotional tools strategies'. With regard to education, the finding confirmed the preceding studies (Basu and Goswami, 1999; Johnson *et al.*, 1999; Ramachandran and Shah, 1999; and Adenikinju *et al.*, 2002).

Other major findings are the existence of female workers can enhance the offering 'unique taste and promotional tools strategies' and a low price strategy and this lead to reduce the use of the 'convenience strategies'. The presence of male household members may increase the use of the 'convenience strategies' and decrease offering a low price strategy. More working capital (Rp. 200.000,- and more ) leads to reduce offering the 'unique taste and promotional tools strategies'

On the basis of groups, the 'medium to large' group used (a) a low price strategy and (b) the 'convenience strategies'. The 'small' group offered the second marketing strategy and the 'unique taste and a low price strategies'. Food processors who perceived the importance of consumers' characteristics (i.e. income, age, occupation,

habits, lifestyle, and religion) and loyalty consumers corresponded to an increase in the offering the 'convenience strategies' (both groups), and reduction the use of the 'unique taste and a low price strategy' (the 'small' group) and a low price strategy (the 'medium to large' group). However, the use of the 'convenience strategies' (the 'small' group) increase as food processors perceive the importance of loyalty of consumers.

Meatball processors used various marketing strategies to respond towards consumers' demand for their product. The 'convenience strategies' offered by both groups were to respond towards younger consumers who preferred convenient purchasing place to engage social interaction when buy meatballs; and consumers' demand on the offering of good service (see Chapter four). Also, the 'unique taste and a low price strategies' used by the 'small' group and a low price strategy offered by the 'medium to large' group matched with consumers' demand regarding unique taste and the price of Malang meatballs. Creating valuable products (Van Duren and Sparling, 1998), quality product (Magrath, 1989; Morton, 1993) and offering of a low price (Fitzroy, 1989) proposed to attract consumers to visit the shop (Raddet, 1996) and sustain the competitive advantage of the product (Kotler, 1997).

The findings also highlighted that number of male workers and the place for selling meatballs (i.e. permanent place) had a significant influence on applying of the 'unique taste and a low price strategies' and the 'convenience strategies' (for the 'small' group), respectively. Food processors may increase offering of the 'convenience strategies' (the 'medium to large' group) because of the presence of female household members. The involvement female household members and male workers in marketing activities implied that they could contribute to the productivity in operating the meatball enterprise.

Hence, the questions regarding how meatball processors responding towards consumer demand have been answered. The results also added to existing knowledge about an explanation in an understanding how meatball processor response to consumers demands for their product and their competitors.

## **CHAPTER SIX**

This chapter addresses three questions in relation to Kediri tofu, namely (a) how do consumers behave; (b) what factors influence consumer purchasing decisions; and (c) how urban consumer behaviour differs from their rural counterparts. In doing so the chapter attempts to refer hypothesis 6.1 to 6.6.

This chapter is organised into four sections. Section 6.1 presents the profile of consumers, and section 6.2 points out consumer behaviour and the factors explaining that behaviour. Section 6.3 examines the comparison of urban and rural consumers' behaviour towards Kediri tofu, and section 6.4 presents an overall discussion for this chapter.

### **6.1 The profile of Kediri tofu consumer respondents**

A total of 400 respondents (200 urban and 200 rural) were interviewed using a structured questionnaire. The respondents (dominated by Islam (92%)) profiles were:

- (a) Slightly more than half of the respondents were males and slightly more males were represented in urban areas (Figure 6.1).
- (b) Older (aged 30 years and more) respondents represented three-fourths of the sample (Figure 6.2) and more male respondents were in the older age group in rural areas compared to their urban counterparts.
- (c) Married respondents accounted for nearly four-fifths of respondents (Figure 6.3). Married male respondents outnumbered female respondents, and more married male respondents were represented in rural areas.
- (d) Respondents attained a high education (secondary and beyond) level and urban respondents were slightly more educated than their rural counterparts (Figure 6.4). Educated males were more represented in the urban areas.
- (e) Formal (ranging from government officer, private company worker, police and army, and student) or informal (including trader, service sector, craft sector, farmer, off-farm worker and housewife) occupations were equally represented

**Figure 6** The profile of tofu consumer respondents

Figure 6.1 Respondent's gender

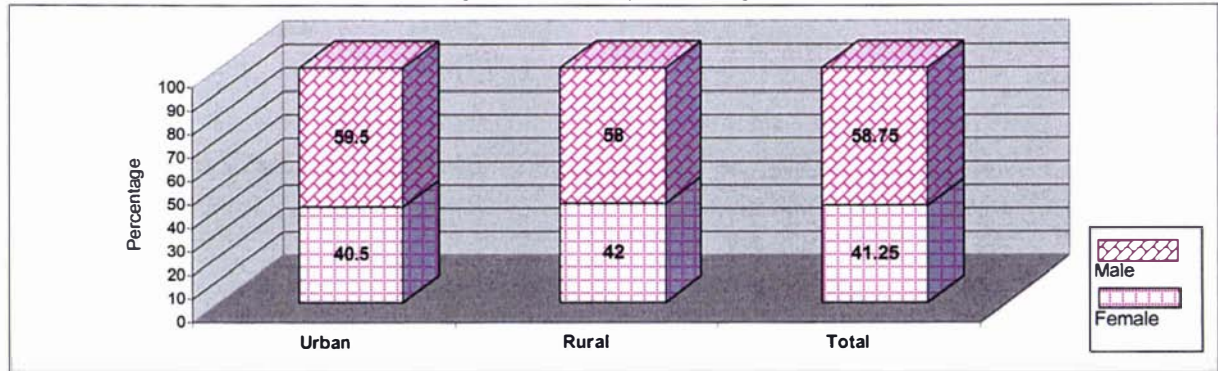


Figure 6.2 Respondent's age

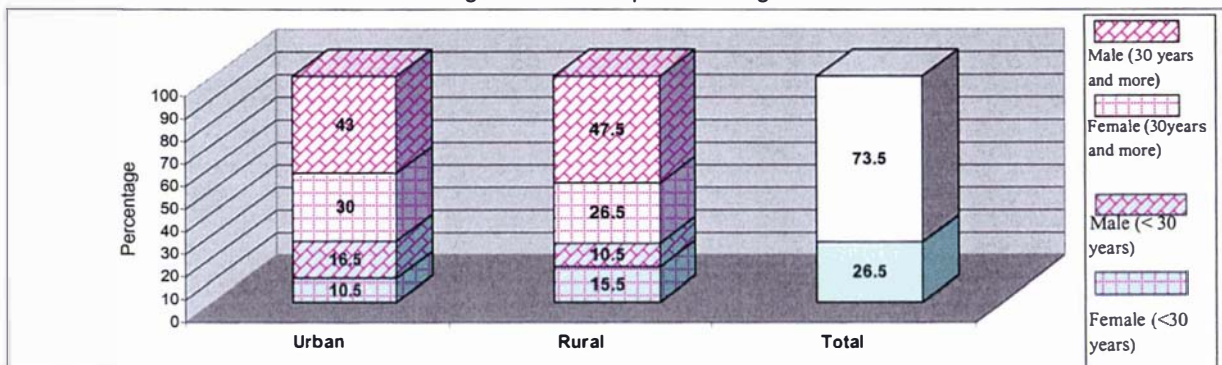


Figure 6.3 Respondent's marital status

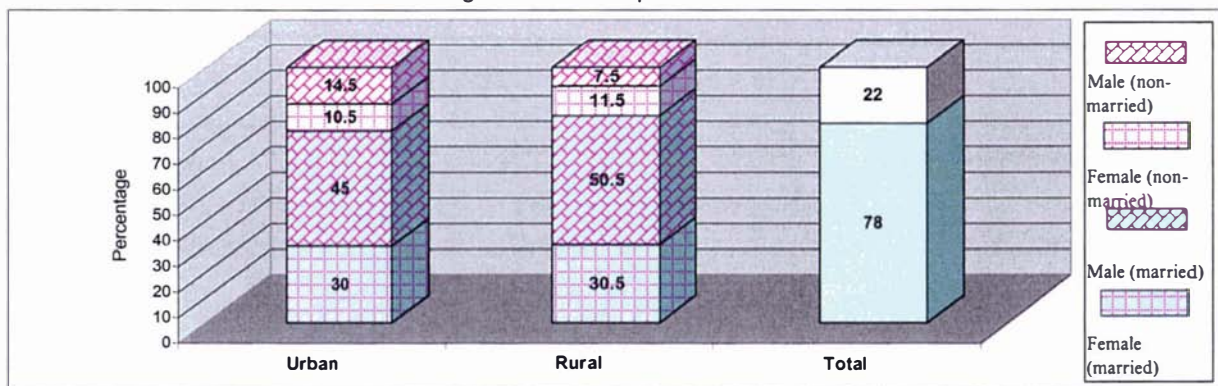


Figure 6.4 Respondent's education

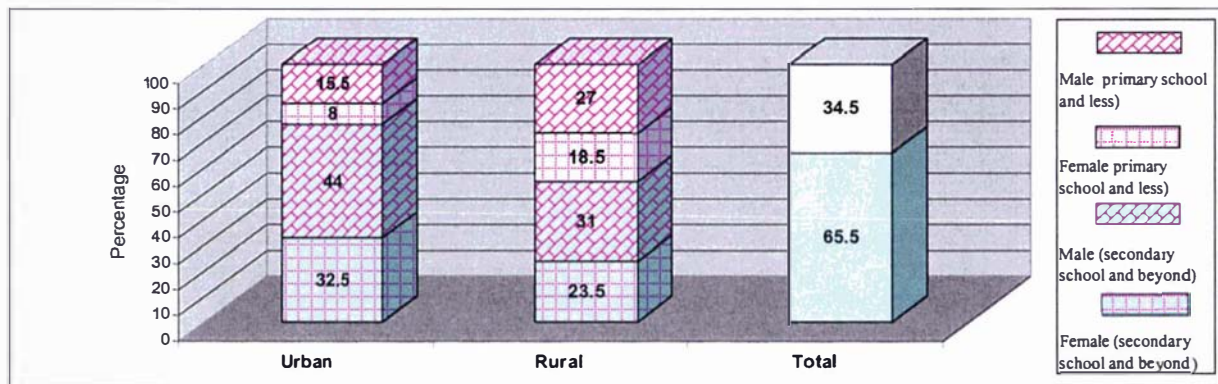




Figure 6.5 Respondent's occupation

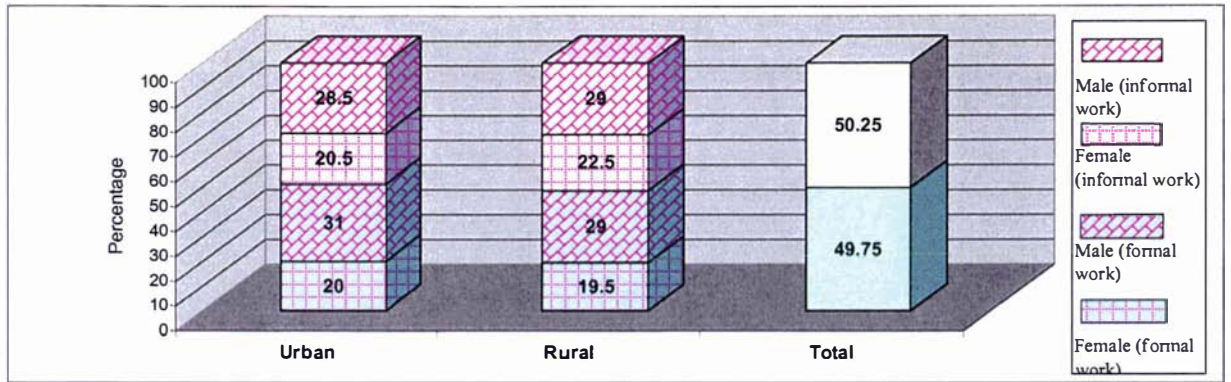


Figure 6.6 Respondent's experience

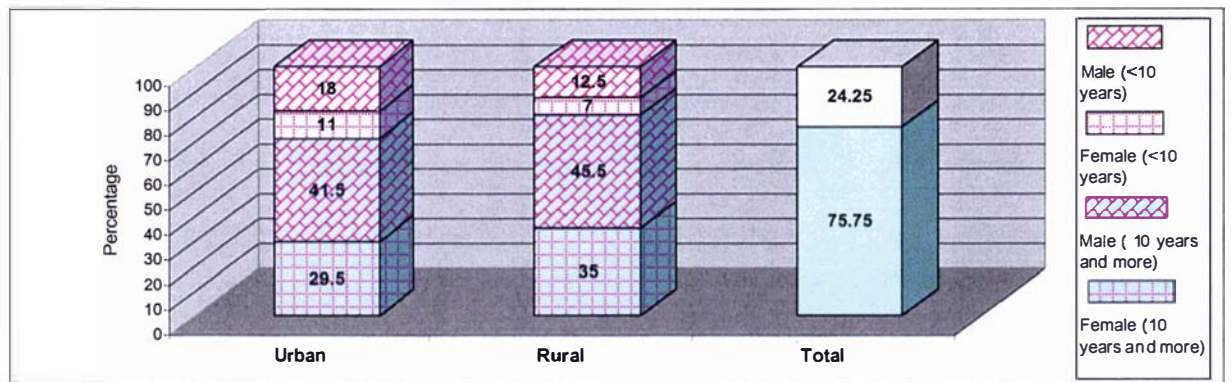


Figure 6.7 Household's income

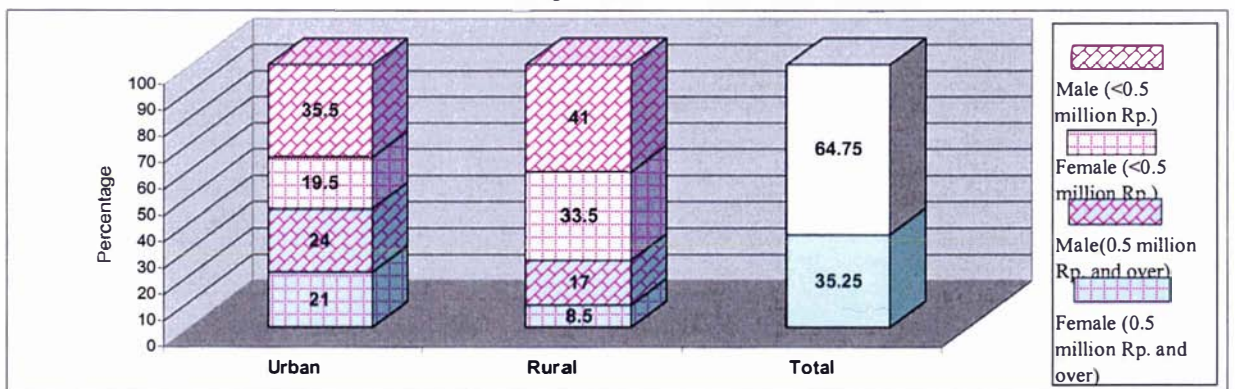
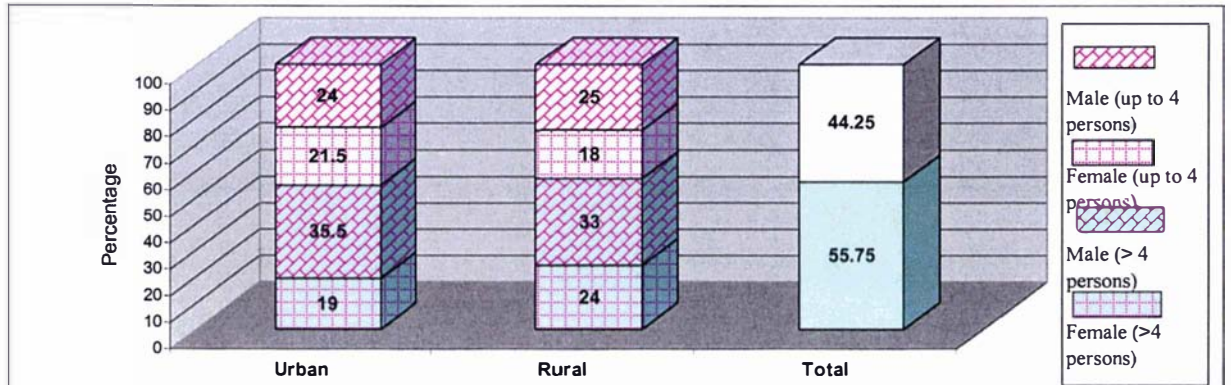


Figure 6.8 Household's members



- among respondents (Figure 6.5). Male respondents were more likely to be prominent for both types of occupation. Urban male respondents were employed in formal occupation while rural male respondents dominated informal occupation.
- (f) The majority of respondents had considerable (10 years and more) experience in consuming Kediri tofu (Figure 6.6). The longest experience in consuming Kediri tofu was more prevalent among male respondents in rural areas.
- (g) Most respondents had household income of less than 0.50 million Rupiah<sup>(\*)</sup> (Figure 6.7). Urban and rural male respondents had lower household income, but proportionally represented by rural male respondents.
- (h) More than half the respondents came from large households (with more than 4 persons). Urban male respondents were more represented in large household, whereas rural male respondents involved in the small households (with 4 persons and less) (Figure 6.8).

## **6.2 Consumer behaviour towards Kediri tofu**

Consumers have their own sets of preferences that may lead to differences in purchasing behaviour. This section describes the sequential stages of consumer purchasing behaviour towards Kediri tofu, namely, consumer attitudes and social norms, consumer perceptions, purchasing intention, purchasing action, and satisfaction towards Kediri tofu.

### **6.2.1 Consumer attitudes towards Kediri tofu**

Principal components factor analysis with varimax rotation showed seven consumer attitude variables which were summarised into four indices with factor loading ranging from 0.74 to 0.96 (Table 6.1). These factor loadings showed an excellent level of correlation between the seven consumer attitudes and the four indices. The four indices collectively accounted for 80% of the total variation in the seven attitude variables. The four attitude indices were:

- (a) 'Freshness and halal food related to attitudes'

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(\*) In 2003, the exchange rate was Rp.8300,- equivalent to one US dollar.

**Table 6.1** Factor loading patterns of consumer attitudes towards Kediri tofu (varimax rotation)

Consumer attitudes	Factor loadings			
	Factor1	Factor2	Factor3	Factor4
<b>Index one: 'Freshness and halal food related to attitudes'</b>				
- Freshness	<b>0.91<sup>(a)</sup></b>	0.20	0.13	-0.09
- 'Halal food'	<b>0.91</b>	0.21	0.10	-0.06
<b>Index two: 'Taste and texture related to attitudes'</b>				
- Unique taste	0.17	<b>0.74</b>	0.32	-0.05
- Texture	0.23	<b>0.86</b>	0.02	-0.04
<b>Index three: 'Appearance and aroma related to attitudes'</b>				
- Appearance	0.01	0.12	<b>0.81</b>	0.24
- Aroma	0.25	0.16	<b>0.74</b>	-0.24
<b>Index four: 'Price related to attitudes'</b>				
- Price	-0.10	-0.06	0.03	<b>0.96</b>
<b>Variance explained (%)</b>	39.68	17.32	12.18	11.14

Note:

<sup>(a)</sup> See Table 4.1

- (b) 'Taste and texture related to attitudes'
- (c) 'Appearance and aroma related to attitudes'
- (d) 'Price related to attitudes'

'Freshness and halal food related to attitudes' represented two attitudes, freshness of the product and 'halal food' and both loaded in the first index with similar factor loadings (0.91). These two attitudes had an excellent level of association with 'freshness and halal food related to attitudes'. Index two, three, and four used a similar pattern of interpretation.

### **6.2.2 Consumer perceptions towards Kediri tofu**

The eighteen perceptions were reduced by principal factor analysis (using varimax rotation) into five indices which together explained 62% of the total variation in these perception indexes (Table 6.2). The five perception indices were characterised as:

- (a) 'Promotional tools and food attributes'
- (b) 'Hygiene and convenience'
- (c) 'Uncertainty perceptions'
- (d) 'Knowledge accessibility'
- (e) 'Environment and competition'

'Promotional tools and food attributes' explained five consumer perceptions towards the importance of the packaging, the branch name, advertisements, originality of Kediri tofu, and the existence of a 'halal food' label, and they were loaded in the first index. This index had factor loadings ranging from 0.45 to 0.85. 'Promotional tools and food attributes' had a fair level of association with perceptions towards originality of Kediri tofu, and an excellent level of correlation with four perceptions (i.e. about a 'halal food' label, packaging, the branch name, and advertisements). The other indices are described in Table 6.2.



**Table 6.2** Factor loading patterns of consumers' perceptions towards Kediri tofu (varimax rotation)

Consumer perceptions	Factor Loadings				
	Factor1	Factor2	Factor3	Factor4	Factor5
<b>Index one: 'Promotional tools and food attributes'</b>					
- Originality of Kediri tofu	<b>0.45<sup>(a)</sup></b>	0.36	0.14	0.25	0.11
- Existence of a 'halal food' label	<b>0.81</b>	0.08	0.08	0.32	-0.10
- Packaging of Kediri tofu	<b>0.80</b>	0.12	0.10	0.19	-0.02
- The branch name	<b>0.85</b>	0.12	-0.03	0.16	0.10
- Use of advertisements	<b>0.76</b>	0.23	-0.06	0.02	0.12
<b>Index two: 'Hygiene and convenience'</b>					
- A clean purchasing place	0.22	<b>0.82</b>	0.01	0.22	-0.13
- A convenient purchasing place	0.19	<b>0.88</b>	-0.08	0.07	0.00
- Offering of a good service	0.13	<b>0.71</b>	-0.10	0.26	0.21
<b>Index three: 'Uncertainty perceptions'</b>					
- Consumer's income	-0.17	0.04	<b>0.67</b>	-0.06	0.24
- Consumer's occupation	0.08	0.03	<b>0.75</b>	-0.08	0.08
- Availability of time in purchasing Kediri tofu	-0.03	0.10	<b>0.59</b>	0.00	0.38
- Distance in obtaining Kediri tofu	0.26	-0.09	<b>0.50</b>	0.11	-0.07
- A high price	0.02	-0.24	<b>0.57</b>	0.16	-0.14
<b>Index four: 'Knowledge accessibility'</b>					
- Knowledge of nutrition	0.17	0.29	-0.01	<b>0.70</b>	-0.02
- Knowledge of 'halal food'	0.31	0.13	0.11	<b>0.76</b>	-0.05
- Knowledge of food quality	0.23	0.19	-0.05	<b>0.61</b>	0.41
<b>Index five: 'Environment and competition'</b>					
- Surrounding air temperature	-0.03	0.16	0.11	-0.12	<b>0.80</b>
- Presence of fast foods	0.14	-0.16	0.13	0.22	<b>0.69</b>
<b>Variance explained (%)</b>	27.46	13	9.58	6.65	5.67

Note:

<sup>(a)</sup> See Table 4.1

### 6.2.3 Consumers' purchasing intentions towards Kediri tofu

Significantly ( $\chi^2 = 30.2, p < 0.0001$ ) more consumers (63.7%) selected Kediri tofu than other types of tofu (36.3%). Therefore, this result failed to reject hypothesis 6.1, in that, more consumers intended to buy Kediri tofu than other types of tofu (i.e. regular tofu and fried tofu). This is supported by the fact that more than half (70%) of the consumers considered Kediri tofu as their favourite food and over 83% had a proud feeling towards Kediri tofu when they either purchased or consumed this food. Moreover, consumer attitudes, perceptions, personal characteristics, and socio-economic variables all contributed significantly to explaining purchasing intention as presented in the following paragraphs.

#### 6.2.3.1 Factors associated with consumers' purchasing intentions towards Kediri tofu

Logistic regression was used to examine factors influencing buying intention. Five sets of variables: (a) consumer attitudes, (b) social norms, (c) consumer perceptions, (d) personal characteristics, and (e) socio-economic variables, were regressed with purchasing intention. The results of the logistic regression model indicated that seven out of sixteen variables significantly ( $p < 0.15$ ) explained purchasing intention towards Kediri tofu (Table 6.3.1).

##### *'Taste and texture related to attitudes'*

This variable was a proxy for unique taste and positively associated with buying intention towards Kediri tofu and failed to reject hypothesis 6.1.1, in that, unique taste is positively related to purchasing intention towards Kediri tofu. The positive sign suggested that when all other variables are held constant, a 10% increase of the level of the attitudes (i.e. unique taste and texture) would have a corresponding 5.13% improvement in the likelihood of purchasing intention. This is because the unique savoury taste of Kediri tofu is a well-known, intriguing difference in taste in comparison with other types of tofu, and it is that might attract consumers to buy Kediri tofu. Other studies have reported that taste has an important role in food

**Table 6.3.1 Factors associated with consumers' purchasing intention towards Kediri tofu**

Parameter	Estimate	Odds Ratio
Intercept	0.07	
'Freshness and halal food related to attitudes'	0.08	0.93
'Taste and texture related to attitudes'	0.50*****	1.65
'Appearance and aroma related to attitudes'	0.01	1.01
Social norms	0.04	1.04
'Hygiene and convenience'	0.46*****	1.58
'Uncertainty perceptions'	-0.022	0.98
'Knowledge accessibility'	-0.08	0.92
'Environment and competition'	0.59*****	1.81
Consumer's gender	-0.03	0.97
Consumer's occupation	0.28	1.33
Consumer's experience in consuming Kediri tofu	-0.21	0.81
The number of males in the household	-0.28***	0.76
Household's income	-0.01	0.99
The use of Kediri tofu	-1.01***	0.37
Purchasing place of Kediri tofu	1.66*****	5.24
Location (urban and rural)	0.42*	1.52
X2 (Score)		118.89
% Correct prediction		76
N		400

Note:

\*\*\*\*\*p&lt;0.0001; \*\*\*\*\*p&lt;0.0005; \*\*\*p&lt;0.05; \*p&lt;0.15.

**Table 6.3.2 Factors associated with consumers' purchasing action towards Kediri tofu**

Parameter	Estimate	Odds Ratio
Intercept	-2.74	
Predicted probability of purchasing intention towards Kediri tofu	2.86*****	17.55
Availability of Kediri tofu	-0.06	0.94
Change in price	0.06	1.06
X2 (Score)		34.22
% Correct prediction		68.5
N		400

Note:

\*\*\*\*\*p&lt;0.0001

**Table 6.3.3 Factors associated with consumers' satisfaction towards Kediri tofu**

Parameter	Estimate	Odds Ratio
Intercept	-2.83	
Predicted probability of purchasing action towards Kediri tofu	1.85**	44.17
Repeat purchase towards Kediri tofu	1.01***	5.98
X2 (Score)		12.12
% Correct prediction		80.2
N		400

Note:

\*\*\*p&lt;0.05; \*\*p&lt;0.1

preferences (Norton *et al.*, 2000), in purchasing decisions towards roasted peanuts (Moon *et al.*, 1999), in the frequency of consumption (Weinstein *et al.*, 1999), the demand for frozen meals (Mojduszka *et al.*, 2001), and in buying organic foods (Bissonnette and Contento, 2001). Firm texture is another of the characteristics of Kediri tofu that might be considered valuable food attribute. The valuable attribute of texture has an impact on food acceptance and food preference (Szczesniak, 1991).

### ***'Hygiene and convenience'***

This variable was positively associated with the purchasing intention. A 10% improvement in the level of the perceptions related to the importance of a clean place, a convenient location and the offering of a good service, would have a corresponding 4.71% rise in the likelihood of purchasing intention, if other predictors are held constant. Consumers perceived 'hygiene and convenience' as having a powerful role in the purchasing intention based on several factors. Firstly, the impression of a clean outlet or purchasing place might be related to health concerns. Other studies have pointed out the relevance of health concerns when dealing with these types of meals (Peters *et al.*, 1995) and ethnic food consumption (Lee *et al.*, 1999). Secondly, a convenient place (i.e. attractive outlet, strategic location), particularly for permanent sellers, can result in a pleasant feeling among consumers and would contribute in raising buying intentions. Likewise, a convenient place (i.e. the longest time daily for selling Kediri tofu, location, and in-store shopping convenience) is an important factor in shopping orientation (Soyeon and Eastlick, 1998). Thirdly, the offering of good service (i.e. friendly selling and keeping good relationships with consumers) can result in a memorable good experience at the time of purchasing Kediri tofu and might result in increased consumers' propensities to buy of this food.

### ***'Environment and competition'***

This variable had a positive association with purchasing intention toward Kediri tofu. The positive sign predicted that a 10% improvement in these perceptions level (i.e. towards surrounding air temperature and the presence of fast food) would have a

corresponding 6.08% rise in the likelihood of purchasing intention, if other predictors are held constant. Consumers are more likely to improve their purchasing intention when surrounding air temperature is cold. This is because Kediri tofu is preferred as a hot serving (i.e. deep-frying) as either snack or side dish. The presence of fast foods is likely to increase the purchasing intention towards Kediri tofu as fast foods and Kediri tofu differ in terms of availability, taste and price. Limited availability, unfamiliar taste, and the high price of fast foods led to a greater preference for Kediri tofu over fast foods

### ***The number of males in the household***

This variable was negatively associated with buying intention towards Kediri tofu. It can be interpreted that after controlling all other variables, a 10% increase of the number of male family members would have a corresponding 2.76% decrease in the likelihood of buying intention towards this food. Males might tend to eat 'ready food', while Kediri tofu is bought in the food stalls and bring this food to home for further preparation, such as deep frying or other types of cooking. Similarly, Lancia *et al.* (1999) found that more males frequent fast food (i.e. meat, cheese and chips) stores. While, low-calorie food and vegetables were preferred among females (Rappoport *et al.*, 1992). Secondly, males might prefer to make food decisions independent of their family. Finally, males might contribute less to the decision in food selection for their family as this activity was often carried by female household members.

### ***The use of Kediri tofu***

This variable was negatively associated to purchasing intention. Purchasing intention was 0.37 times less likely for consumers who use tofu as a snack compared with consumers without such action. Two explanations are possible, firstly, consumers have a preference towards Kediri tofu, but rarely use this as a regular snack. This may be the high price of Kediri tofu compared with other types of tofu, such as regular tofu and fried tofu. In addition, the availability of Kediri tofu competed with the huge presence of substitution products (i.e. regular tofu, deep fried tofu, 'tempe'-

fermentation soybean), and it might highly impact on the less often use of Kediri tofu as a snack. Secondly, consumers might prefer to use Kediri tofu as a gift rather than as snack since this food can be preserved for a long shelflife. Also, this food is an appropriate gift for relatives among all social classes and can be used as a proxy for the popular food from the Kediri region.

### ***The purchasing place of Kediri tofu***

This variable was positively and significantly associated with consumer intention to buy Kediri tofu. Purchasing intention was five times higher for consumers who bought at combination traders (i.e. a combination between Kediri tofu stalls and supermarket, and vendors, and semi-permanent sellers) compared to those who bought at mobile traders or hawkers. This is because selection of a purchasing place related to the purpose of purchasing Kediri tofu. For their own consumption, consumers might buy at vendors or semi-permanent traders (i.e. at market) due to the cheaper price and their preference for certain types of Kediri tofu texture (ranging from little to very firm texture). However, for gift purposes for family or relatives outside the city, consumers tend to buy at Kediri tofu stalls who sell at a higher price. Despite the expensive price of Kediri tofu, the food has a long shelflife and a guarantee of originality ('takwa') as a characteristic of Kediri tofu. Furthermore, Kediri tofu obtained from a stall promises a healthy food since this food usually has a brand name and registered trademark which is legitimised by the health department as meeting health food standards.

### ***Location (urban and rural)***

This variable was positively associated with consumer intention to buy Kediri tofu. Purchasing intention was almost 0.52 times higher for urban consumers than rural consumers. This finding is consistent with the previous studies (Moon *et al.*, 1999; Bhandari and Smith, 2000). Urban consumers can more easily obtain this food since Kediri tofu sellers were more available in urban areas. Similarly, the consumption of Korean foods was higher in urban areas where Korean foods were available (Lee *et*

*al.*, 1999). Also, as urban consumers come from more affluent families (see Figure 6.7), they can afford to buy Kediri tofu, which is sometimes are more expensive. In addition, well educated urban consumers compared to their rural counterparts (see Figure 6.4), were more likely to be aware of health consciousness, and better dietary practices, so they preferred Kediri tofu as it contains a plant protein. Likewise, Hunt *et al.* (1997) reported education attainment as having a relationship with healthy food choices (i.e. increasing fibre, fruits, and vegetables and reducing fat).

#### **6.2.4 Factors associated with consumers' purchasing actions towards Kediri tofu**

In order to examine the relationship between purchasing intention and actual purchase, purchasing decisions regarding Kediri tofu were regressed on predicted probability of purchase intention along with consumer perceptions towards the importance of availability and changes in market price. The results from logistic regression indicated that the predicted probability of buying intention had a very significant ( $p < 0.0001$ ) relationship with purchasing action towards Kediri tofu (Table 6.3.2).

##### ***Predicted probability of purchasing intention***

This variable was positively associated with consumers purchasing Kediri tofu and therefore hypothesis 6.2 is not rejected. A 10% improvement of the predicted probability of buying intention level would have a corresponding 33.11% improvement in the likelihood of purchasing activity towards Kediri tofu, when other factors are held constant. The actual buying action is a representative way to express the preference towards Kediri tofu. Similarly, others have also found actual choice as a way to indicate preferences (Mela, 2001). Approximately 64% of consumers prefer to select Kediri tofu than other types of tofu.

However, the importance of Kediri tofu availability had no significant ( $p > 0.15$ ) influence on the purchasing activity. This is contradictory to earlier studies (Houston *et al.*, 1998; Lee *et al.*, 1999). In this study, Kediri tofu consumers considered the



availability of this food not a critical factor in actually buying for two reasons. Firstly, the prevalence of Kediri tofu traders enabled consumers to have easy access to this food whenever they purchase. Secondly, consumers may rarely buy this food as the price is more expensive compared to other types of tofu. Moon *et al.* (1999) stated that affordability is one of major reasons of increasing snack consumption (i.e. peanut products). This is supported by the evidence that more (79%) respondents bought Kediri tofu two times or less on a monthly basis.

### **6.2.5 Factors associated with consumers' satisfaction towards Kediri tofu**

Logistic regression was used to investigate the relationship between purchasing action and satisfaction towards Kediri tofu. Satisfaction variable was regressed with the predicted probability of purchase action and the repeat purchase of this food in the future. Both variables were significant ( $p < 0.1$ ) (Table 6.3.3).

#### ***Predicted probability of purchasing action towards Kediri tofu***

This variable was positively associated with satisfaction towards this food and hypothesis 6.3 is not rejected. This estimates that a 10% increase in the level of purchase of Kediri tofu would have a corresponding 20.32% improvement in the level of satisfaction towards this food, when other factors are held constant. This indicates that consumers' purchasing action has a role in influencing the satisfaction towards this food, based on the following premises. Firstly, most (76%) consumers have more than 10 years of experience in consuming Kediri tofu, and this may relate to their view of satisfaction. This is consistent with the theory of food satisfaction which states that the high level of satisfaction in procuring a product can be obtained if the perception of product performance either meets or exceeds its expected performance (Crawford, 1997; Assael, 1998; Blackwell *et al.*, 2001; Boone and Kurtz, 2001). Secondly, over 83% of consumers indicated a proud feeling towards Kediri tofu when purchasing or consuming this food.

### ***Repeat purchase of Kediri tofu***

This variable had a positive relationship with consumer satisfaction. The positive sign indicated that consumers' purchasing action is six times more likely to have result in satisfaction towards Kediri tofu. This finding is consistent with the theory that the consumer exhibit a higher probability of a repeat purchase of the product if they are satisfied (Kotler, 1997). With regard to Kediri tofu, a considerably high correlation between repurchases in future and satisfaction may imply that the perceived performance of Kediri tofu more than meets the consumers' expectation. Another reason is that a repeat purchase may be a proxy for expressing their satisfaction towards Kediri tofu.

## **6.2 Comparison of urban and rural consumers' purchasing intentions towards Kediri tofu**

Urban and rural consumers differed in terms of gender, age, marital status, education, occupation, and experience in consuming Kediri tofu. They were also distinguished by household's characteristics (i.e. household income and household size). In this section, urban and rural consumers' purchasing decisions towards Kediri tofu were investigated.

Urban and rural consumers differ in terms of their attitudes and perceptions towards Kediri tofu. These differences lead to the disparity in their preferences that resulted in variations in the purchasing decision process. Therefore, results are presented in the sequential phases of the purchasing decision process: consumers' attitudes and social norms, consumers' perceptions, their purchasing intention, their purchasing action, and their satisfaction from this food.

### **6.3.1 Attitudes and social norms towards Kediri tofu by location (urban vs. rural)**

A principal components factor analysis with varimax rotation procedure summarised eight attitudes (including social norms) into three groups for urban consumers and seven attitudes (without social norms) into four indices for rural consumers (Table

6.4). The factor loadings ranged from 0.61 to 0.75 and from 0.74 to 0.96 for urban and rural consumers, respectively. This can be interpreted that three indices for urban consumers and four indices for rural consumers had a good to an excellent level of association with these eight and these seven attitudes, respectively. The following paragraphs present these attitude indices.

### **6.3.1.1 Different the urban and rural consumer's attitudes towards Kediri tofu**

Urban and rural consumers were shown to have differences in their attitudes towards Kediri tofu, as summarised in the following three points.

(a) Attitudes towards sensory attributes

Urban consumers had favourable attitudes related to three sensory attributes: unique taste, texture, and aroma. Whereas, rural consumers' attitudes regarding sensory attributes were represented by unique taste and texture.

(b) Attitudes towards freshness and 'halal food'

The favourable attitudes related to freshness and 'halal food' associated with the importance of other people's influence among urban consumers. While, rural consumers were equally like Kediri tofu in terms of freshness and 'halal food'.

(c) Attitudes towards appearance and price

Urban consumers attitudes towards appearance were nearly as favourable as the attitudes regarding price. While, rural consumers' attitudes towards price of Kediri tofu was reacted independently over other attitudes.

The differences for urban and rural consumers' attitudes are explained in the following sections.

1. The three attitudes indices for urban consumers were characterised as:

(a) 'Sensory attributes related to attitudes'

(b) 'Freshness and halal food related to attitudes, and social norms'

(c) 'Appearance and price related to attitudes'

**Table 6.4** Factor loading patterns of attitudes and social norms towards Kediri tofu by location (varimax rotation)

Consumer attitudes	Urban			Rural			
	Factor loadings			Factor loadings			
	Factor1	Factor2	Factor3	Factor1	Factor2	Factor3	Factor4
<b>A. Urban consumers</b>							
<b>Index one: 'Sensory attributes related to attitudes'</b>							
- Unique taste	<b>0.70<sup>(a)</sup></b>	0.13	0.31				
- Texture	<b>0.75</b>	0.04	-0.22				
- Aroma	<b>0.61</b>	0.12	0.28				
<b>Index two: 'Freshness and halal food related to attitudes, and social norms'</b>							
- Freshness	0.50	<b>0.70</b>	-0.14				
- 'Halal food'	0.41	<b>0.73</b>	-0.14				
- Social norms <sup>(b)</sup>	-0.29	<b>0.74</b>	0.28				
<b>Index three: 'Appearance and price related to attitudes'</b>							
- Appearance	0.26	0.23	<b>0.70</b>				
- Price	-0.05	-0.15	<b>0.66</b>				
<b>B. Rural consumers</b>							
<b>Index two: 'Taste and texture related to attitudes'</b>							
- Unique taste				0.20	<b>0.79</b>	0.12	-0.15
- Texture				0.22	<b>0.84</b>	0.13	-0.03
<b>Index one: 'Freshness and halal food related to attitudes'</b>							
- Freshness				<b>0.92</b>	0.21	0.05	-0.11
- 'Halal food'				<b>0.89</b>	0.27	0.10	-0.14
<b>Index three: 'Appearance and aroma related to attitudes'</b>							
- Appearance				-0.10	0.21	<b>0.86</b>	0.17
- Aroma				0.40	0.05	<b>0.74</b>	-0.23
<b>Index four: 'Price related to attitudes'</b>							
- Price of Kediri tofu				-0.16	-0.14	0.01	<b>0.96</b>
<b>Variance explained (%)</b>	32.09	15.33	14.04	42.05	17.56	1.21	11.06

Note:

<sup>(a)</sup> See Table 4.1<sup>(b)</sup> Multiplying between the index of consumers' normative belief and the index of consumers' motivation to comply towards other people's influence.

'Sensory attributes related to attitudes' summarised three attitude variables regarding (a) unique taste, (b) texture, and (c) aroma of Kediri tofu collectively, and they were a representative of the first index. This index had factor loadings ranging from 0.61 to 0.75, indicating a good to an excellent level of association between these three attitudes variables and 'sensory attributes related to attitudes'. Index two and index three used a similar pattern of explanation.

2. The four attitude indices for rural consumers were represented as:

- (a) 'Freshness and halal food related to attitudes'
- (b) 'Taste and texture related to attitudes'
- (c) 'Appearance and aroma related to attitudes'
- (d) 'Price related to attitudes'

'Freshness and halal food related to attitudes' represented attitudes towards freshness and 'halal food' and collectively were loaded into the first index. This index had factor loadings ranging from 0.89 to 0.92. Attitudes towards freshness and 'halal food' have an excellent level of correlation with 'freshness and halal food related to attitudes'. Other indices were explained with a similar pattern as index one (see Table 6.4).

### **6.3.2 Urban and rural consumers' perceptions towards Kediri tofu**

Eighteen perceptions towards tofu were reduced by principal factor analysis to six indices for urban consumers and five indices for rural consumers which explained 66% and 68% of the total variation, respectively (Table 6.5). Factor loadings for urban and rural consumers accordingly ranged from 0.46 to 0.86 and from 0.52 to 0.88. These factor loadings indicated a fair to an excellent level of correlation between the 18 perceptions and these indices for urban and rural consumers. The following sections explain these perception indices.

**Table 6.5** Factor loading patterns of perceptions towards Kediri tofu by location (varimax rotation)

Consumer perceptions	Urban						Rural				
	Factor Loadings						Factor Loadings				
	Factor						Factor				
	1	2	3	4	5	6	1	2	3	4	5
<b>A. Urban consumers</b>											
<b>Index one: 'Promotional tools and originality'</b>											
- Packaging of Kediri tofu	<b>0.73<sup>(a)</sup></b>	0.15	0.07	0.24	-0.07	-0.17					
- The branch name	<b>0.86</b>	-0.03	0.04	0.07	0.06	0.00					
- Existence of a 'halal food' label	<b>0.81</b>	0.12	0.05	0.18	0.15	-0.17					
- Use of advertisements	<b>0.75</b>	-0.08	0.12	0.08	-0.01	0.21					
- Originality of Kediri tofu	<b>0.46</b>	0.20	0.21	0.13	0.38	0.12					
<b>Index two: 'Social status, the value of time, and competition'</b>											
- Consumer's income	0.04	<b>0.63</b>	-0.08	-0.14	0.30	0.04					
- Consumer's occupations	-0.01	<b>0.83</b>	0.07	0.11	-0.18	0.06					
- Availability of time for purchasing	-0.08	<b>0.66</b>	-0.12	0.29	0.09	-0.06					
- Existence of fast foods	0.29	<b>0.51</b>	-0.10	-0.05	0.17	-0.06					
<b>Index three: 'Hygiene and convenience'</b>											
- A clean purchasing place	0.01	-0.03	<b>0.85</b>	0.16	-0.01	0.03					
- A convenient purchasing place	0.06	-0.06	<b>0.86</b>	-0.02	-0.09	0.12					
- Offering of a good service	0.20	-0.09	<b>0.74</b>	0.02	0.13	-0.09					
<b>Index four: 'Halal food and food quality knowledge'</b>											
- Knowledge of 'halal food'	0.21	0.13	0.11	<b>0.82</b>	0.10	-0.13					
- Knowledge of food quality	0.31	0.00	0.06	<b>0.79</b>	0.05	0.18					
<b>Index five: 'Distance and nutrition knowledge'</b>											
- Distance in obtaining Kediri tofu	0.02	0.33	-0.18	0.00	<b>0.73</b>	0.07					
- Knowledge of nutrition	0.11	-0.17	0.34	0.27	<b>0.62</b>	-0.21					
<b>Index six: 'Environment and price consciousness'</b>											
- Surrounding air temperature	0.17	0.43	-0.03	-0.08	0.06	<b>0.67</b>					
- A high price	0.22	0.37	-0.09	-0.11	0.09	<b>0.66</b>					
<b>B. Rural consumers</b>											
<b>Index one: 'Promotional tools and distance'</b>											
- Packaging of Kediri tofu							<b>0.73</b>	0.32	-0.05	-0.04	0.23
- The branch's name							<b>0.79</b>	0.28	0.16	-0.12	0.16
- Existence of a 'halal food' label							<b>0.74</b>	0.22	-0.13	-0.11	0.41
- Use of advertisements							<b>0.73</b>	0.38	0.07	-0.09	-0.02
- Distance in obtaining Kediri tofu							<b>0.65</b>	-0.08	-0.01	0.30	0.07
<b>Index two: 'Hygiene, convenience, and originality'</b>											
- A clean purchasing place							0.23	<b>0.84</b>	-0.07	0.02	0.22
- A convenient purchasing place							0.17	<b>0.88</b>	0.09	-0.08	0.11
- Offering of a good service							0.15	<b>0.71</b>	0.41	-0.14	0.13
- Originality of Kediri tofu							0.27	<b>0.58</b>	0.06	0.03	0.22
<b>Index three: 'Environment, competition, and food quality knowledge'</b>											
- Surrounding air temperature							-0.27	0.25	<b>0.72</b>	0.11	-0.13
- Existence of fast foods							0.06	-0.14	<b>0.79</b>	-0.04	0.15
- Knowledge of food quality							0.20	0.31	<b>0.61</b>	-0.05	0.39
<b>Index four: 'Social status, the value of time, and price'</b>											
- Consumer's income							-0.26	0.11	0.17	<b>0.72</b>	-0.09
- Consumer's occupation							0.22	-0.07	-0.02	<b>0.77</b>	-0.01
- Availability of time for purchasing Kediri tofu							0.17	0.18	0.52	<b>0.52</b>	-0.27
- A high price							-0.08	-0.19	-0.12	<b>0.70</b>	0.18
<b>Index five: 'Halal food and nutrition knowledge'</b>											
- Knowledge of 'halal food'							0.37	0.23	-0.01	0.06	<b>0.73</b>
- Knowledge of nutrition							0.14	0.33	0.17	0.00	<b>0.73</b>
<b>Variance explained (%)</b>	<b>22.54</b>	<b>15.26</b>	<b>9.16</b>	<b>6.91</b>	<b>6.42</b>	<b>5.41</b>	<b>31.28</b>	<b>13.3</b>	<b>11.14</b>	<b>6.68</b>	<b>5.7</b>

Note:

<sup>(a)</sup> See Table 4.1

### 6.3.2.1 Different the urban and rural consumers' perceptions towards Kediri tofu

Urban consumers were different from rural consumers in terms of their perceptions towards Kediri tofu. The different perceptions were:

(a) Perceptions related to promotional tools

Urban consumers perceived the packaging, the brand name, the advertisements, and a 'halal food' label as having importance as food originality. While, rural consumers considered the importance of these promotional tools and the distance to purchase Kediri tofu.

(b) Perceptions towards social status and the value of time

Three perceptions related to income, occupation, and the time availability for purchase Kediri tofu, related to the importance of the existence of fast foods among urban consumers. For rural consumers, these three perceptions were associated with a high price.

(c) Perceptions related to hygiene and convenience

Urban consumers perceived similar importance towards three perceptions related to a clean place, a convenient location, and the offering of a good service. Whereas, these three perceptions were equally considered as important as the originality of Kediri tofu among rural consumers.

(d) Perceptions about 'halal food' knowledge

Perceptions towards importance of knowledge of 'halal food' associated with food quality knowledge for urban consumers. However, rural consumers perceived the similar importance between the knowledge of 'halal food' and the knowledge of nutrition.

(e) Perceptions towards surrounding air temperature

Urban consumers' perceptions towards the importance surrounding air temperature was associated with a high price of Kediri tofu. Whereas, rural consumers showed an equal level of importance concerning the surrounding air temperature, knowledge of food quality, and the existence of fast foods.

(f) Perceptions towards nutrition knowledge

Urban consumers perceived knowledge of nutrition as important as the distance in obtaining Kediri tofu. However, rural consumers weighted



equally the importance of nutrition knowledge and 'halal food' knowledge.

The above differences in perceptions between urban and rural consumers are discussed in the following paragraphs.

1. The six perception indices for urban consumers were presented (Table 6.5) as:

- (a) 'Promotion tools and originality'
- (b) 'Social status, the value of time and competition'
- (c) 'Hygiene and convenience'
- (d) 'Halal food and food quality knowledge'
- (e) 'Distance and nutrition knowledge'
- (f) 'Environment and price consciousness'

'Promotion tools and originality' refers to perceptions associated with packaging, the branch name, advertisements, a 'halal food' label and food originality and together were loaded into the first index. This index had factor loadings ranging from 0.46 to 0.86. 'Promotion tools and originality' showed a fair level of association with perceptions towards originality of Kediri tofu, and an excellent level of correlation with three perceptions (i.e. towards packaging, the branch name, advertisements, and the existence of a 'halal food' label). Other indices were explained with the similar way to that of the first index (see Table 6.5).

2. The explanation of the five perception indices for rural consumers was:

- (a) 'Promotional tools and distance'
- (b) 'Hygiene, convenience, and originality'
- (c) 'Environment, competition, and food quality knowledge'
- (d) 'Social status, the value of time, and price'
- (e) 'Halal food and nutrition knowledge'

'Promotion tools and distance' explained that the first index summarised perceptions associated with packaging, the branch name, advertisements, a 'halal food' label, and distance in obtaining Kediri tofu. This index had factor loadings ranging from 0.65

to 0.79. These factor loadings can be interpreted that 'promotional tools and distance' had a very good level of association with perceptions about distance in obtaining Kediri tofu, and an excellent level correlation with four perceptions (i.e. towards packaging, the branch name, advertisements and the existence of a 'halal food' label). Index two to five used a similar pattern of interpretation (see Table 6.5).

### **6.3.3 Urban and rural consumers' purchasing intentions towards Kediri tofu**

Significantly ( $\chi^2 = 42.30, p < 0.0001$ ) more (73%) urban consumers and more than half (54%) rural consumers selected Kediri tofu than other types of tofu. Urban consumers intended to buy Kediri tofu than their rural counterparts. This finding failed to reject hypothesis 6.4. This is due to more (74%) of urban consumers considering Kediri tofu as their favourite food and 85% of them have a proud feeling towards Kediri tofu. Furthermore, consumer attitudes, consumer perceptions, personal characteristics, and socio-economic variables contributed significant roles in explaining urban and rural consumers' purchasing intention towards Kediri tofu as discussed in the following sections.

#### **6.3.3.1 Similarity factors explaining urban and rural consumers' purchasing intentions towards Kediri tofu**

Logistic regression procedures were employed to analyse the factor influence on urban and rural consumers' purchasing intention. The buying intention was regressed with four sets of variables, (a) consumer attitudes, (b) consumer perceptions, (c) personal characteristics, and (d) socio-economic variables. Results showed that four variables for urban consumers, and six variables for rural consumers, were significantly ( $p < 0.10$ ) related to purchasing intention towards Kediri tofu (Table 6.6.1).

#### ***Consumer's education***

This variable was positively associated with urban and rural consumers buying intention towards Kediri tofu. Consumers with high educational levels (secondary

**Table 6.6.1 Factors associated with urban and rural consumers' purchasing intention towards Kediri tofu**

Parameter	Urban		Rural	
	Estimate	Odds Ratio	Estimate	Odds Ratio
Intercept	-1.09		-0.05	
'Sensory attributes related to attitudes' <sup>(a)</sup>	0.46***	1.58		
'Taste and texture attributes related to attitudes' <sup>(b)</sup>			0.57*****	1.77
'Appearance and price related to attitudes' <sup>(a)</sup>	-0.01	1.00		
'Appearance and aroma related to attitudes' <sup>(b)</sup>			0.33**	1.39
'Price related to attitudes' <sup>(b)</sup>			0.02	1.02
'Hygiene, convenience, and food originality' <sup>(b)</sup>			0.63*****	1.88
'Halal food and food quality knowledge' <sup>(a)</sup>	0.08	1.08		
'Halal food and nutrition knowledge' <sup>(b)</sup>			-0.55*****	0.58
'Distance and nutrition knowledge' <sup>(a)</sup>	0.03	1.03		
'Environment and price consciousness' <sup>(a)</sup>	0.06	1.06		
Consumer's gender	0.36	1.43	-0.32	0.73
Consumer's education	1.43*****	4.17	0.87***	2.38
Consumer's occupation	0.08	1.08	0.38	1.46
Consumer's experience in consuming Kediri tofu <sup>(c)</sup>	-0.50	0.61		
Consumer's marital status <sup>(d)</sup>	0.91***	2.49		
The number of females in the household <sup>(e)</sup>	0.17	1.19		
The number of males in the household <sup>(f)</sup>			-0.35***	0.71
Household's income <sup>(g)</sup>	0.42	1.52		
The use of Kediri tofu	-1.40***	0.25	-0.27	0.76
Loyalty to one purchasing place	0.36	1.44	-0.39	0.68
Purchasing place of Kediri tofu <sup>(h)</sup>			1.46*****	4.31
X2 (Score)	40.79		61.44	
% Correct prediction	71		69	
N	200		200	

Note:

<sup>(a)</sup> Perception index for urban consumers only.<sup>(b)</sup> Perception index for rural consumers only.<sup>(c)</sup> This variable had a high correlation with four variables, 'price related to attitudes', 'halal food and nutrient knowledge', consumer's gender, and consumer's education<sup>(d)</sup> This variable had a high correlation with four variables, consumer's gender, consumer's education, the number of females in household, and the number of males in<sup>(e)</sup> This variable is represented by the number of males in the household.<sup>(f),(g)</sup> These variables had a high correlation with consumer's marital status (see Appendix-5.2 and 5.3)<sup>(h)</sup> This variable had a high correlation with consumer's education (see appendix 5-1).

\*\*\*\*\*p&lt;0.0005; \*\*\*\*p&lt;0.001; \*\*\*p&lt;0.005; \*\*p&lt;0.01; \*p&lt;0.05; \*\*p&lt;0.01.

**Table 6.6.2 Factors associated with urban and rural consumers' purchasing action towards Kediri tofu**

Parameter	Urban		Rural	
	Estimate	Odds Ratio	Estimate	Odds Ratio
Intercept	-0.88		-4.28	
Predicted probability of buying intention towards Kediri tofu	1.22	3.40	3.38*****	29.27
Availability of Kediri tofu	-0.21	0.81	0.41	1.51
Change in price	-0.04	0.96	0.49	1.63
X2 (Score)	3.29		17.48	
% Correct prediction	49.5		85.5	
N	200		200	

Note:

\*\*\*\*\*p&lt;0.0005

**Table 6.6.3 Factors associated with urban and rural consumers' satisfaction towards Kediri tofu**

Parameter	Urban		Rural	
	Estimate	Odds Ratio	Estimate	Odds Ratio
Intercept	-1.14		-2.81	
Predicted probability of purchasing action towards Kediri tofu			-0.84	0.43
Predicted probability of purchasing intention towards Kediri tofu <sup>(a)</sup>	-0.91	0.40		
Repeat purchase towards Kediri tofu	1.00**	2.72	1.12**	3.05
X2 (Score)	4.68		3.04	
% Correct prediction	71.9		88.5	
N	200		200	

Note:

<sup>(a)</sup> This variable is used since the predicted probability of purchasing Kediri tofu found not significant.

\*\*p&lt;0.01

school and beyond) were four times (urban) and two times (rural) more likely to increase this purchasing intention towards this food. This is supported by the literature where education is associated with the acceptance towards Akara-fried cowpea paste (McWatters *et al.*, 1997), fish choice (Houston *et al.*, 1998), the demand for organic products (Thompson, 1998), frequencies of consumption of seafood (Weinstein *et al.*, 1999), choosing brands to closely match their taste (Jekanowski and Binkley, 2000), and the level of food away from home (FAFH) expenditure (Mihalopoulos and Demousis, 2001). With regard to this study, well educated consumers were more likely to have a higher health consciousness and association with food such as Kediri tofu that contains plant protein. Likewise, Hunt *et al.* (1997) reported education attainment as having a relationship with healthy food choices (i.e. increasing fibre, fruits, and vegetables and reducing fat). In addition, educated consumers also came from more affluent families. Therefore, they can afford to buy Kediri tofu, which is sometimes more expensive.

### **6.3.3.2 Different factors explaining urban and rural consumers' purchasing intentions towards Kediri tofu**

The differentiating factors associated with urban and rural consumers' purchasing intention were summarised into four points: their attitudes, their perceptions, their personal characteristics, and socio-economic influences.

#### **(a) Consumers' attitudes**

'Sensory attributes related to attitudes' and 'taste and texture related to attitudes', were assigned a positive association with urban and rural consumers' purchasing intention, respectively. However, 'appearance and aroma related to attitudes', were positively associated with rural consumers' purchasing intention towards Kediri tofu.

#### **(b) Consumers' perceptions**

Rural consumers' purchasing intention towards Kediri tofu was positively related to 'hygiene, convenience, and food originality', whereas it had a negative association with 'halal food and nutrition knowledge'.

#### **(c) Consumers' characteristics**

Married consumer, was positively related to urban consumers' purchasing

intention towards Kediri tofu.

(d) Socio-economic variables

The use of Kediri tofu was negatively associated with urban consumers' purchasing intention towards Kediri tofu. Rural consumers' pre-purchase behaviour has a positive relationship with the purchasing place, while it was negatively related to the number of males in a household.

1. There were three significant variables explaining urban consumers, as presented in the following sections.

***'Sensory attributes related to attitudes'***

These attitudes were positively associated with purchasing intention towards Kediri tofu. This perception index as a proxy of the unique taste failed to reject hypothesis 6.4.1 in that, unique taste is positively associated with rural consumers' purchasing intention towards Kediri tofu. It is estimated that, when other factors are held constant, a 10% increase in attitude regarding unique taste, texture, and aroma attributes would have a corresponding 4.71% improvement in the likelihood of urban consumers' purchasing intention. The reasons for unique taste and food texture were similar to section 6.2.3.1 above in the sub-section 'taste and texture related to attitudes'. With regard to food aroma, urban consumers considered this aroma has a powerful role in their purchasing intention towards this product. This is due to Kediri tofu having a specific delicious soybean aroma that characterised this food. Likewise, Vickers (1993) pointed out that flavour acceptability has an influence on buying intent for strawberry yoghurt.

***Consumer's marital status***

This variable was positively associated with urban consumers' purchasing intention towards Kediri tofu. The positive sign described that the consumers who are married, were over two times likely to have purchasing intention regarding this food. Similarly,

married consumers were discovered as an important factor in explaining and predicting the eating out behaviour (Byrne *et al.*, 1996) or the level of food away from home (FAFH) expenditure (Mihalopoulos and Demousis, 2001), and demand for organic foods (Thompson, 1998). The finding of the present study can be explained on the following premises. Firstly, as married consumers had better education level (see Figure 6.3 and 6.4), they would be more likely to possess the healthy food consciousness. In attempting to obtain better dietary practices, they may select Kediri tofu that contains nourishing plant protein. Likewise, housewives with knowledge in health and nutrition have a positive effect in increasing demand for milk and dairy products in Japan (Wanatabe *et al.*, 1997), in rising the children's diet quality (Variyam *et al.*, 1999), and in improving health status of children and feeding habits (Bhandari and Smith, 2000). Secondly, married consumers such as housewives often control food for family members, since they spend their time in food preparation at home. Thereby, housewives are able to choose a food for the family, such as Kediri tofu.

### ***The use of Kediri tofu***

This variable was negatively associated to urban consumers' purchasing intention towards this food. It is estimated that consumers who use Kediri tofu as a snack are 0.25 times less likely to have a purchasing intention towards this product. The reasons for this finding were similar to sub-section 6.2.3.1 above in the use of Kediri tofu.

2. Six variables were found to be significantly associated with particularly rural consumers' purchasing intention as explained in the following sections.

### ***'Taste and texture related to attitudes'***

This variable showed a positive association with purchasing intention towards Kediri tofu. This perception index as a proxy of the unique taste, failed to reject hypothesis 6.4.1 in that, unique taste is positively associated with urban consumers' purchasing intention towards Kediri tofu. It is estimated that, other factors are held constant, a



10% increase of the attitude related to taste and texture, would have a corresponding 5.87% increase in the likelihood on rural consumers' purchasing intention. The reasons for unique taste and food texture were similar to section 6.2.3.1 above in the sub-section 'taste and texture related to attitude'.

#### ***'Appearance and aroma related to attitudes'***

This variable was positively associated with rural consumers' purchasing intention towards Kediri tofu. It is estimated that, other factors are held constant, a 10% improvement in the attitudes regarding appearance and aroma, would have a corresponding 3.36% increase in the likelihood of the rural consumers' purchasing intention. This finding can be explained by two reasons. Firstly, the cube shape and yellow colour appearance of Kediri tofu may attract consumers to choose this food. Also, the appearance of the food can be used to measure the freshness level of this food. Secondly, aroma has a powerful role in rural consumers' purchasing intention towards this product, because Kediri tofu has a specific and delicious soybean aroma that characterises this food. Likewise, Vickers (1993) pointed out that flavour acceptability has an influence on buying intention for strawberry yoghurt.

#### ***'Hygiene, convenience, and originality'***

This variable was assigned a positive association with rural consumers' purchasing intention. This is predicted that a 10% improvement in the level of perception index regarding 'hygiene, convenience, and food originality' would have a corresponding 6.50% rise in the likelihood of the rural consumers' buying intention, if other predictors are held constant. The reasons for a clean, a convenient place, and the offering of good service were similar to sub-section 6.2.3.1 above on 'hygiene and convenience'. In terms of originality, this attribute reflected the favourable attitudes related to the authenticity of Kediri tofu. For example, the presence of the 'takwa' label is well known as a symbol of originality for Kediri tofu.

***'Halal food and nutrition knowledge'***

These variables were found to be negatively in association with rural consumers' purchasing intention towards Kediri tofu. It is estimated that other factors are held constant, a 10% increase in these perceptions related to 'halal food' and nutrition knowledge, would have a corresponding 5.35% reduction in the likelihood for rural consumers' buying intention. This is because consumers knew about value added of the nutrient content of this food. Therefore, rural consumers did not regard this knowledge as a barrier to purchasing intention towards this food although this knowledge could impact on the better dietary practices. This evidence confirmed the study of Colavito *et al.* (1996) that nutrition knowledge might not be as helpful in making healthy food choices outside the home as it may be in the home setting.

***The number of males in the household***

This variable was negatively associated with rural consumers' purchasing intention towards Kediri tofu. It interpreted that, a 10% increase in the number of male family members, would have a corresponding 3.44% reduction on the likelihood of rural consumers' purchasing intention towards this food, if all other variables are held constant. The reasons for this finding were similar to sub-section 6.2.3.1 above on the number of males in the household.

***The purchasing place of Kediri tofu***

This variable was positively associated with rural consumers' purchasing intention towards Kediri tofu. Purchasing intention was four times higher for consumers who bought at combination traders (i.e. a combination between Kediri tofu stalls and supermarket, and vendors, and semi-permanent sellers) compared to those who bought at mobile traders or hawkers. The reasons for this finding were similar to sub-section 6.2.3.1 above on the purchasing place of Kediri tofu.



### 6.3.4 Factors associated with urban and rural consumers' purchasing actions towards Kediri tofu

Purchasing decision regarding Kediri tofu was regressed on predicted probability of purchase intention along with consumer perceptions towards the importance of availability and change in market price. The results from logistic regression revealed that the predicted probability of buying intention was found to have a statistically significant ( $p < 0.0005$ ) relationship with rural consumers' purchasing action towards Kediri tofu. However, it was not significantly ( $p > 0.15$ ) related to purchasing action for urban consumers (Table 6.6.2).

The predicted probability of urban consumers' purchasing intention showed non significant ( $p > 0.15$ ) interaction with the purchasing activity. This finding resulted in rejection of hypothesis 6.5. This may suggest that urban consumers' purchasing intention did not relate to actual purchase this food. Although, more (73%) urban consumers preferred this food, they may not perform actual choice because they have many of the food options instead of Kediri tofu. This finding is consistent with O'Shaughnessy (1987) who reported actual choice is a way to perform preferences, although it sometimes does not happen because of situational factors and a change of mind in a last minute of purchase. Secondly, consumers may rarely buy this food since the price was more expensive compared to other types of tofu. As mentioned by Moon *et al.* (1999) that affordability is one of major reasons of increasing snack consumption (i.e. peanuts products).

#### ***Predicted probability of rural consumers' purchasing intention***

This variable was positively associated with rural consumers' buying activity. This finding failed reject hypothesis 6.5. This means that a 10% improvement of the level of buying intention for Kediri tofu would have a corresponding 40.21% improvement for rural consumers' purchasing action when other factors are held constant. Likewise, this study revealed the actual buying action can be used as representative behaviour to express the preference towards Kediri tofu for rural consumers. This finding is supported by strong evidence that approximately 55% of rural consumers selected

Kediri tofu rather than other types of tofu (i.e. regular tofu and fried tofu).

### **6.3.5 Factors associated with rural consumers' satisfaction towards Kediri tofu**

Logistic regression results found non significant ( $p>15$ ) association between the predicted probabilities of purchasing action with rural consumers' satisfaction towards Kediri tofu (Table 6.6.3). This finding rejected hypothesis 6.6. The evidence may explain that rural consumers purchasing this food did not associate with their values of satisfaction. It means that consumers' buying this food might not only be a way for presenting of their satisfaction, but there are also due to their needs towards this food. For example, consumers bought Kediri tofu because of their need to provide a gift to family or a friend, rather than their own satisfaction towards this food. Also, consumers may be dissatisfied with Kediri tofu but continue to buy because they believe this food is more attractive and better than other types of tofu. Similarly O'Shaughnessy (1987) suggested that consumer may experience dissatisfaction with a brand but continue to buy when they believe rival brands are no better and they are not prepared to do without the product.

#### ***Repeat purchase towards Kediri tofu***

This variable had a positive association with urban and rural consumers' satisfaction. This means that the satisfaction towards Kediri tofu was nearly three times higher (urban) and over three times higher (for rural) consumers who purchase Kediri tofu in future over consumers without such action. This finding is consistent with the theory that repeat purchase relies on the level of satisfaction or dissatisfaction (Kotler, 1997; Blackwell *et al.*, 2001). Likewise, the repeat purchase may be regarded as a way of expressing satisfaction towards this food. Also it might imply that the performance of Kediri tofu can meet the consumers' expectations.

## 6.4 General discussion

This chapter aimed to address three questions: (a) how do consumers behave towards Kediri tofu; (b) what factors influence consumers purchasing decisions; and (c) how urban consumer behaviour towards Kediri tofu differs from their rural counterparts. Firstly, consumers preferred Kediri tofu compared to soybean based foods (i.e. fried tofu and regular tofu). Their preferences towards this food is represented in the three stages of the buying decision process (purchasing intention, purchasing action, and satisfaction). Craig-Lees *et al.* (1995) noted that these three stages were used for a problem-solving activity.

Respondents preferred to keep unique taste as important factor for consumer' pre-purchase towards Kediri tofu. This is because unique savoury taste of Kediri tofu has a well-known, intriguing difference in taste in comparison with other types of tofu. Similarly, the other studies discovered a great role of taste in food preference (Norton *et al.*, 2000), purchasing decision towards roasted peanuts (Moon *et al.*, 1999), and buying organic foods (Bissonnette and Contento, 2001).

The results also highlighted that the improvement on pre-purchase towards Kediri tofu corresponded with their perception (i.e. towards hygiene and a convenient place, surrounding air temperature and the emerging fast food) and the purchasing place. However, consumers' choice towards Kediri tofu can reduce reduced when they used this food as snack. Other interesting finding is that urban consumers intended to more select Kediri tofu. This finding is supported by earlier studies (Moon *et al.*, 1999; Bhandari and Smith, 2000). This is presumably due to the availability of this food in urban areas (Lee *et al.*, 1999).

However, purchase action towards Kediri tofu did not relate to availability of this food. This findings is inconsistent with past studies that availability of food indicated an important factor in the choice decisions towards fish (i.e. fresh, frozen, canned, and iced) (Houston *et al.*, 1998), and in the consumption of the Korean foods (Lee *et al.*, 1999). This is due to the availability of this food is not a critical factor in actually

buying because the prevalence of Kediri tofu traders will enable consumers' easy access to this food whenever they purchase. Also, consumers may be less likely to afford this food since the price is more expensive compared to other types of tofu. Moon *et al.* (1999) stated that affordability is one of major reasons of increasing snack consumption (i.e. peanut products).

Other major findings that consumers' satisfaction indicated a strong association with repeat purchase towards Kediri tofu. Consumers are likely to feel highly satisfied when the product's perceived performance either matches or exceeds its expected performance (Crawford, 1997; Assael, 1998; Blackwell *et al.*, 2001).

Secondly, when consumers were categorised on the basis of their location, urban and rural consumers' pre-purchase towards Kediri tofu indicated invariably in passing through all three stages of purchasing decision process. Although, more urban consumers intended to buy Kediri tofu than rural consumers, however they cannot perform actual purchasing action towards this food. This finding is consistent with O'Shaughnessy (1987) in that the actual choice sometimes does not happen because of situational factors and the change of mind in a last minute of purchasing. Whereas, rural consumers' purchasing intention was likely to perform in an actual purchasing Kediri tofu. A positive relationship between purchasing intention and purchasing action is consistent with the theory of problem-solving activity (Engel *et al.*, 1995; Craig-Lees *et al.*, 1995). However, rural consumers' purchasing action did not relate to satisfaction towards Kediri tofu. The results seem to very consistent with Schutte and Ciarlante (1998) that it is unrealistic to think that a person can go through all of these steps of the buying decision models for every purchase.

Irrespective of their location, consumers selected Kediri tofu because of a unique taste. Also, it is important to recognise that consumers who have a high level education (i.e. secondary school and beyond) intended to choose more Kediri tofu. This finding confirms past studies that education associated with: the acceptance towards Akara-fried cowpea paste (McWatters *et al.*, 1997), the fish choice (Houston *et al.*, 1998), the demand for organic products (Thompson, 1998), and the frequencies

of consumption of seafood (Weinstein *et al.*, 1999).

Rural consumers' purchasing intention towards Kediri tofu were encouraged by their attitudes (i.e. towards appearance, aroma), and their perceptions (i.e. about a clean and convenient place, the offering of a good service together with food originality). However, the number of males in the household and their perceptions (i.e. about knowledge of 'halal food' and nutrition) were less likely to recommend rural consumers' pre-purchase towards Kediri tofu. This finding confirms the study of Colavito *et al.* (1996).

The results also highlighted married urban consumers tended to choose Kediri tofu, but the use Kediri tofu (i.e. snack) lead to reduction on pre-purchase behaviour. Other studies also found that married consumers were discovered as an important factor in increasing eating out behaviour (Byrne *et al.*, 1996; Mihalopoulos and Demousis, 2001), and demand for milk and dairy products (Wanatabe *et al.*, 1997).

Urban and rural consumers' purchase action towards Kediri tofu was not influenced by availability of this food. This finding differed from other studies that availability had an important role to purchase food (Houston *et al.*, 1998; Lee *et al.*, 1999). Consumers did not regard the availability of Kediri tofu as a barrier to purchasing intention towards this food because they easy access to this food whenever they purchase. Moreover, consumers may be less likely to afford this food since the price is more expensive compared to other types of tofu.

Other interesting finding was the repeat purchasing was more likely to lead to urban and rural consumers' satisfaction towards this food. This finding confirmed with the theory that the consumer will exhibit a higher probability of a repeat purchase of the product if they are satisfied (Kotler, 1997; Blackwell *et al.*, 2001). The repeating purchase may be regarded as a way of expressing satisfaction towards this food and it might imply that the performance of Kediri tofu matched the consumers' expectations.

To sum up, the questions that presented at the previous of this chapter have been answered. The findings of this chapter would be a significant contribution on the body of science in understanding how consumers reveal their preferences towards Kediri tofu and towards ethnic food in general.

## **CHAPTER SEVEN**

Chapter seven provides the results of the tofu processor response towards Kediri tofu. Tofu processors responses were analysed in terms of their processing and marketing strategies to address objective 4 (how food processors respond to consumer demand) and by the set of hypothesis (7.1 to 7.2.2) in Chapter one.

The chapter is organised into four sections, firstly a section describing the profile of Kediri tofu processors, secondly a section identifying the processing strategies adopted by tofu processors, thirdly a section examining marketing strategies used by tofu processors, and finally a section where the results are discussed.

### **7.1 The profile of Kediri tofu processor respondents**

Tofu processor respondents were categorised into the 'small' (those using less than fifty kilograms of soybean per day) and the 'medium to large' (those using fifty kilograms and more of soybean per day) groups. In total 86 food processors were interviewed in person by the researcher and enumerators. This section presents three sub-sections, general characteristics, perceptions regarding raw materials for tofu, and perceptions concerning consumers and other external factors.

#### **7.1.1 General characteristics**

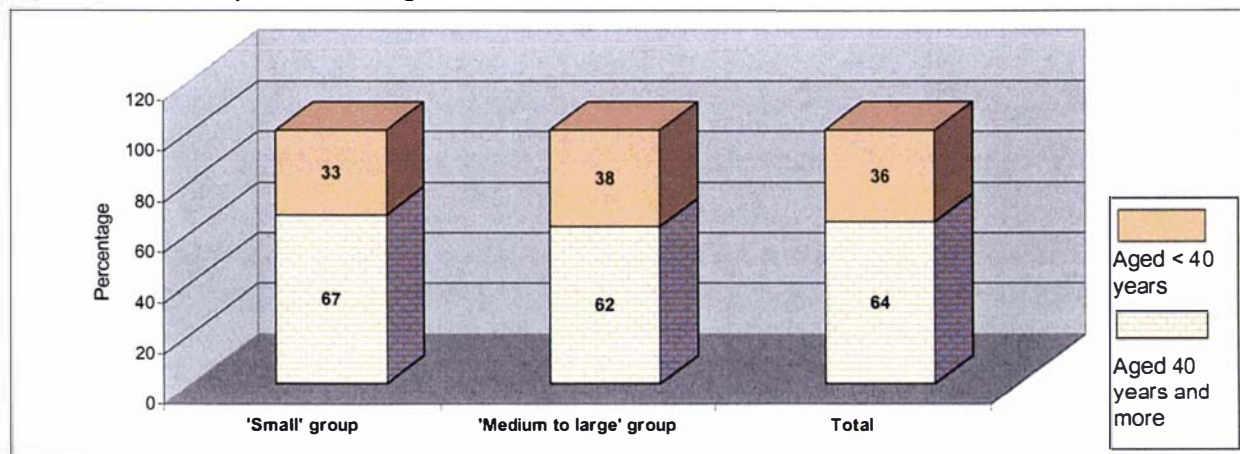
Of the 86 tofu processors, 42% belonged to the 'small' group and the remaining 58% represented the 'medium to large' group of food processors. The majority of food processors were male (93%), had Islamic faith (81%), and were married (98%). The results indicate that:

- (a) Overall, nearly three-fifths of the respondents were older respondents (aged 40 years and over), and the distribution was nearly equally represented in the two groups of tofu processors (Figure 7.1).

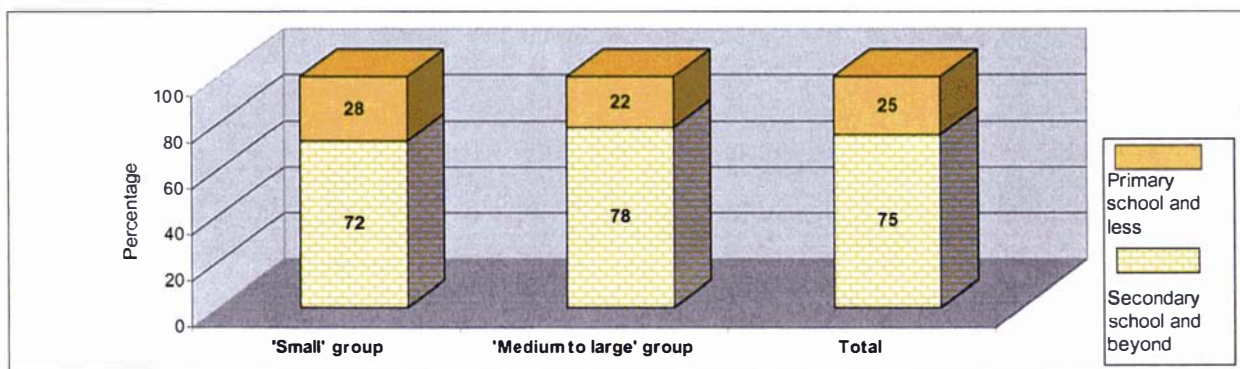


**Figure 7 The profile of Kediri tofu processor respondents**

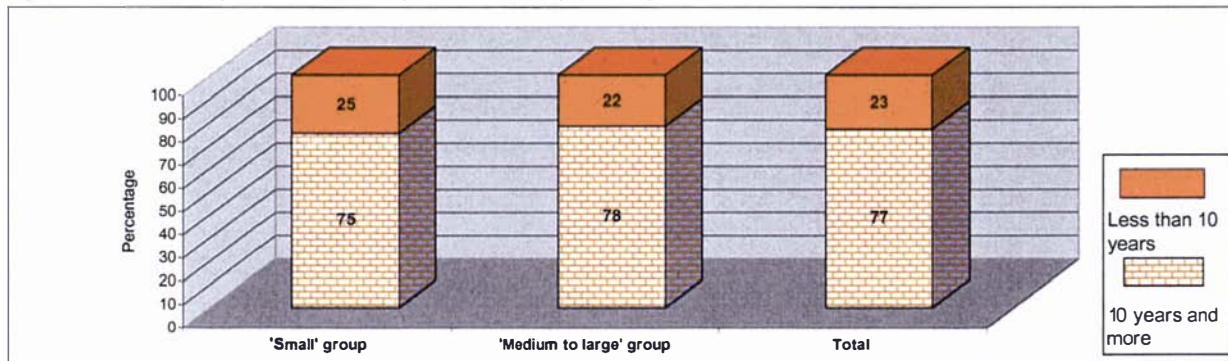
**Figure 7.1 Tofu processor's age**



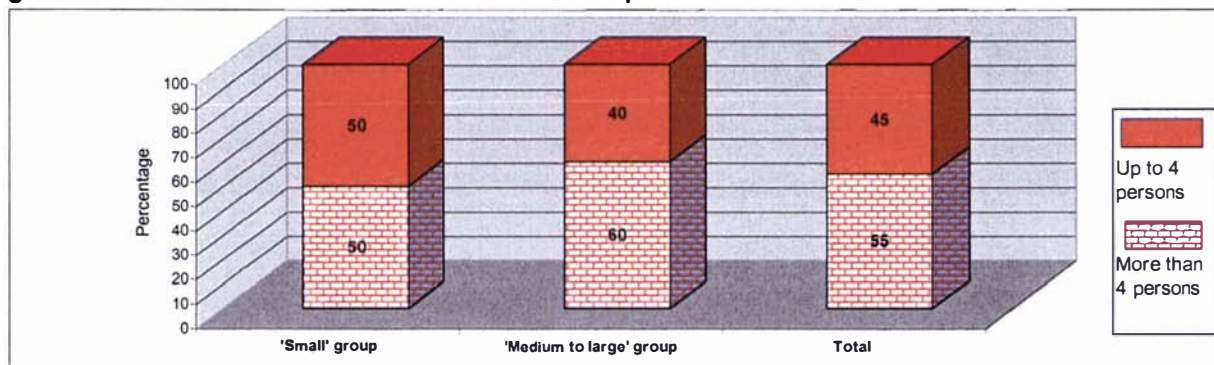
**Figure 7.2 Tofu processor's education**



**Figure 7.3 Tofu processor's experience in operating the home tofu industries**



**Figure 7.4 Number of household members of tofu processors**



- (b) Slightly more than three-fourths of respondents were well educated (secondary level education and beyond), but the 'medium to large' group of tofu processors sample were relatively more educated than the 'small' group of food processors (Figure 7.2).
- (c) Over three-fourths of respondents had been engaged in tofu enterprise for more than 10 years (Figure 7.3). However, a proportionally higher number of the 'small' group tofu processors had such a long experience.
- (d) Overall, more than half of respondents belonged to larger households (five household members and over) (Figure 7.4). The 'small' group food processors had a similar proportion of both 'lower' (up to four persons) and 'higher' household size. On the other hand, two-fifths of the 'medium to large' group respondents had a larger of household members.

### **7.1.2 Perceptions about the raw materials used for Kediri tofu**

A principal components factor analysis with varimax rotation was conducted on the responses of the seven food processor perception variables and two indices were extracted with factor loadings of 0.62 and 0.92 (Table 7.1). These factor loadings indicated a good to an excellent level of correlation between the seven perceptions towards raw materials and these two indices. The two indices collectively accounted for 70% of the total variation in the seven perceptions. The food processors' perceptions towards raw materials used for Kediri tofu were characterised as:

- (a) 'Soybean availability, time of purchase, and other ingredients'
- (b) 'Soybean price consciousness'

'Soybean availability, time of purchase, and other ingredients' explained five perceptions related to importance of (a) availability of soybean, (b) time when purchasing soybean, (c) other ingredients availability, (d) quality of other ingredients, and (e) price of other ingredients, together were loaded into the first index. The factor loadings ranged from 0.62 to 0.92. 'Soybean availability, time of purchase, and other ingredients' showed a good level of correlation with perceptions towards quality of other ingredients, a very good level of association with perceptions towards the

**Table 7.1** Factor loading patterns of tofu processor perceptions towards the raw materials used for Kediri tofu (varimax rotation)

Perceptions	Factor loadings	
	Factor1	Factor2
<b>Index one: 'Soybean availability, time of purchase, and other ingredients'</b>		
- Availability of soybean	<b>0.63<sup>(a)</sup></b>	0.33
- Time when purchasing soybean	<b>0.70</b>	0.48
- Quality of other ingredients	<b>0.62</b>	-0.64
- Availability of other ingredients	<b>0.92</b>	-0.08
- Price of other ingredients	<b>0.90</b>	-0.05
<b>Index two: 'Soybean price consciousness'</b>		
- Price of soybean	0.11	<b>0.71</b>
<b>Variance explained (%)</b>	49.2	20.96

Note:

<sup>(a)</sup> See Table 4.1**Table 7.2** Factor loading patterns of perceptions towards the raw materials used for Kediri tofu by groups of tofu processors (varimax rotation)

Perceptions	'Small' group <sup>(a)</sup>			'Medium to large' group <sup>(b)</sup>	
	Factor loadings			Factor loadings	
	Factor1	Factor2	Factor3	Factor1	Factor2
<b>A. The similarity among groups of tofu processors</b>					
<b>Index one: 'Other ingredients consciousness'</b>					
- Quality of other ingredients	<b>0.83</b>	-0.25	-0.32	<b>0.91</b>	-0.11
- Availability of other ingredients	<b>0.77</b>	0.49	-0.05	<b>0.83</b>	0.44
- Price of other ingredients	<b>0.83</b>	0.42	0.08	<b>0.79</b>	0.42
<b>B. The differences in the 'small' group</b>					
<b>Index two: 'Soybean availability and time of purchase'</b>					
- Availability of soybean	0.09	<b>0.78</b>	-0.28		
- Time when purchasing soybean	0.17	<b>0.92</b>	0.17		
<b>Index three: 'Soybean price consciousness'</b>					
- Price of soybean	-0.11	-0.07	<b>0.95</b>		
<b>C. The differences in the 'medium to large' group</b>					
<b>Index two: 'Soybean perceptions'</b>					
- Availability of soybean				0.26	<b>0.72</b>
- Time when purchasing soybean				0.36	<b>0.69</b>
- Price of soybean				-0.07	<b>0.82</b>
<b>Variance explained (%)</b>	46.20	22.86	15.31	52.66	20.09

Note:

<sup>(a)</sup> Kediri tofu processors using less than 50 Kg of soybean per day<sup>(b)</sup> Kediri tofu processors using 50 Kg or more of soybean per day

availability of soybean and time when purchasing soybean, and an excellent level of correlation with the availability and price of other ingredients. Index two was explained with the similar pattern to index one (see Table 7.1).

#### **7.1.2.1 Perceptions about the raw materials used for Kediri tofu by the 'small' and the 'medium to large' groups of food processors**

The results based on principal components factor analysis with varimax rotation showed that six tofu processor perception variables reduced into three indices for the 'small' group and two indices for the 'medium to large' group, respectively (see Table 7.2). These indices collectively accounted for 84% and 73% of the total variation in the six perceptions.

##### **7.1.2.1.1 Similarity perceptions about the raw materials used for Kediri tofu between the 'small' and the 'medium to large' groups**

The 'small' group of tofu processors' perceptions towards the raw materials using in Kediri tofu was similar to the 'medium to large' group, that is 'other ingredients consciousness'. This index can be interpreted as perceptions about the importance of other ingredients, including (a) quality, (b) availability, and (c) price for both groups of tofu processors. This index had factor loadings ranging from 0.77 to 0.83, indicating these three perceptions towards other ingredients (i.e. availability, quality, and price) had an excellent level of association with 'other ingredients consciousness'.

##### **7.1.2.1.2 Different perceptions about the raw materials used for Kediri Tofu between the 'small' and the 'medium to large' groups**

Two perception indices for the 'small' group of tofu processors showed differences from the 'medium to large' group. These perception indices were:

- (a) 'Soybean availability and time of purchase'
- (b) 'Soybean price consciousness'

'Soybean availability and time of purchase' represented perceptions towards the availability of soybean and time when purchasing soybean, and all were loaded

into the second index. Index two had factor loadings of 0.78 and 0.92. These factor loadings were interpreted that two perceptions (i.e. towards availability of soybean and time when purchasing soybean) had an excellent level of association with 'soybean availability and time of purchase'. Index three used the same pattern of explanation (see Table 7.2).

Whereas, one index for the 'medium to large' group tofu processors was found to be different from 'small' group and presented as 'soybean perceptions'. This index represented food processor perceptions relating to soybean availability, time when purchasing soybean, and price. The second index had factor loadings ranging from 0.69 to 0.82. This indicated that 'soybean perceptions' had a very good to an excellent level of correlation with three perceptions (i.e. towards availability of soybean, price, and time when purchasing soybean).

### **7.1.3 Perceptions towards consumers and other external factors**

Eight perception variables were subjected to factor analysis (varimax rotation). The results suggested that these eight perception variables could be represented in three indices (Table 7.3). The three indices together explained 71% of the total variation in the eight perception variables. These indices were described as:

- (a) 'Consumer characteristics and product substitutions'
- (b) 'Consumer attributes'
- (c) 'Formal institutions consciousness'

'Consumer characteristics and product substitutions' can be interpreted that the first index summarised four perceptions regarding consumer age, income, and lifestyle, and the presence of product substitutions. Factor loadings ranged from 0.59 to 0.86, indicating a good to an excellent level of correlation between these four perceptions with 'consumer characteristics and product substitutions'. Index two and three were use a similar pattern of explanation.



**Table 7.3** Factor loading patterns of tofu processor perceptions towards consumers and other external factors (varimax rotation)

Tofu processor perceptions	Factor loadings		
	Factor1	Factor2	Factor3
<b>Index one: 'Consumer characteristics and product substitutions'</b>			
- Consumer's age	<b>0.59<sup>(a)</sup></b>	-0.13	0.50
- Consumer's income	<b>0.82</b>	0.21	0.00
- Consumer's lifestyle	<b>0.86</b>	0.10	0.04
- Presence of product substitutions	<b>0.80</b>	0.04	0.09
<b>Index two: 'Consumer attributes'</b>			
- Consumer's preference	-0.10	<b>0.84</b>	0.28
- Consumer's habits	0.22	<b>0.78</b>	-0.25
- Consumer's loyalty	0.29	<b>0.59</b>	-0.50
<b>Index three: 'Formal institutions consciousness'</b>			
- Existence of formal institutions	0.17	0.03	<b>0.85</b>
<b>Variance explained (%)</b>	35.05	22.91	12.96

Note:

<sup>(a)</sup> See Table 4.1**Table 7.4** Factor loading patterns of perceptions towards consumers and other external factors by the 'small' and the 'medium to large' groups (varimax rotation)

Tofu processor perceptions	'Small' group <sup>(a)</sup>		'Medium to large' group <sup>(b)</sup>	
	Factor loadings		Factor loadings	
	Factor1	Factor2	Factor1	Factor2
<b>A. The similarity among groups of tofu processors</b>				
<b>Index two: 'Consumer attributes'</b>				
- Consumer's preference	-0.11	<b>0.58<sup>(d)</sup></b>	0.04	<b>0.69</b>
- Consumer's habits	0.24	<b>0.91</b>	0.13	<b>0.75</b>
- Consumer's loyalty	0.01	<b>0.78</b>	0.16	<b>0.78</b>
<b>B. The differences in the 'small' group</b>				
<b>Index one: 'Consumer characteristics and product substitutions'</b>				
- Consumer's age	<b>0.56</b>	-0.51		
- Consumer's income	<b>0.79</b>	0.09		
- Consumer's lifestyle	<b>0.83</b>	0.19		
- Presence product substitutions	<b>0.72</b>	-0.18		
<b>C. The differences in the 'medium to large' group</b>				
<b>Index one: 'Uncertainty perceptions'</b>				
- Consumer's age			<b>0.75</b>	-0.16
- Consumer's income			<b>0.74</b>	0.42
- Consumer's lifestyle			<b>0.83</b>	0.12
- Product substitutions			<b>0.73</b>	0.31
- Existence of formal institutions <sup>(c)</sup>			<b>0.64</b>	0.13
<b>Variance explained (%)</b>	31.87	29.95	41.53	17.99

Note:

<sup>(a)</sup> Kediri tofu processors using less than 50 Kg of soybean per day<sup>(b)</sup> Kediri tofu processors using 50 Kg or more of soybean per day<sup>(c)</sup> Excluded from factor analysis procedure since this variable did not fit the factor analysis model of the 'small' group<sup>(d)</sup> See Table 4.1

### **7.1.3.1 Perceptions towards consumers and other external factors by the 'small' and the 'medium to large' groups of tofu processors**

The data, when categorised by the type of tofu processors showed that eight tofu processor perceptions could be summarised into two indices using a principal components factor analysis with varimax rotation (see Table 7.4). These two indices accounted for 62% and 60% of the total variation for the 'small' and the 'medium to large' groups, respectively. These indices had similarity and differences between the 'small' and the 'medium to large' groups of tofu processors.

#### **7.1.3.1.1 Similarity perceptions towards consumers and other external factors among the 'small' and the 'medium to large' groups of tofu processors**

'Consumer attributes' indicated to be similar among groups of tofu processors. It explained that this index represented perceptions about the importance of consumer's preferences, habits, and loyalty for the 'small' and 'medium to large' groups of tofu processors. Factor loadings ranged from 0.58 to 0.91 and from 0.69 to 0.78 for the 'small' and the 'medium to large' groups of food processors, respectively. The three perceptions indicated a good to an excellent level of association (the 'small' group), and an excellent level of correlation (the 'medium to large' group) with 'consumer attributes'.

#### **7.1.3.1.2 Different perceptions towards consumers and other external factors for the 'small' and the 'medium to large' groups of tofu processors**

'Consumer characteristics and product substitutions' for the 'small' group tofu processors was found to be different from the 'medium to large' group. This index was represented by four perceptions about the importance of consumer age, income, and life style, and presence of product substitution. Factor loadings ranged from 0.56 to 0.83. These factor loadings showed good to an excellent level of association between these four perceptions and 'consumer characteristics and product substitutions'.



There was 'uncertainty perceptions' (index one) for the 'medium to large' group of tofu processors that was different from the 'small' group. The first index of the 'medium to large' group of food processors represented collectively perceptions associated with consumer attributes (i.e. age, income, and lifestyle), the existence of product substitutions, and presence of formal institutions. This index had factor loadings ranging from 0.64 to 0.83, indicating a very good to an excellent level of association between these four perceptions and 'uncertainty perceptions'.

## **7.2 Processing strategies used by tofu processors**

Two out of the eight processing strategies adopted by tofu processors, namely using the local and imported soybean types and the use of manual technique in forming tofu strategy, were selected (see Appendix-8). Among the 'small' and the 'medium to large' groups, the proportion of food processors that adopted a combination between local and imported soybean types strategy was significant ( $\chi^2 = 10.12$ ,  $p < 0.0001$ ), while the use of manual technique in forming tofu strategy was non significant ( $p > 0.15$ ) (Table 7.5). This result failed to reject the hypothesis 7.1 that tofu processors differ in processing strategies. The combination between local and imported soybeans was used by 74% of tofu processors and 26% of them used local soybean type only. This may be due to the fact that the imported soybean was characterised with high quality in terms of cleanliness and size, but it was more expensive than the local soybean. On the other hand, the price of local soybean is cheaper than imported soybean. In addition, the characteristics of local soybean, such as the flavour are a factor in the preference of the food processors when selecting this soybean. Food processors intended to buy this product and combine it with local soybean to obtain a high quality Kediri tofu product.

However, using manual technique in forming tofu strategy did not difference between the 'small' and the 'medium to large' groups of tofu processors. This can be explained on the following premises. Firstly, the use of manual technique despite machine technique in forming tofu did not much influence on processing strategies, since this strategy have been used for a long time to produce tofu. Secondly, using manual

**Table 7.5 Percentage of processing strategies used by tofu processors**

Processing strategies	General (%)		'Small' group(%) <sup>(a)</sup>		'Medium to large' group(%) <sup>(b)</sup>		Chi-square value (X <sup>2</sup> )
	Yes	No	Yes	No	Yes	No	
- Using local and imported soybean types <sup>(c)</sup>	74.42	25.58	77.78	22.22	72	28	10.11*****
- Using manual technique in forming tofu <sup>(d)</sup>	79.07	20.93	94.44	5.56	68	32	0.37

Note:

<sup>(a)</sup> Kediri tofu processors using less than 50 Kg of soybean per day

<sup>(b)</sup> Kediri tofu processors using 50 Kg or more of soybean per day

<sup>(c)</sup> 'No' means using local soybean type.

<sup>(d)</sup> 'No' means using machine technique or combination between manual and machine techniques in forming tofu

\*\*\*\*\*p<0.0001.

**Table 7.6 Factors associated with the processing strategies used by tofu processors**

Parameter	Processing strategies			
	A 'combined soybean' strategy		Manual technique in forming tofu strategy	
	Estimate	Odds Ratio	Estimate	Odds Ratio
Intercept	-0.48		6.00	
- 'Soybean and other ingredients'	-0.35	0.70	-0.03	0.97
- 'Soybeans price consciousness'	-0.91*****	0.40	0.83*	2.29
- Food processor's age	-0.09	0.91	-1.73**	0.18
- The number of males in the household	0.30	1.35	-0.49	0.61
- Number of female workers	0.86***	2.36	-1.47*****	0.23
X <sup>2</sup> (Score)	13.55		32.13	
% Correct prediction	70.9		87.2	
N	86		86	

Note:

\*\*\*\*\*p<0.001; \*\*\*\*p<0.005; \*\*\*p<0.05; \*\*p<0.1; \*p<0.15.

technique in forming tofu may result in tofu with a better taste than when using a machine. Thirdly, the price of machine used in forming tofu is expensive; hence the 'small' and the 'medium to large' groups of food processors could not afford it.

### **7.2.1 Factors explaining the processing strategies used by tofu processors**

A logistic regression method was used to analyse a 'combined soybean' strategy and the manual technique in forming tofu strategy. These two processing strategies were separately regressed with three sets of variables: perceptions about raw materials, personal characteristics, and socio-economic variables. The results suggested that two and three predictor variables show significance ( $p < 0.15$ ) in relation to adopting a 'combined soybean' strategy, and the manual technique in forming tofu strategy, respectively (Table 7.6).

#### ***'Soybean price consciousness'***

This variable was negatively associated with adopting the 'combined soybean' strategy and it had a positive association with applying of the manual technique in forming tofu strategy. This finding failed to reject hypothesis 7.1.1 for the second processing strategy, and it rejected this hypothesis for the first processing strategy. This suggests that a 10% improvement in perceptions related to soybean price, would have a corresponding 8.65% increase in the likelihood of adopting the manual technique in forming tofu strategy, while it would have a corresponding 8.70% decrease in the likelihood of the using of the 'combined soybean' strategy, when other variables are held constant. Adopting of the manual technique in forming tofu strategy increased as food processors perceived the importance of soybean price. The quantity of tofu product had a high dependence on the price of soybean. In addition, the imported soybean was characterised with high quality in terms of cleanliness and size, but was more expensive than the local soybean. However, tofu processor still selected local soybean types as raw materials for Kediri tofu. The local soybean price is lower compared to the imported soybean price. Other characteristics of local soybean, such as the flavour can influence the food processor when selecting this

soybean. Hence, tofu processors used a combination between local and imported soybean types to meet a good quality tofu product.

### ***Number of female workers***

This variable was positively associated with adopting the 'combined soybean' strategy and it was negatively related to the using of the manual technique in forming tofu strategy. This can be interpreted that, after controlling all other variables, a 10% increase in the number of female workers, would have a corresponding 8.98% increase in the former processing strategy and 13.67% decrease in the later of processing strategy. With regards to adopting of the manual technique in forming tofu strategy, the numerous activities were taken place between the raw product and production of the final product. Most of the tofu processing activities such as cooking soybean porridge, stirring soybean porridge, and pressing to form the tofu, were performed by male workers as these stages of processing were demanded the physical work. In addition, using the 'combined soybean' strategy improved with the presence of female workers as more females are required for preparing soybean (i.e. cleaning soybean from gravel) for processing Kediri tofu.

### ***Food processor's age***

This variable was negatively related to adopting of the manual technique in forming tofu strategy. It is estimated that younger (aged less than 40 years) tofu processors were 0.18 times less likely to engage this processing strategy. Alternatively, older tofu processors (aged 40 years and more) were more likely to adopt the manual technique in forming tofu strategy. Other research such as Grijns *et al.* (1994) also found small enterprises usually had to access to simple technology. The finding also implies that older tofu processors were less likely to use machine technique as they could not afford the expensive price of the machine for forming tofu. While the stage of pressing to form tofu that regarded as physical work, may be more appropriate for the younger people. Therefore, older food processors preferred to hire labourers for such work since this stage of tofu processing would improve in the tofu productivity as a whole. In addition, the 'medium to large' group of food processors processed 50 Kg

and beyond of soybean, they were unable to do by their own. Hired workers may be needed to actively participate in the tofu processing, thus increasing the optimisation in tofu processing. In addition, older food processors with longer experience in processing tofu may also have a strong influence on using of manual technique in forming tofu. Adopting this strategy may result on the better taste of tofu product than using machine technique.

## **7.2.2 Types of processing strategies used by the 'small' and the 'medium to large' groups of tofu processors**

When, tofu processors were categorised into groups, two (for the 'small' group) and five (for the 'medium to large' group) out of eight processing strategies were selected as representative of processing strategies used by groups of tofu processors (see Appendix-8). The selected processing strategies for both group food processors were grouped by factor analysis.

However, the two selected processing strategies for the 'small' group of tofu processors, namely used of : (a) local and imported soybean types strategy, and (b) other ingredients strategy, did not fit the factorial models (see Appendix-9). Therefore, tofu processors separately used those two processing strategies. For the 'medium to large' group of food processors, five selected processing strategies, involving the use of : (a) local and imported soybean types, (b) the hearth for cooking soybean porridge, (c) manual technique for stirring soybean porridge, (d) manual technique for forming tofu, and (e) manual technique for packaging tofu, were used in the factor analysis.

### **7.2.2.1 Factor analysis of the processing strategies used by the 'medium to large' group of tofu processors**

Principal components factor analysis showed that the five processing strategies used by the 'medium to large' groups, could be represented by one index (Table 7.7). This index accounted for 79% of the total variation in the five processing strategies. This index was represented by the 'combined soybean and manual techniques strategies'.

**Table 7.7** Factor loading patterns of processing strategies used by the 'medium to large' group of tofu processors

Processing strategies	Factor loadings
	Factor1
<b>Index one: 'Combined soybean and manual techniques strategies'</b>	
- Using local and imported soybean types	0.51 <sup>(a)</sup>
- Using hearth for cooking soybean porridge	0.96
- Using manual technique for stirring soybean porridge	0.98
- Using manual technique for forming tofu	0.92
- Using manual technique for packaging tofu	0.98
<b>Variance explained (%)</b>	78.61

Note:

<sup>(a)</sup> See Table 4.1**Table 7.8** Factors associated with processing strategies used by the 'small' and the 'medium to large' groups of tofu processors

Parameter	Processing strategies				
	'Small' group <sup>(a)</sup>				'Medium to large' group <sup>(b)</sup>
	A 'combined soybean' strategy <sup>(c)</sup>		Other ingredients strategy <sup>(c)</sup>		'Combined soybean and manual techniques strategies' <sup>(d)</sup>
	Estimate	Odds ratio	Estimate	Odds ratio	Estimate
Intercept	-1.36		3.30		1.93
- 'Other ingredients consciousness' <sup>(e)</sup>	2.26**	9.58	2.02***	7.56	
- 'Soybean availability and time of purchase' <sup>(f)</sup>	0.41	1.51	0.44	1.55	
- 'Soybean perceptions' <sup>(g)</sup>					0.23***
- Food processor's age	-0.62	0.54	1.22	3.39	-0.21
- Food processor's education	0.57	1.77	-2.35**	0.10	-0.52**
- The number of males in the household	1.85***	6.36	-0.07	0.94	-0.23***
- Number of female workers <sup>(h)</sup>					-0.23*****
- Working capital <sup>(i)</sup>					-0.51**
X2 (Score)	13.27		13.52		
% Correct prediction	72.20		77.80		
R <sup>2</sup> (adjusted)					0.53
F value					10.23
N	36		36		50

Note:

<sup>(a)</sup> Kediri tofu processors using less than 50 Kg of soybean per day<sup>(b)</sup> Kediri tofu processors using 50 Kg or more of soybean per day<sup>(c)</sup> Using logistic regression model of processing strategies for the 'small' group of tofu processors.<sup>(d)</sup> Using multiple regression model of processing strategies for the 'medium to large' group of tofu processors.<sup>(e)</sup> This variable had a high correlation with working capital (Appendix-6.2).<sup>(f)</sup> Perceptions about raw materials for 'the small' group only.<sup>(g)</sup> Perceptions about raw materials for the 'medium to large' group only.<sup>(h), (i)</sup> These variables had a high correlation with food processor's age (see Appendix-6.1).

\*\*\*\*\*p&lt;0.0001; \*\*\*p&lt;0.01; \*\*p&lt;0.05; \*p&lt;0.1

Index one represented using of (a) local and imported soybean types, (b) the hearth for cooking soybean porridge, (c) manual technique for stirring soybean porridge, (d) manual technique for forming tofu, and (e) manual technique for packaging tofu. This index had factor loadings ranging from 0.51 to 0.98, indicating a fair to an excellent level of correlation between these five processing strategies and the 'combined soybean and manual techniques strategies'.

### **7.2.3 Factors associated with the processing strategies used by the 'small' and the 'medium to large' groups of tofu processors**

Logistic regression methods were conducted for two processing strategies used by the 'small' group of food processors, (a) a 'combined soybean' strategy, and (b) other ingredients strategy, since these processing strategies used dummy variables. While, multiple regression procedures were carried out for processing strategy used by the 'medium to large' group of food processors, that is the 'combined soybean and manual techniques strategies' (obtained from factor analysis), because this processing strategies were a continuous variable. The processing strategies for the 'small' and the 'medium to large' groups were separately regressed with three sets of predictor variables: (a) perceptions related to raw materials, (b) personal characteristics, and (c) socio-economic variables. The following section presented the results of the logistic analyses.

Two processing strategies used by the 'small' group of tofu processors included firstly, a 'combined soybean' strategy suggested those two out of five variables had a significant ( $p < 0.10$ ) influence on adopting this processing strategy (Table 7.8). Secondly, the implementation of other ingredients strategy was significantly ( $p < 0.10$ ) associated with two variables (Table 7.8).

Processing strategy used by the 'medium to large' group of tofu processors was the 'combined soybean and manual techniques strategies'. Regression results indicated that 53% of the variation in this processing strategy could be attributed to variations in the six variables. Five variables showed to be significantly ( $p < 0.10$ ) in association with employing of this processing strategy (Table 7.8).



### **7.2.3.1 Similarity factors explaining the processing strategies for the 'small' and the 'medium to large' groups of tofu processors**

Two variables had a significance influence on processing strategies for both groups of tofu processors. They were:

#### ***Food processor's education***

Education was negatively associated with processing strategies used by the 'small' and the 'medium to large' groups. Food processors who have a high education (secondary schools and beyond) level were 2.35 times less likely to use other ingredients strategy and it was 0.52 units decrease in adopting of the 'combined soybean and manual techniques strategies'. It indicated that well educated food processors were less likely to implement these processing strategies. This is because of food processor experience in using the 'mixed processing strategies' may more important than their education level. Food processor may have a good vision in terms of enhancing processing strategy to yield a good quality product. Using a combination between local and imported soybeans can result in the good quality tofu products. Also, using of manual techniques in processing stages of Kediri tofu may result in tofu with good taste than using machine techniques. Finally, applying of this processing strategy, perhaps, could be used to produce a competitive product quality.

#### ***The number of males in the household***

This variable was positively related to adopting of the 'combined soybean' strategy, whereas it had a negative association with using of the 'combined soybean and manual techniques strategies'. Other variables are held constant, a 10% increase of the number male household members would have a corresponding 20.32% improvement in adopting of the 'combined soybean' strategy for the 'small' group of food processors. Whereas, a unit increase of male household members, would reduce 0.23 units in employing of the 'combined soybean and manual techniques strategies' for the 'medium to large' group of food processors. For the 'small' group, the presence of male household members was needed to assist in processing strategy, since they had a low

working capital. Also, the recruitment of male family members can save cost for hired labour in processing strategy. For the 'medium to large' group, male family members may have other activities, still in schools aged, and employed in other occupations. Also, they may be unable involved in the processing strategy process since they have no skill on processing tofu. In addition, as the 'medium to large' group of food processors processed a lot amount of soybean (50 Kg and more), they need more workers in processing tofu. Hence, not only male household members, but also using hired labour may be involved in processing activities.

### **7.2.3.2 Different factors explaining the processing strategies used by the 'small' and the 'medium to large' groups of tofu processors**

1. The 'other ingredients consciousness' influenced the adoption of the two processing strategies for the 'small' group of food processors.

#### ***'Other ingredients consciousness'***

This variable had a positive relationship to adopting the 'combined soybean' strategy and the use of other ingredients strategy. A 10% improvement in these perceptions would have a corresponding 25.36% and 22.38% increase in these two processing strategies, respectively, when other factors are held constant. This evidence revealed that as tofu processors perceive the importance of other ingredients (i.e. quality, availability and price), they would increase in adopting a 'combined soybean' strategy and the use of other ingredients strategy. This is because processing tofu involved not only the main raw materials (i.e. soybean) but also other ingredients (i.e. vinegar and spices) had the potential contribution to final product of Kediri tofu. Brown *et al.* (1994) noted that the role of the raw material supply is important particularly in governing the product to be marketed. The good quality of other ingredients can contribute to the good quality of tofu produced. It might help food processors in the offering of good quality tofu.

2. For the 'medium to large' group tofu processors, three variables had a significance association with processing strategies as follows:

### ***'Soybean perceptions'***

This variable was positively associated with adopting of the 'combined soybean and manual techniques strategies'. This finding failed to reject hypothesis 7.1.2, in that, there is a positive association between soybean and this processing strategy. A unit increase perceptions related to the importance of soybean (availability, time in buying, and price), would have a corresponding 0.23 units increase in applying this processing strategy, if other factors are held constant. The evidence revealed that food processors perceived importance of availability soybean, time when purchasing soybean and price together as having control over this processing strategy. Both soybean types were always available when food processors want to purchase. The price of local soybean was lower than the imported soybean. However, the imported soybean was recognised as having good quality than local soybean type. In order to achieve a good quality of tofu product, more (74%) food processors used a combination between local and imported soybean types to produce good quality Kediri tofu. In addition, the use of manual techniques in processing tofu might be related to tofu product with better taste.

### ***The number of female workers***

This variable assigned a negative relationship to adopting the 'combined soybean and manual techniques strategies'. It can be interpreted that the unit increase in the number of female workers would result in 0.23 units reduction in applying this processing strategy. The study demonstrated that the presence of female workers had a small role in influencing this processing strategy among the 'medium to large' group of food processors. The reasons were similar to section 7.2.1 above in the sub-section on the number of female workers.

### ***Working capital***

This variable had a negative association with adopting of the 'combined soybean and manual techniques strategies'. It estimated that the 'medium to large' group of tofu

processors possessing high working capital (Rp. 200, 000, - and more) would have 0.51 units decreasing in using this processing strategy. Adopting this processing strategy was less likely influenced by a high working capital. This finding is at variance to the theory that procurement activities are essential in determining the major cost of the agro-industry and significant when considering its socio-economic benefits (Austin, 1992). This is due to the high expenses for daily tofu production, such as purchasing of 50 Kg and more of soybean was easy to obtain as this raw main materials were routinely supplied by the soybean traders with or without prior payment. Therefore, tofu processors can use their availability of working capital to meet the additional expenditure (i.e. hired labour, gas or fire wood, and other ingredients for tofu) to keep the continuity in daily for operating their enterprise. In addition, tofu processors did not allocate working capital for the cost of maintaining machine as they possessed the manual techniques in processing tofu.

### **7.3 Marketing strategies used by tofu processors**

Results showed that eight out of sixteen marketing strategies (based on the optimum frequency range between 20%-80%) were selected as representative of marketing strategies used by tofu processors (see Appendix-8). The results failed to reject hypothesis 7.2, particularly for offering of (a) a variety of tofu choice ( $\chi^2 = 5.03$ ,  $p < 0.005$ ), (b) packaging ( $\chi^2 = 15.38$ ,  $p < 0.0001$ ), (c) the branch name ( $\chi^2 = 2.20$ ,  $p < 0.15$ ), (d) word of mouth ( $\chi^2 = 3.58$ ,  $p < 0.1$ ), (e) a convenient place ( $\chi^2 = 3.71$ ,  $p < 0.05$ ), and (f) the longest time daily for selling tofu ( $\chi^2 = 7.40$ ,  $p < 0.01$ ) (Table 7.9).

For those selected marketing strategies, seven marketing strategies, namely offering of (a) a low price, (b) packaging, (c) the branch name, (d) advertisements, (e) word of mouth, (f) a convenient place, and (g) the longest duration of time daily for selling tofu, were grouped by principal components factor analysis. While, only the offering of a variety of tofu choice was excluded from factorial analysis, since this strategy did not fit the factorial model for marketing strategies used by tofu processors.

**Table 7.9 Percentage of marketing strategies used by tofu processors**

Marketing strategies	General(%)		'Small' group(%) <sup>(a)</sup>		'Medium to large' group(%) <sup>(b)</sup>		Chi-square value (X <sup>2</sup> )
	Yes	No	Yes	No	Yes	No	
- Offering of a variety of tofu choice	55.81	44.19	41.67	58.33	66	34	5.03***
- Offering of a low price	66.28	33.72	58.33	41.67	72	28	1.75
- Use of packaging	27.91	72.09	5.56	94.44	44	56	15.38*****
- Using the branch name	27.91	72.09	19.44	80.56	34	66	2.20*
- Using advertisements	22.09	77.91	16.67	83.33	26	74	1.06
- Using word of mouth	39.53	60.47	27.78	72.22	48	52	3.58**
- Offering a convenient place	72.09	27.91	61.11	38.89	80	20	3.71***
- Offering the longest duration of time daily for selling tofu	36.05	63.95	19.44	80.56	48	52	7.40****

Note:

<sup>(a)</sup> Kediri tofu processors using less than 50 Kg of soybean per day<sup>(b)</sup> Kediri tofu processors using 50 Kg or more of soybean per day

\*\*\*\*\*p&lt;0.0001; \*\*\*\*p&lt;0.005; \*\*\*p&lt;0.01; \*\*p&lt;0.05; \*p&lt;0.15.

**Table 7.10 Factor loading patterns of marketing strategies used by tofu processors (varimax rotation)**

Marketing strategies	Factor loadings	
	Factor1	Factor2
<b>Index one: 'Promotional tools and convenience strategies'</b>		
- Offering of a packaging	<b>0.69<sup>(a)</sup></b>	-0.09
- Using the branch name	<b>0.84</b>	0.34
- Using advertisements	<b>0.81</b>	0.37
- Offering of a convenient place	<b>0.62</b>	-0.24
- Offering of longest time daily for selling tofu	<b>0.53</b>	0.42
<b>Index two: 'Word of mouth and a low price strategies'</b>		
- Using word of mouth	0.18	<b>0.77</b>
- Offering a low price	-0.11	<b>0.77</b>
<b>Variance explained (%)</b>	41.29	19.09

Note:

<sup>(a)</sup> See Table 4.1

### 7.3.1 Factor analysis of the marketing strategies used by tofu processors

The results based on principal components factor analysis (using varimax rotation) showed that seven marketing strategies were summarised into two indices (Table 7.10). The two indices collectively accounted for 60% of the total variation in the seven marketing strategies as presented in the following sections.

(a) 'Promotional tools and convenience strategies'

(b) 'Word of mouth and a low price strategies'

'Promotional tools and convenience strategies' can be interpreted that five marketing strategies, namely offering (a) the longest of time daily for selling tofu, (b) packaging, (c) the branch name, (d) advertisements, and (e) a convenient place, collectively, were loaded into the first index. This index had factor loadings ranging from 0.53 to 0.84, indicating a fair to an excellent level of association between these four marketing strategies and 'promotional tools and convenience strategies'. Index two used a similar pattern explanation as the first index.

#### 7.3.1.1 Factors associated with marketing strategies used by tofu processors

There were three marketing strategies of tofu processors namely, (a) a variety of tofu choice strategy, (b) 'promotional tools and convenience strategies', and (c) 'word of mouth and a low price strategies' (b and c were obtained from factor analysis). Logistic regression methods were used to analyse the offering of a variety of tofu choice strategy only, since this marketing strategy was a dummy variable. The other two marketing strategies were analysed by using multiple regression procedures, because these marketing strategies were a continuous variable. All marketing strategies were separately regressed with three sets of predictor variables: (a) perceptions related to consumers and other external variables, (b) food processor characteristics, (c) socio-economics variables. The results of the analyses were presented in the following paragraphs.

Firstly, the results of logistic regression showed that all parameter estimates of the model together, have no influence on the offering of a variety of tofu choice strategy, because the Chi-square score was insignificant ( $p > 0.15$ ) in explaining this marketing strategy (Table 7.11). It means that the offering of a variety of tofu choice strategy did not differ among food processors. This is due to food processors offered the similar variations of this food (i.e. small, medium, and big size of Kediri tofu). Secondly, regression results revealed that six predictor variables accounted for 53% of the variance in offering of the 'promotional tools and convenience strategies'. This showed that three variables were found to be significantly ( $p < 0.01$ ) in association with applying of this marketing strategy (Table 7.11). Thirdly, the offering of the 'word of mouth and a low price strategies' indicated that six variables as a group explain 18% of the variability in this marketing strategy. Three variables were significantly ( $p < 0.1$ ) explained this marketing strategy.

#### ***'Consumer attributes'***

This variable was negatively associated with the offering of the 'word of mouth and a low price strategies'. This finding, as a proxy of consumer characteristics, rejected hypothesis 7.2.1. An increase in these perceptions would result in 0.33 units reduction in this marketing strategy. The perceptions of importance of consumer attributes (i.e. preference, habits, and loyalty) corresponded with less diversity in this marketing strategy. Food processors presumed a loyal consumer as being repeated on the same place on all purchase occasions. This evidence was consistent to the study of Krisnamurthi *et al.* (1992) that consumer loyalty to a brand responded to gain and loss with the same sensitivity in brand choice decisions. In addition, consumer preferences and habits may not become barriers for food processors in applying this marketing strategy since this strategy relied a low price than these consumer attributes.

#### ***Food processor's age***

This variable was negatively related to the offering of the 'word of mouth and a low price strategies'. Younger (less than 40 years) tofu processors would have a reduction



**Table 7.11 Factors associated with marketing strategies used by tofu processors**

Parameter	Marketing strategies			
	A variety of tofu choice strategy <sup>(a)</sup>		'Promotional tools and convenience strategies' <sup>(b)</sup>	'Word of mouth and a low price strategies' <sup>(b)</sup>
	Estimate	Odds Ratio	Estimate	Estimate
Intercept	0.09		-0.77	-0.23
- 'Consumer attributes'	0.21	1.24	0.07	-0.33*****
- Food processor's age	0.33	1.39	0.19	-0.42**
- Food processor's education	-0.45	0.64	0.12	0.25
- The number of males in the household	-0.15	0.86	0.21****	-0.02
- Number of female workers	0.32	1.38	0.23*****	0.12***
- Place for selling tofu	0.82	2.27	-0.83*****	0.12
X <sup>2</sup> (Score)	5.47			
% Correct prediction	50			
R <sup>2</sup> (adjusted)			0.53	0.18
F value			16.91	4.06
N	86		86	86

Note:

<sup>(a)</sup> Using logistic regression procedure

<sup>(b)</sup> Using multiple regression procedure

\*\*\*\*\*p<0.0001;\*\*\*\*p<0.005; \*\*\*\*p<0.01; \*\*\*p<0.05;\*\*p<0.1.

of 0.42 units in using this marketing strategy. Although younger sellers who have more mobility in selling tofu, they were less likely offering this marketing strategy. The younger food processors may have shorter experience in selling Kediri tofu, and thus they are less consistent to rely in using this marketing strategy. Also, they were less likely to apply this marketing strategy when they thought this strategy reduced their daily income from selling tofu. On the other hand, the older tofu processors had more experience in using this marketing strategy that can increase their benefits. Moreover, using this marketing strategy can be used to compete with other food processors when selling tofu. Therefore, the offering word of mouth together with a low price was more presented by older tofu sellers.

#### ***The number of males in the household***

This variable was positively related to implementing of the 'promotional tools and convenience strategies'. An unit increase in the number of male family members, will increase 0.21 units for this marketing strategy. Male household members instead of hired workers will enhance their efficiency in labour cost. This finding confirmed a previous study in that informal traders are limited in allocating costs of equipment, production, personnel, and inventory (Arellano, 1994). Also, as a family enterprise, tofu processors may prefer to recruit family members (i.e. males) in operating their firms, when they adopted the 'promotional tools and convenience strategies'. Moreover, employing male household members might enable food processors to reduce certain costs, and therefore could meet the better profits.

#### ***The number of female workers***

This variable had a positive association with two marketing strategies, the 'promotional tools and convenience strategies' and the 'word of mouth and a low price strategies'. An unit increase of number female workers, would improve 0.23 units and 0.12 units for employing both marketing strategies, respectively. Tofu processors are willing to have female workers, particularly because of the intended use of their labour in this marketing strategy, for example in selling Kediri tofu.

Especially, for permanent or semi-permanent traders, they needed to have the more time available in waiting for their coming consumers in the tofu stalls. This type of work may be more suitable for women than men.

### ***The place of selling***

This variable was negatively associated with offering of the 'promotional tools and convenience strategies' and suggested that mobile sellers will decrease 0.83 units in conducting this marketing strategy. It means that mobile traders were less appropriate to use this marketing strategy because they sold tofu using a vehicle, such as a bicycle, or a motor cycle. In addition, time constraint that the mobile sellers had a short time in daily retailing Kediri tofu compared to tofu stalls. Also, the adoption of marketing strategy was costly, and therefore it becomes not efficient being employed by mobile sellers. The 'combined marketing strategies' (i.e. use of packaging, the branch name, advertisements, a convenient place, and the longest of time daily for selling tofu) may become appropriate for semi-permanent or permanent sellers, since they have space to promote this product and provide a convenient place for buyers.

### **7.3.2 The types of the marketing strategies used by the 'small' and the medium to large' groups of tofu processors**

Marketing strategies that has less than 80 percent of frequency (the optimum frequency range) was selected as representative of marketing strategies used by groups of tofu processors. Five (for the 'small' group) and nine (for the 'medium to large' group) out of sixteen marketing strategies were selected (see Appendix-8). The selected marketing strategies for both groups of food processors were summarised by factor analysis. For the 'small' group of tofu processors, factor analysis is for five selected marketing strategies, namely offering of (a) a fresh tofu, (b) a variety of tofu choice, (c) a low price, (d) word of mouth, and (e) a convenient selling place (Table 7.12). With regard to the 'medium to large' group, eight out of nine selected marketing strategies, including offering of (a) a low price, (b) word of mouth, (c) a convenient selling place, (d) packaging, (e) the branch name, (f) a 'halal food' label, (g) advertisements, and (i) the longest of time daily for selling tofu, were used in

**Table 7.12 Factor loading patterns of marketing strategies used by the 'small' and the 'medium to large' groups (varimax rotation)**

Marketing strategies	'Small' group <sup>(a)</sup>			'Medium to large' group <sup>(b)</sup>	
	Factor loadings			Factor loadings	
	Factor1	Factor2	Factor3	Factor1	Factor2
<b>A. The 'small' group of tofu processors</b>					
<b>Index one: 'Fresh, a low price, and word of mouth strategies'</b>					
- Offering of a fresh Kediri tofu	<b>0.88<sup>(c)</sup></b>	0.11	0.00		
- Offering of a low price	<b>0.90</b>	-0.11	0.08		
- Using word of mouth	<b>0.57</b>	-0.69	0.09		
<b>Index two: 'A convenient selling place strategies'</b>					
- Offering of a convenient selling place	0.16	<b>0.91</b>	-0.14		
<b>Index three: 'A variety of tofu choice strategies'</b>					
- Offering of a variety of tofu choice	0.06	-0.14	<b>0.99</b>		
<b>B. The 'medium to large' group of tofu processors</b>					
<b>Index one: 'Promotional tools and a convenient selling place strategies'</b>					
- Using word of mouth				<b>0.52</b>	0.28
- Use of packaging				<b>0.78</b>	-0.34
- Using a branch's name				<b>0.87</b>	0.05
- Using a 'halal food' label				<b>0.93</b>	0.12
- Using advertisements				<b>0.94</b>	0.08
- Offering of a convenient place for selling tofu				<b>0.39</b>	0.24
<b>Index two : 'Time of selling and a low price strategies'</b>					
- Offering of the longest time daily for selling tofu				0.40	<b>0.75</b>
- Offering of a low price				-0.17	<b>0.83</b>
<b>Variance explained (%)</b>	41.85	27.53	16.02	47.29	18.26

Note:

<sup>(a)</sup> Kediri tofu processors using less than 50 Kg of soybean per day<sup>(b)</sup> Kediri tofu processors using 50 Kg or more of soybean per day<sup>(c)</sup> See Table 4.1

factor analysis (Table 7.12). Only the offering a variety of tofu choice, was excluded from factorial analysis, because this marketing strategy did not fit the factorial models of marketing strategies for the 'medium to large' group of tofu processors.

### **7.3.2.1 Factor analysis of the marketing strategies for the 'small' group of tofu processors**

Principal components factor analysis with varimax rotation showed that five marketing strategies, could be represented by three indices (Table 7.12). The three indices collectively accounted for 69% of the total variation in the five marketing strategies. The three marketing strategy indices were characterised as:

- (a) 'Fresh, a low price, and word of mouth strategies'
- (b) 'A convenient selling place strategies'
- (c) 'A variety of tofu choice strategies'

'Fresh, a low price, and word of mouth strategies' explained three marketing strategies, namely offering of (a) a fresh tofu, (b) a low price, and (c) word of mouth, and all were summarised into the first index. This index had factor loadings ranging from 0.57 to 0.88, suggesting these three marketing strategies had a good to an excellent level of correlation with 'fresh, a low price, and word of mouth strategies'. Index two and index three used the similar pattern of explanation (see Table 7.12).

### **7.3.2.2 Factor analysis of the marketing strategies for the 'medium to large' group of tofu processors**

Eight marketing strategies were subjected to factor analysis (varimax rotation). The results exhibited that the seven marketing strategies for the 'medium to large' group of food processors, were represented into two indices, which collectively explained 66% of the total variation in the marketing strategies (Table 7.12). The two indices were described as:

- (a) 'Promotional tools and a convenient selling place strategies'
- (b) 'Time of selling and a low price strategies'

'Promotional tools and a convenient selling place strategies' explained six marketing strategies, involving offering of (a) word of mouth, (b) packaging, (c) the branch name, (d) a 'halal food' label, (e) advertisements, and (f) a convenient selling place, and together were loaded into the first index. This index had factor loadings ranging from 0.39 to 0.94, indicating that the 'promotional tools and a convenient selling place strategies' showed a poor to an excellent level of association with these six marketing strategies. Second index was interpreted with the similar pattern as index one.

### **7.3.3 Factors influencing the marketing strategies used by the 'small' and the 'medium to large' groups of tofu processors**

The 'small' group of tofu processors offered a 'mixed marketing strategies' (obtained from the factor analysis procedure), namely (a) the 'fresh, a low price, and word of mouth strategies', (b) 'a convenient selling place strategies', and (c) 'a variety of tofu choice strategies'. While, the offering of (a) a variety of tofu choice strategy, (b) the 'promotional tools and a convenient selling place strategies', and (c) 'time of selling and a low price strategies' were marketing strategies for the 'medium to large' group of tofu processors (b and c were extracted using the factor analysis method).

Logistic regression methods were used to analyse the offering of a variety of tofu choice strategy, since this marketing strategy was a dummy variable. The other five marketing strategies were analysed by multiple regression procedures, because these marketing strategies were a continuous variable. All six marketing strategies for the 'small' and the 'medium to large' groups were separately regressed with three sets of predictors: (a) perceptions towards consumers and other external variables, (b) food processor characteristics, and (c) socio-economic variables.

The results for analyses of marketing strategies for the 'small' group of tofu processors showed that 28% of the variation of the offering of the 'fresh, a low price, and word of mouth strategies' were explained by six variables. Of those predictors, two variables were found to be significantly ( $p < 0.05$ ) in association with this marketing strategy (Table 7.13). Also, about 38% variability in applying 'a convenient selling place strategies' was predicted by six variables. Three variables were found to be

**Table 7.13 Factors associated with marketing strategies used by the 'small' and the 'medium to large' groups of tofu processors**

Parameter	'Small' group <sup>(a)</sup>			'Medium to large' group <sup>(b)</sup>			
	Marketing strategies			Marketing strategies			
	'Fresh, a low price, and word of mouth strategies' <sup>(c)</sup>	'A convenient selling place strategies' <sup>(c)</sup>	'A variety of tofu choice strategies' <sup>(c)</sup>	A variety of tofu choice strategy <sup>(d)</sup>		'Promotional tools and a convenient selling place strategies' <sup>(c)</sup>	'Time of selling and a low price strategies' <sup>(c)</sup>
	Estimate	Estimate	Estimate	Estimate	Odds Ratio	Estimate	Estimate
Intercept	-1.26	-0.42	-0.85	4.21		-1.96	-1.10
- 'Consumer attributes'	-0.38***	0.52*****	-0.05	0.70**	2.02	-0.07	0.18
- Food processor's age	0.20	0.72***	0.70	-0.53	0.59	0.38**	-0.08
- Food processor's education	0.12	-0.10	-0.04	-1.54*	0.22	0.30	0.16
- The number of females in the household <sup>(e)</sup>	0.08	0.08	0.16				
- The number of males in the household <sup>(f)</sup>				-0.14	0.87	0.33*****	0.07
- Number of female workers <sup>(g)</sup>				0.58***	1.79	0.23*****	-0.00
- Number of male workers <sup>(h)</sup>	0.50****	0.16	0.05				
- Working capital <sup>(i)</sup>				-3.40***	0.03	0.40*	1.10****
- Place for selling tofu <sup>(j)</sup>	0.19	-0.41**	0.43				
X <sup>2</sup> (Score)				11.10			
% Correct prediction				66			
R <sup>2</sup> (adjusted)	0.28	0.38	0.01			0.51	0.16
F value	3.26	4.63	1.04			9.43	2.59
N	36	36	36	50		50	50

Note:

<sup>(a)</sup> Kediri tofu processors using less than 50 Kg of soybean per day<sup>(b)</sup> Kediri tofu processors using 50 Kg or more of soybean per day<sup>(c)</sup> Using multiple regression procedure for the 'small' group food processors.<sup>(d)</sup> Using logistic regression procedure for the 'medium to large' group food processors.<sup>(e)</sup> This variable is represented by the number of males in the household.<sup>(f)</sup> This variable had a high correlation with the number of females in the household (see Appendix-7.1)<sup>(g)</sup> This variable had a high correlation with three variables: number of male workers, food processor's age, and the place for selling tofu (see Appendix-7.1).<sup>(h)</sup> This variable had a high correlation with three variables, number of female workers, 'consumer attributes', and working capital (see Appendix-7.2).<sup>(i)</sup> This variable had a high correlation with four variables, number of female workers, number of male workers, food processor's age, and the place for selling tofu (see Appendix-7.1).<sup>(j)</sup> This variable had a high correlation with 'consumer attributes' (see Appendix-7.2).

\*\*\*\*\*p&lt;0.0001; \*\*\*\*p&lt;0.005; \*\*\*p&lt;0.01; \*\*p&lt;0.05; \*p&lt;0.1; p&lt;0.15.

significantly ( $p < 0.1$ ) associated with this marketing strategy. With regard to the offering of 'a variety of tofu choice strategies', it showed that six predictors accounted for only 1% of the variance in this marketing strategy. It means that all six predictor variables were not significantly related to this marketing strategy. Therefore, the use of 'a variety of tofu choice strategies' did not differ among the 'small' group of tofu processors.

For the 'medium to large' group of tofu processors, firstly, the use of a variety of tofu choice strategy suggested that four variables were significantly ( $p < 0.15$ ) associated with this marketing strategy (Table 7.13). Secondly, six predictor variables accounted for 51% of the variance in applying of the 'promotional tools and convenience strategies'. Four variables were significantly ( $p < 0.15$ ) related to this marketing strategy. Thirdly, six predictor variables explained 16% of the variance in the offering of the 'time of selling and a low price strategies'. One variable revealed a significant ( $p < 0.01$ ) influence the use of this marketing strategy.

### **7.3.3.1 Similarity factors influencing the marketing strategies used by 'the small' and the 'medium to large' groups of tofu processors**

There were two variables influence on marketing strategies used by the 'small' and the 'medium to large' groups of tofu processors.

#### ***'Consumer attributes'***

This variable was negatively related to the offering of the 'fresh, a low price, and word of mouth strategies', whereas it was positively associated with the use of 'a convenient selling place strategies' for the 'small' group, the offering of a variety of tofu choice strategy for the 'medium to large' group of tofu processors. As proxy for consumer characteristics, this finding failed to reject hypothesis 7.2.2 for the second and third marketing strategies, and it rejected this hypothesis for the first marketing strategy. A 10% increase in the level of perceptions regarding to consumer attributes, would have a corresponding 7.25% improvement in the likelihood on the offering of a variety of tofu choice strategy. Also, the unit increase in these perceptions would



improve 0.52 units for the use of 'a convenient selling place strategies', however it would reduce 0.38 units for applying the 'fresh, a low price, and word of mouth strategies'. The reasons for the later marketing strategies were similar to section 7.3.1.1 above in the sub-section on 'consumer attributes'. Whereas, it was discovered a great association between perceptions towards consumer attributes (i.e. preferences, habits, and loyalty) and the use of 'a convenient selling place strategies' and the offering of a variety of tofu choice strategy. Considerations towards consumers' preference can be used to determine what kind of product that met consumers' needs. Consumers had several of preferences towards food such as healthier food (Bawcutt, 1997), quality and timeliness of service (Kraenzel, 1997), high quality products and service (Ross, 1998), and purchasing at traditional retailers (Siret and Issanchou, 2000). Also, consumer habits have greater effect on how the characteristics of the food meet their expectations. Consumers may focus on efficiency, a low price, and informality, while other consumers oriented on the taste of the food (Lu and Fine, 1995). In addition, consumer loyalty was important to food processors in attracting consumer to repeat purchases. Choi and Henneberry (1999) noted that ethnic food consumers tended to be very loyal consumers. Moreover, knowledge about consumers can influence the developing of an appropriate product and an effective marketing program (Austin, 1981; 1992).

### ***Food processor's age***

This variable was positively related to two marketing strategies, the offering of 'a convenient selling place strategies' and the use of the 'promotional tools and a convenient purchasing selling place strategies'. Younger tofu processors (aged less 40 years) would improve 0.72 units and 0.38 units in using both marketing strategies, respectively. Younger food processors implied that they had a good experience in implementing marketing strategies. The experience in engaging the tofu's enterprise may be a strong constituent part of human capital and thus have influenced on this marketing strategy. Similarly, an experience showed some positive correlation with growth perspectives (Wasilczuk, 2000), and had significance differences between male and female controlled businesses (Watson, 2001). Younger tofu processors were

more likely to have high competition from other food processors through the use of 'a convenient selling place strategies' and the offering of the 'promotional tools and a convenient selling place strategies'. Tofu processors are consistent in these marketing strategies, since they experienced in providing a better profit than other marketing strategies.

### **7.3.3.2 Different factors influencing the marketing strategies used by the 'small' and the 'medium to large' groups of tofu processors**

1. Two predictor variables had a significant association with marketing strategies used by the 'small' group of food processors.

#### ***The number of male workers***

This variable had a positive association with the offering of the 'fresh, a low price, and word of mouth strategies'. A unit increase in the number male workers, would improve 0.50 units for employing this marketing strategy. This means that the existence of male workers had a strong influence on the use of the 'fresh, a low price, and word of mouth strategies'. The 'small' group often carried out mobile sellers who used a vehicle, such as a bicycle, or a motor cycle. Also, this marketing strategy was appropriate for male than female workers since males can carry more tofu and more mobiles. Therefore, male workers were highly required in retailing tofu as vendors. Moreover, the offering of the 'fresh, a low price, and word of mouth strategies' may better for the 'small' group to compete with other tofu processors. Lower prices are considered as a way of developing a sustainable and competitive advantage (FitzRoy, 1989) and in particular for a small firm with similar-sized rivals (Jacobsen, 1986).

#### ***The place for selling tofu***

This variable was negatively related to the offering of 'a convenient selling place strategies' and estimated that tofu processor who sold tofu at mobile traders, would have 0.41 units reduction in applying this marketing strategy. It means that mobile traders were less appropriate to use this marketing strategy because they sold tofu

using a vehicle, such as a bicycle, or a motor cycle. In addition, time constraint that mobile sellers had a sort time in daily retailing Kediri tofu compared to tofu stalls.

Also, the adoption of marketing strategy was costly, and therefore it become not efficient being employed by mobile sellers. The offering a convenient place may become appropriate for semi-permanent or permanent sellers, since they have space to provide a convenient place for buyers.

2. Marketing strategies used by the 'medium to large' group of food processors were significantly associated with four variables as presented in the following sections.

#### ***Food processor's education***

This variable was negatively related to the offering of a variety of tofu choice strategy. It was predicted that tofu processors with a high education level (secondary school and beyond) were 0.22 time less likely in applying this marketing strategy. The finding contrasted with previous studies (Basu and Goswami, 1999; Johnson *et al.*, 1999; Ramachandran and Shah, 1999; and Adenikinju *et al.*, 2002). More educated food processors had a weak association with the offering of a variety of tofu choice strategy. This is because this marketing strategy is well adapted and has been developed for a long time. Also, only certain types of Kediri tofu were offered, such as a small, a medium or a large size. In addition, tofu processor preferred other marketing strategies (i.e. 'promotional tools and a convenient selling place strategies', 'time of selling and a low price strategies') than offering of a variety of tofu choice strategy.

#### ***Number of males in the household***

This variable was positively related to the offering of the 'promotional tools and a convenient selling place strategies'. The presence of male household members, would increase 0.33 units for applying this marketing strategy. The reasons were similar to section 7.3.1.1 above in the sub-section on the number of males in the household.

### ***The number of female workers***

This variable had a positive association with two marketing strategies. A unit increase of number female workers, would improve 0.23 units in the offering of the 'promotional tools and a convenient selling place strategies'. Likewise, a 10% increase in number of female workers, would have a corresponding 5.97% improvement in the likelihood the use of a variety of tofu choice strategy. The reasons were similar to section 7.3.1.1 above in the sub-section on the number of female workers.

### ***Working capital***

This variable was positively related to the offering of the 'promotional tools and a convenient selling place strategies' and the 'time of selling and a low price strategies', and a negative relation to the offering a variety of tofu choice strategy. It predicted that tofu processors who have a high funding (Rp. 200, 000, - and more), would have 0.4 and 1.1 units improvement in using of the 'promotional tools and a convenient selling place strategies' and the 'time of selling and a low price strategies', respectively. Whereas, a 10% increase in the perception regarding to consumer attributes, would have a corresponding 28.82% decrease in the likelihood of the offering of a variety of a tofu choice strategy. The use of the 'promotional tools and a convenient selling place strategies' and the 'time of selling and a low price strategies' required more funding. Whereas, the offering of a variety of tofu choice strategy might very little cost, since they have few expenses in this marketing strategy. This finding was supported by an earlier study in that informal traders are limited in allocating costs of equipment, production, personnel, and inventory (Arellano, 1994).

## **7.4 General discussion**

The purpose of this chapter is to address the question of how tofu processors responding towards consumer demand for their product. Their responses were represented in terms of processing and marketing strategies towards Kediri tofu.

Firstly, processing strategies adopted by the home tofu industries were (a) a 'combined soybean' strategy and (b) a manual technique in forming tofu strategy. The use of a 'combined soybean' decrease as food processors perceive the importance of soybean price, whereas the use of this strategy increase as the more presence of female workers. Interestingly, the existence of female workers reduce the adoption of a manual technique, while this processing strategy corresponded with food processors' perception towards the importance of soybean price and older food processors (aged 40 years and more). This strategy may result in tofu product with the better taste. Similarly, Grijns *et al.* (1994) found small enterprises usually had to access to simple technology. Also, older food processors were less likely to afford the expensive price of machines for forming tofu, and therefore, food processors preferred to hire labourers for such work, thus increasing the optimisation in tofu processing.

The findings also highlighted that processing strategies varied across groups. The 'small' group adopted (a) a 'combined soybean' strategy and (b) the other ingredients strategy. The 'medium to large' group employed a 'mixed processing strategies', that is the 'combined soybean and manual techniques strategies'. Processing facilities for an agricultural product had an importance role in adding value to the product (Anderson, 1981), included a combination of production facilities (Maurer and Wright, 1998), to enhance the profitability of the product (Bawcutt, 1997).

The presence of male household members can increase the use of other ingredients strategy (the 'small' group) and 'a combined soybean and manual techniques strategies' (the 'medium to large' group), whereas food processors' education (secondary schools and beyond) influenced on the adoption of these processing strategies. Food processors' perception towards other ingredients (i.e. quality, availability, and price) was more likely to improve the processing strategies for the 'small' group'. Processing strategies used by the 'medium to large' group decrease as food processors use working capital (Rp. 200,000,- and more) and the presence of female workers, whereas this strategy showed strong relationship with food processors' perception towards soybean (i.e. availability, price, and the purchasing time). Tofu processors considered the importance of soybean (i.e. availability, price, and time when

purchasing soybean) as they used a combination of local and imported soybean types in a large amount (50 Kg and more) to achieve a good quality of tofu product. Brown *et al.* (1994) noted that the role of the raw material supply is important particularly in governing the product to be marketed. Processing strategies adopted by the 'small' group had a strong association with perceptions towards other ingredients. The 'small' group of tofu processors perceived the importance of other ingredients (i.e. vinegar, and spice) as having the potential contribution to tofu product.

Secondly, tofu processors offered a 'mixed marketing strategies', namely (a) the 'promotional tools and convenience strategies' and (b) the 'word of mouth and a low price strategies'. Although, tofu processors perceived the importance of consumers attributes (i.e. loyalty, habit, and preference) as having impact on reduction the use of the 'word of mouth and a low price strategies'. This marketing strategy is to meet consumers' needs of a low price of Kediri tofu. Setting lower prices can be used to respond consumers demand (Downey and Erickson, 1987), on the basis of consumer's purchasing power (Brown *et al.*, 1994), and competing with another firm (Gattorna and Lancioni, 1989). Food processors also offered the 'promotional tools and a convenience strategies' to fulfil consumers' demands (i.e. a convenient purchasing place, and originality) (see Chapter six). Marketing strategies were to respond towards consumers' wants in choosing products, such as the offering of a good service (Morton, 1993; Brown *et al.*, 1994; and Meulenberg, 1997).

It also discovered that marketing strategies offered by tofu processors corresponded with the number of female workers. The 'promotional tools and a convenience strategies' was adopted for food processors who sold their product at semi-permanent and permanent sellers, and employed male household members. The 'word of mouth and a low price strategies' were applied by older food processors (aged 40 years and more).

On the basis of groups, the 'medium to large' group used (a) the 'promotional tools and a convenient selling place strategies', (b) a variety of tofu choice strategy, and (c) the 'time of selling and a low price strategies'. The 'small' group applied two 'combined

marketing strategies' : (a) the 'fresh, a low price, and word of mouth strategies' and (b) 'a convenient selling place strategies'. Food processors both groups perceived consumers as having a significant effect on the offering 'a convenient selling place strategies' (the 'small' group) and a variety of tofu choice strategy (the 'medium to large' group), but this perception reduced the use of the 'fresh, a low price, and word of mouth strategies'. They used the 'time of selling and a low price strategies' and the 'fresh, a low price, and word of mouth strategies' to respond consumers' demand on fresh product and low price of Kediri tofu. The specific product is the key to sustain the competitive advantage of the product (Kotler, 1997) through creating valuable products (Van Duren and Sparling, 1998) and offering quality (Magrath, 1989; Morton, 1993), freshness product (Zinkhan *et al.*, 1999), and a low price (Fitzroy, 1989) that attract consumer decisions to visit the shop (Raddet, 1996). Tofu processors offered the 'promotional tools and a convenient selling place strategies' (the 'medium to large' group) and 'a convenient selling place strategies' (the 'small' group) to meet consumers' needs (i.e. towards a convenient purchasing place, and food originality) (see Chapter six). In the packaging of Kediri tofu is usually written the brand name, a registered label by the Health Department, and 'taqwa' label signifying the origin of this product. Packaging form is used to better meet consumer demand (Kraenzel, 1997) as the tools of promotion is designed to reach sales objectives (Downey and Erickson, 1987) and to communicate product information, including brand positioning, and sales promotion (Magrath, 1989), to persuade consumers to buy a product (Brown *et al.*, 1994).

Another interesting finding is that younger (aged < 40 years) food processors were more likely to use 'a convenient selling place strategies' (the 'small' group) and the 'promotional tools and a convenient selling place strategies' (the 'medium to large' group). The place for selling tofu (i.e. mobile traders) would decrease on the offering of 'a convenient selling place strategies', and number of male workers indicated an important role in adopting of the 'fresh, a low price, and word of mouth strategies' for the 'small' group. The possession of working capital (Rp.200,000,- and more) tend to increase the offering marketing strategies for the 'medium to large' group of tofu processors, with exception of adoption of a variety tofu choice strategy.

The offering of a variety of tofu choice and the 'promotional tools and a convenient selling place strategies' were influenced by the number of female workers. The low level (i.e. primary school) education and presence of males in the household had an important role in the offering of a variety of tofu choice and the 'promotional tools and a convenient selling place strategies', respectively. The involvement of female and male workers in marketing activities would be important for enterprise productivity.

Therefore, the questions regarding tofu processor response towards consumers' demand have been met. The results also contribute to the knowledge of food processors response towards consumers' demand for Kediri tofu and their competitors.



### CHAPTER EIGHT

#### 8.1 SUMMARY

New foods are emerging constantly in the market, threatening the long-term viability and existence of ethnic foods. An understanding of consumers and food processors are required to preserve the existence of ethnic food. This research attempts to delineate consumer and food processors perspectives related to ethnic foods. Malang meatballs (an animal protein based food) and Kediri tofu (a plant protein based food) are representative of ethnic foods in East Java, Indonesia.

The objectives of this study were directed at investigating consumer buying behaviour towards ethnic food; identifying factors that influence the consumers' purchase decisions with respect to ethnic food; determining how urban consumer differs from their rural counterparts; and investigating the food processors' response towards ethnic food.

##### 8.1.1 Methodological considerations

Consumer respondents were selected in Malang and Kediri municipalities, East Java, Indonesia. Multistage area sampling was used to select respondents for consumer behaviour and 400 households were randomly selected from each area (200 urban and 200 rural). The researcher and enumerators, using a structured questionnaire, interviewed respondents. Logistic regression analysis was chosen for analysing consumer behaviour towards ethnic food, including purchasing intention, purchasing action, and satisfaction in consuming either Malang meatballs or Kediri tofu.

The food processor respondents were selected from urban areas where most of either the HMIs or the HTIs exist, using cluster sampling. The selection of food processors was based on two criteria, namely they were owners and they have experienced in operating their enterprise for at least one year. The sample size in this study was 100 meatball processors and 86 tofu processors. Those food processors were interviewed

in person by the researcher and enumerators. Data for processing and marketing strategies of either the home meatball industries (HMIs) or the home tofu industries (HTIs) were analysed by using multiple regression for continuous variables and logistic regression procedures for dummy variables.

### **8.1.2. Do consumers prefer ethnic food?**

Consumers preferred either Malang meatballs (an animal protein based food) compared to street foods (i.e. 'soto', 'tahu campur', and fried noodle) or Kediri tofu (a plant protein based food) than other soybean based food (i.e. fried tofu and regular tofu). Consumers tended to select either Malang meatballs or Kediri tofu and resulted on purchasing action, and this is linked to satisfaction towards these products. This result failed to reject hypothesis 4.1('More consumers intend to purchase Malang meatballs than other street foods'), 4.2 ('There is a positive relationship between purchasing action and purchasing intention towards Malang meatballs'), 4.3 ('There is a positive relationship between satisfaction and purchasing action towards Malang meatballs'), 6.1 ('Consumers intend to purchase Kediri tofu rather than other soybean based foods'), 6.2 ('There is a positive relationship between purchasing action and purchasing intention towards Kediri tofu'), and 6.3 ('There is a positive relationship between satisfaction and purchasing action towards Kediri tofu'). Consumers' satisfaction was represented by repurchase towards either Malang meatball or Kediri tofu.

The effect of unique taste of these foods on their preference is less certain. Consumers' purchasing intention towards Kediri tofu was influenced by their attitudes towards unique taste of the product, however this was not the case for Malang meatballs. This finding failed to reject hypothesis 6.1.1 ('Unique taste is positively related to purchasing intention towards Kediri tofu'), however this result rejected hypothesis 4.1.1 ('Unique taste is positively related to purchasing intention towards Malang meatballs'). The following factors may be significant in explaining the differences among consumers' pre-purchase behaviour towards Malang meatballs and Kediri tofu. Consumers' perceptions towards a clean and a convenient purchasing

place, and good services offered by sellers are most likely to enhance consumers' purchasing intention for Kediri tofu. This food was bought at semi-permanent and permanent sellers and represented by urban consumers. Whereas, a 'halal food', freshness, and attractiveness appearance of food, the influence of other people, and the presence of female household members, all contributed to younger consumers (aged < 30 years) on selecting Malang meatballs. In contrast, when consumers perceived the importance of good quality, a variety of choice, a 'halal food' label, originality, and price, they were less likely to choose Malang meatballs. While, the presence male household members and the use of Kediri tofu as a snack may become limitation factors for consumers selection towards this product.

Surrounding cold air temperature influenced consumers' purchasing intention towards ethnic food. Consumers' purchasing action was also associated with the availability of Malang meatballs, but this was not the case for Kediri tofu.

### **8.1.3 What regional characteristics differentiate consumer preferences towards ethnic food?**

Both urban and rural consumers indicated preference for Malang meatballs. Rural consumers' purchasing intentions were associated with an actual purchase, however this relationship did not occur between actual behaviour and satisfaction towards Kediri tofu. The resulted in the failure to reject of hypothesis 4.4 ('More urban consumers intend to buy Malang meatballs than rural consumers'), 4.5 ('Among urban and rural consumers, there is a positive relationship between purchasing action and purchasing intention towards Malang meatballs'), 4.6 ('Among urban and rural consumers, there is a positive relationship between satisfaction and purchasing action towards Malang meatballs'), 6.4 ('More urban consumers intend to buy Kediri tofu than do rural consumers'), 6.5 ('Among urban and rural consumers, there is a positive relationship between purchasing action and purchasing intention towards Kediri tofu'), and rejection of hypothesis 6.6 ('Among urban and rural consumers, there is a positive relationship between satisfaction and purchasing action towards Kediri tofu').

Consumer's preference towards ethnic food differed by location and can be explained by the following factors. Unique taste was found to enhance urban and rural consumers' purchasing intention towards Kediri tofu, whereas this factor would not be important when rural consumers' selection for Malang meatballs. The finding failed to reject hypothesis 6.4.1 ('Among urban and rural consumers, unique taste is positively related to purchasing intention towards Kediri tofu'), and rejected hypothesis 4.4.1 ('Among urban and rural consumers, unique taste is positively related to purchasing intention towards Malang meatballs'). However, urban and rural consumers repeated in purchasing these foods that may be used as representative their satisfaction towards either Malang meatballs or Kediri tofu.

Married urban consumers were more likely to choose Kediri tofu, whereas the selection of Malang meatballs was represented by single consumers who had more female household members. However, urban consumers who perceived the importance of branch image, variety of Malang meatball choice, and self service were less likely to select this product, while consumers' choice towards Kediri tofu was limited when they used this food as a snack.

Rural consumers may develop their purchasing intention based on their attitudes (i.e. appearance, and social norms), their perceptions (i.e. surrounding air temperature, self-service, knowledge about food quality, nutrition, and 'halal food'), the use of the product as a snack (Malang meatballs); their attitudes (i.e. appearance and aroma), their perceptions (i.e. a clean and a convenient place, the offering good service, and originality of this food) (Kediri tofu). In contrast, consumers' perceptions towards food attributes (i.e. good quality, a variety food choice, a 'halal food' label, and originality), experience in consuming this food, and the mobile sellers (Malang meatballs); their perceptions (i.e. knowledge about 'halal food' and nutrition), and the presence of male household members, became a constraint for rural consumers' purchasing intention towards Kediri tofu.

Both urban and rural consumers who possessed a high level of education (secondary school and beyond) were more likely to select Kediri tofu because of its unique taste,

while female consumers tended to choose Malang meatballs. In addition, the availability of Malang meatballs can expand urban and rural consumers' purchasing action, but this was not the case for Kediri tofu.

#### **8.1.4 Do food processors respond to consumer demand?**

The home meatball industries (the HMIs) and the home tofu industries (the HTIs) had various responses in terms of processing and marketing strategies to meet consumer demand for their products.

Firstly, meatball processors focused on machine techniques such as 'meat cutting and mixing strategies'. Tofu processors adopted manual techniques in forming tofu and a 'combined soybean' strategy. The findings, therefore, rejected hypothesis 5.1 ('Meatball processors differ in processing strategies') while hypothesis 7.1 ('Tofu processors differ in processing strategies') is not rejected.

Tofu processors' perception towards soybean price increased the adoption of manual techniques in forming tofu, but this perception limited the use of a 'combined soybean' strategy. The findings, therefore, failed to reject and rejected hypothesis 7.1.1 ('The perception of tofu processors towards soybean is positively associated with processing strategies') for these processing strategies, respectively. Meatball processors who perceived the importance of meat availability and price were less likely to use 'meat cutting and mixing strategies'. This finding, therefore, rejected hypothesis 5.1.1 ('The perception of meatball processors towards meat is positively associated with processing strategies').

Meatball processors' perceptions towards the quality of other ingredients improved the adoption of 'meat cutting and mixing strategies'. Older food processors (aged  $\geq 40$  years) tended to adopt manual techniques in forming tofu. The presence of female workers improved the use of a 'combined soybean' strategy (within the HTIs) and the use of the 'meat cutting and mixing strategies' (within the HMIs), however this factor became not important for the offering of manual techniques in forming tofu.

Marketing strategies used by the HMIs were the offering a low price, 'convenience strategies' (a combination between a clean and convenient place with good service and the time of selling meatballs daily), and 'unique taste and promotional tools strategies' (a mixing between unique taste with a 'halal food' label, a branch name, and advertisements) to meet consumers' needs towards unique taste and a 'halal food'. Tofu processors used 'word of mouth and a low price strategies' (combined word of mouth with offering a low price) and 'promotional tools and convenience strategies' (a mixing between promotional tools (i.e. packaging, a branch name, and advertisements) with a convenience selling place and the time for selling Kediri tofu daily) to fulfill consumers' demands towards the originality of Kediri tofu and a convenient purchasing place. The findings failed to reject hypothesis 5.2 ('Meatball processors differ in marketing strategies') and 7.2 ('Tofu processors differ in marketing strategies').

Meatball processors' perceptions towards consumers (i.e. preference, age, income, habits, lifestyle, loyalty, and religion) enhanced the use of 'convenience strategies', however this perception limited the offering of a low price strategy. These results, therefore, failed to reject and rejected hypothesis 5.2.1 ('The perception of meatball processors towards the consumers is positively associated with marketing strategies') for these marketing strategies, respectively. Tofu processors' perceptions towards consumers (i.e. preference, habits, and loyalty) became not important when they adopted 'word of mouth and a low price strategies' (rejection of hypothesis 7.2.1 ('The perception of tofu processors towards consumers is positively associated with marketing strategies')).

There are several factors influenced marketing strategies. The presence female workers enhanced the offering of 'convenience strategies' and 'unique taste and promotional tools strategies' (the HMIs); 'promotional tools and convenience strategies' and 'word of mouth and a low price strategies' (the HTIs). Whereas, food processors' education (secondary school and beyond was linked to the use of 'unique taste and promotional tools strategies' (the HMIs). Food processors' experience in operating the HMIs was associated with the use of 'unique taste and promotional

tools strategies'. The presence of males household members was related to the offering of 'promotional tools and convenience strategies' (the HTIs).

Tofu processors were less likely to use a low price strategy when they employed the number of female workers. The presence of male household members limited for adopting a low price strategy and 'convenience strategies'. Working capital ( $\geq$  Rp.200,000,-) became a constraint in applying 'unique taste and promotional tools strategies' (the HMIs), whereas a place for selling tofu such as mobile traders became a limitation factor in offering of 'promotional tools and convenience strategies' (the HTIs).

Secondly, on the basis of groups, the 'small' (the 'SM') (using  $< 5$  Kg of meat per day) and the 'medium to large' (the 'MTL') (using  $\geq 5$  Kg of meat per day) groups of the HMIs and the 'SM' (using  $< 50$  Kg of soybeans per day) and the 'MTL' (using  $\geq 50$  Kg of soybeans per day) groups of the HTIs used a variety of processing and marketing strategies in response towards consumer' demand for their products.

Two processing strategies for the 'medium to large' (the 'MTL') group of the HMIs were 'meat cutting and mixing strategies' and 'other ingredients strategies'. While, the groups of tofu processors adopted 'combined soybean and manual techniques (the 'MTL' group); and a 'combined soybean' and other ingredients strategies (the 'SM' group).

Meatball processors' perceptions about meat (i.e. quality and time of purchase) led to the adoption of 'meat cutting and mixing strategies' and the use of the 'other ingredients strategies'. Whereas, tofu processors' perceptions towards soybean (i.e. availability, time of purchase, and price) corresponded with the use of 'combined soybean and manual techniques strategies'. The findings failed to reject hypothesis 5.1.2 ('Among the 'small' and the 'medium to large' groups of meatball processors, their perceptions towards meat is positively associated with their processing strategies') and 7.1.2 ('Among the 'small' and the 'medium to large' groups of tofu processors, their perceptions towards soybean is positively associated with



processing strategies'). The adoption of 'meat cutting and mixing strategies' was associated with the number of male workers (the 'MTL' group of meatball processors). Whereas, food processors' perceptions towards other ingredients (i.e. quality, availability, and price) influenced the use of other ingredients strategy and a 'combined soybean' strategy) (the 'SM' group of tofu processors). However, tofu processors' education (secondary school and beyond) become a constraint for applying other ingredients strategy (the 'SM' group of the HTIs), this factor together with presence of male household members, the number of female workers, and working capital ( $\geq$  Rp. 200.000,-) limited the use of a 'combined soybean' strategy.

Marketing strategies used by both groups of the HMIs included 'convenience strategies'. The use of 'unique taste and a low price strategies' (a combination between offering unique taste and a low price) was adopted by the 'small' group, while a low price strategy was offered by the 'medium to large' group. All marketing strategies were aimed at meeting consumers demand towards unique taste, low price of Malang meatballs, and a convenient purchasing place. Whereas, the 'small' group of the HTIs used 'fresh, a low price, and word of mouth strategies' ( a mixture of offering fresh and a low price of product with word of mouth) and a convenient selling place strategies. The 'medium to large' group offered 'time of selling and a low price strategies' (a mixture between offering the longest time in selling Kediri tofu and a low price), and 'promotional tools and a convenient selling place strategies' (a combination between a 'halal food' label, packaging, the branch name, advertisements, and a convenient selling place) to fulfill consumers' needs of low price, food originality, and a convenient purchasing place.

The use of 'convenience strategies' was influenced by consumer characteristics (i.e. preference, age, income, habits, lifestyle, and religion) (both groups of the HMIs), and the importance of loyalty consumers (the 'SM' group). The findings, therefore, failed to reject hypothesis 5.2.2 ('Among the 'small' and the 'medium to large' groups of meatball processors, their perceptions towards the consumers is positively associated with marketing strategies'). However, these perceptions may become constraint for



applying 'unique taste and a low price strategies' (the 'SM' group), and a low price strategy (the 'MTL' group) (rejection of the hypothesis 5.2.2).

Tofu processors' perceptions towards consumer attributes (i.e. preference, habits, and loyalty) increased the use of 'a convenient selling place strategies' and a variety of tofu choice strategy (the 'SM' and the 'MTL' groups of the HTIs, respectively) (therefore failed to reject hypothesis 7.2.2 ('Among the 'small' and the 'medium to large' groups of tofu processors, their perceptions towards consumers is positively associated with marketing strategies')), whereas this perception probably resulted in less use of 'fresh, a low price and word of mouth strategies' and 'convenient selling place strategy (the 'MTL' group of the HTIs) (therefore hypothesis 7.2.2 is rejected).

The presence of female household members enhanced the use of 'convenience strategies' (the 'MTL' group of the HMIs). Working capital ( $\geq$  Rp. 200.000,-) improved the offering of 'time of selling and a low price strategies' (the 'MTL' group of the HTIs). The presence of female workers increased the offering of a variety of tofu choice and 'promotional tools and a convenient selling place strategies'. The latter marketing strategies were also influenced by the presence of male household members and were used more by younger food processors (aged  $< 40$  years). The later factor together with the number of male workers tended to increase offering a convenient selling place strategies, and 'fresh, a low price, and word of mouth strategies' (the 'SM' group of the HTIs), respectively. In contrast, the use of 'a convenient selling place strategies' (the 'MTL' group of the HTIs) was less likely to be used when tofu processors sold tofu at mobile food vendors, whereas working capital ( $\geq$  Rp.200,000,-) and tofu processors' education limited the use of a variety of tofu choice strategy.

## 8.2 CONCLUSIONS

### 8.2.1 Consumers' preferences for Malang meatballs (an animal protein based food) and Kediri tofu (a plant protein based food)

(1) Consumers preferred either Malang meatballs compared to other street foods or

Kediri tofu than other types of tofu. Consumers who perceived the importance of surrounding cold air temperature would enhance their choice towards ethnic food. Repeat purchase towards either Malang meatballs or Kediri tofu might be used as representative of consumers satisfaction towards this food. The availability of Malang meatballs can increase consumers' purchasing action towards this product. In contrast, purchasing Kediri tofu was not limited by the availability of this food.

- (2) Kediri tofu was selected more by urban consumers who preferred its unique taste and they purchased this food at semi-permanent and permanent sellers that offered a clean and a convenient purchasing place, and good services. Whereas, younger consumers (aged < 30 years) preferred to freshness, appearance, and a 'halal food' of Malang meatballs. Also, the influence of other people, and the presence of female household members increased consumers choosing Malang meatballs.
- (3) Consumers may be less likely to choose Malang meatballs when they perceived the importance of food quality, a variety choice, a 'halal food' label, originality, and price. The presence of male household members, and the use of Kediri tofu as a snack became limitation factors for consumers' intention to select this food.

### **8.2.2 Differences between urban and rural consumers' preferences towards Malang meatballs and Kediri tofu**

- (1) Urban and rural consumers preferred Malang meatballs than other street foods. Rural consumers' choice towards Kediri tofu enhanced their purchasing action towards this food, however this finding did not show the expected relationship between actual behaviour and satisfaction towards this product. When consumers were satisfied with either Malang meatballs or Kediri tofu, they might repeat purchase towards these foods. Unlike Kediri tofu, an increase in purchasing Malang meatballs was influenced by the availability of this product.
- (2) Urban consumers choice for Kediri tofu were dominated by married consumers, whereas single consumers and the presence female household members improved their selection towards Malang meatballs.
- (3) Urban consumers were less likely to choose Malang meatballs when they perceived the importance of branch image, variety of meatball choice, and self service offered by sellers, whereas the use of Kediri tofu as a snack became not

important for consumers when selecting this food.

- (4) Rural consumers who considered the importance of products appearance, other people influence, self- service offered by sellers, and possessed knowledge about food quality, nutrition, and a 'halal food, were more likely to select Malang meatballs when they used this product as a snack. Whereas, Kediri tofu was selected by rural consumers who preferred to product appearance, aroma, originality, and perceived the importance of a clean and a convenient place, and the offering good service.
- (5) Rural consumer' perception towards the importance of knowledge about nutrition and a 'halal food', and the presence of male household members limited their choice towards Kediri tofu. Whereas, rural consumers who experienced ( $\geq 10$  years) in consuming Malang meatballs, were less likely to buy Malang meatballs at mobile food sellers because they preferred to unique taste, food quality, a variety food choice, a halal food' label, and originality.
- (6) Urban and rural consumers who had a high level of education (secondary school and beyond) were more likely to choose Kediri tofu because of unique taste of this food. However, Malang meatballs are selected more by female consumers regardless their location.

### **8.2.3 Processing and marketing strategies used by food processors in responding to consumer demand for Malang meatballs and Kediri tofu**

#### **8.2.3.1 Processing strategies used by food processors**

- (1) Meatball processors focused machine techniques that represented by combining between meat cutting with mixing meat and other ingredients ('meat cutting and mixing strategies').
- (2) Meatball processors who perceived the importance of the quality of other ingredients would use of 'meat cutting and mixing strategies'.
- (3) Tofu processors adopted manual technique in forming tofu strategy and a 'combined soybean' strategy.
- (4) Older tofu processors (aged  $\geq 40$  years) who perceived the importance of soybean price were more likely to adopt manual technique when forming tofu, whereas the use of this processing strategy limited as the presence of female workers.

- (5) Among food processors, the presence of female workers enhanced the use of 'meat cutting and mixing strategies' (the HMIs), and a 'combined soybean' strategy (the HTIs). However, food processors who perceived the importance of meat availability and price and soybean price limited in the offering of 'meat cutting and mixing strategies' and a 'combined soybean' strategy, respectively.

### 8.2.3.2 Marketing strategies offered by food processors

- (1) Three marketing strategies used by the HMIs were a low price strategy, 'convenience strategies' (a combination between the use of a clean place, a convenience place, good service and the longest time daily in selling meatballs); and 'unique taste and promotional tools strategies' (a mixing between offering unique taste with a 'halal food' label, a branch name, and advertisements) to meet consumers' needs towards unique taste and a 'halal food'.
- (2) Meatball processors who perceived the importance of consumers characteristics (i.e. preference, age, income, habits, lifestyle, religion, and loyalty) tended to use 'convenience strategies'. Meatball processors who had a high level of education (secondary school and beyond) and experienced in operating the home food industries, were more likely to adopt 'unique taste and promotional tools strategies'. However, the offering of 'convenience strategies' is used less as the presence of male household members, while this factor together with the number of female workers become constraints in applying a low price strategy. Working capital ( $\geq$  Rp. 200,000,-) limited the use of 'unique taste and promotional tools strategies'.
- (3) The HTIs offered 'word of mouth and a low price strategies' (a mixture between the offering word of mouth combined with a low price) and 'promotional tools and convenience strategies' (a combination between the use of packaging, the branch name, advertisements, a convenient place, and longest time daily for selling Kediri tofu) to fulfill consumers' demands towards the originality of this food and a convenient purchasing place.
- (4) Tofu processors used 'promotional tools and convenience strategies' because of the presence of male household members. However, the mobile tofu vendors became not important for the use of 'promotional tools and convenience

strategies'.

- (5) Among food processors, female workers influenced the offering of 'convenience strategies' and 'unique taste and promotional tools strategies' (the HMIs) and promotional tools and convenience strategies' and 'word of mouth and a low price strategies' (the HTIs). In contrast, the offering of a low price strategy (the HMIs) and 'word of mouth and a low price strategies (the HTIs) was less adopted by food processors if they perceived the importance of consumers characteristics (i.e. preference, age, income, habits, lifestyle, religion, and loyalty) and consumers' attributes (i.e. preference, habits, and loyalty), respectively.

#### **8.2.4 Differences between the 'small' and the 'medium to large' groups of Malang meatballs and Kediri tofu processors' response towards consumer demand**

The 'small' (the 'SM') (using < 5 Kg of meat per day) and the 'medium to large' (the 'MTL') (using ≥ 5 Kg of meat per day) groups of the HMIs and the 'small' (using < 50 Kg of soybeans per day) and the 'medium to large' (using ≥ 50 Kg of soybeans per day) groups of the HTIs used a variety of processing and marketing strategies when responding towards consumers' demand for their product.

##### **8.2.4.1 Processing strategies used by the 'small' and the 'medium to large' groups of food processors**

- (1) The 'medium to large' (the 'MTL') group of meatball processors used 'meat cutting and mixing strategies' (a combination of processing strategies using machine techniques for meat cutting and mixing meat with other ingredients), and 'other ingredients strategies' (processing of using good quality of other ingredients).
- (2) The 'MTL' meatball processors who perceived the importance of raw materials (meat quality, time of purchase, other ingredients availability, and price) and employed male workers, tended to use of 'meat cutting and mixing strategies.
- (3) The 'MTL' group of tofu processors used 'combined soybean and manual techniques strategies' (a mixing between local and imported soybean types with using manual techniques in cooking and stirring soybean porridge, forming tofu, and packaging). The 'SM' group adopted 'combined soybean' strategy (using a

- combination between local and imported soybean types) and other ingredients strategy (using a good quality of vinegar and spice).
- (4) Tofu processors who considered the importance of soybean (i.e. price, availability, and time when purchasing soybean) were more likely to use 'combined soybean and manual techniques strategies' and 'other ingredients strategies' (the 'MTL group). Tofu processors' perceptions towards other ingredients (quality, availability, and price) influenced the offering of the other ingredients strategy and a 'combined soybean' strategy (the 'SM' group).
  - (5) Tofu processors who had a high level of education (secondary school and beyond) were less likely to use of other ingredients strategy (the 'SM) and 'combined soybean and manual techniques strategies' (the 'MTL'). The latter processing strategies was limited by the number of female workers, working capital ( $\geq$  Rp. 200.000,-), and the presence of male household members. The last factor also resulted less in the use of a 'combined soybean' strategy (the 'SM').

#### **8.2.4.2 Marketing strategies used by the 'small' and the 'medium to large' groups of food processors**

- (1) Both groups of the HMIs used 'convenience strategies' (a combination between clean and convenient selling place with offering good service and the time for selling Kediri tofu daily). The 'SM' group offered unique taste mixing with a low price ('unique taste and a low price strategies'), while a low price strategy was adopted by the 'MTL' group. All marketing strategies were to meet consumers demand towards unique taste, low price, and a convenient purchasing place of Malang meatballs.
- (2) Offering of 'convenience strategies' was influenced by the presence of female household members (the 'MTL' group), and adopted by mobile meatball sellers (the 'SM' group).
- (3) Among groups, meatball processors who perceived the importance of consumers were more likely to offer 'convenience strategies' (both groups of the 'HMIs'), and less likely to use 'unique taste and a low price strategies' and a low price strategy for the 'SM' and the 'MTL' groups of the HMIs, respectively.
- (4) Marketing strategies used by the 'small' group of tofu processors were a

mixture between fresh and a low price of product with word of mouth ('fresh, a low price, and word of mouth strategies'); and a convenient selling place.

The 'MTL' group offered three marketing strategies: a variety of tofu choice; a combination between time of selling and a low price ('time of selling and a low price strategies'); and a mixing between promotional tools and a convenient selling place ('promotional tools and a convenient selling place strategies') to fulfill consumers' needs of a low price, food originality, and a convenient purchasing place.

- (5) The 'MTL' group used a variety of tofu choice strategies if they employed female workers. This factor together with the presence male household members influenced the use of 'promotional tools and a convenient selling place strategies' carried out by younger tofu processor. This marketing strategy required a large amount of working capital ( $\geq$  Rp. 200,000,-). Working capital was also required for the offering of 'time of selling and a low price strategies'. The 'SM' group recruited male workers when they used 'fresh, a low price, and word of mouth strategies', however the offering of a convenient selling place strategies was less likely for food processors who sold tofu in strategic location.
- (6) Tofu processors who perceived the importance consumers' attributes (i.e. preference, habits, and loyalty) tended to offer a variety of tofu choice strategy (the 'MTL' group) and a convenient selling place (the 'SM' group), however this perception became a limitation factor for the use of 'fresh, a low price and word of mouth strategies'

### 8.3 IMPLICATIONS

#### I. This study is particularly relevant for consumers, processors, and government in Indonesia.

##### 1.1 Importance to the consumer

- (1) Consumers preference for Malang meatballs and Kediri tofu could be a good predictor of future consumer's acceptance towards these foods.
- (2) The acceptance of ethnic foods' taste offers a wide range of opportunities for the development of these products.

- (3) Information about the preferences towards Malang meatballs and Kediri tofu could be used to sustain and expand consumption of these ethnic foods.
- (4) The models used in this study of consumer behaviour towards Malang meatballs and Kediri tofu could be adopted to investigate the other ethnic foods in other areas of Indonesia.

### **I.2 Importance to the food processor**

- (1) Knowledge of consumer preferences for ethnic food could be used by food processors to base decisions about products, price, promotion, and place for selling or distribution of these products.
- (2) The home meatball industries can respond to marketing situations by using their own strategies, and therefore sustain their enterprises.
- (3) The involvement of both males and females in operating home meatball and home tofu industries creates employment opportunity, generates extra income, and contributes to the enhancement of the regional economy.
- (4) The models used in food processors response towards Malang meatballs and Kediri tofu could also be adopted to investigate ethnic foods in Indonesia.

### **I.3 Importance to government**

- (1) Consumer acceptance of Malang meatballs and Kediri tofu could be used by government to promote and develop these foods in the future.
- (2) The response of food processors towards these products can be used by the government to promote and enhance the HMIs and the HTIs.
- (3) The government may use this information to stimulate technology development that could develop products and improve production methods for food processors.

## **II. The study contributes to existing knowledge.**

- (1) The study provides a conceptual framework of consumer purchasing behaviour and food processor response towards Malang meatballs and Kediri tofu that could be applied to other ethnic foods.
- (2) The study used an interesting sequence of analysis methods (i.e. creating index,



factor analysis, multicollinearity test, logistic and multiple regression) to analyse consumer purchasing behaviour and food processors' response towards ethnic food and this would interest those who use in these analysis methods.

- (3) The study offers an explanation in understanding how consumers view and food processors respond towards Malang meatballs and Kediri tofu. This is an important resource for those who work in this research area from a theoretical as well as a practical viewpoint.

### **III. Limitations and suggestion for future research**

- (1) The study explores consumer behaviour, but was limited to a small region where ethnic food was locally produced. Since consumer purchasing decisions are specific to the type of ethnic food there are a variety of research designs that could be used to study consumer behaviour towards these ethnic foods. Future research of consumer behaviour towards Malang meatballs and Kediri tofu could be carried out in other areas. This research can be used to develop and promote these foods throughout Indonesia.
- (2) The study only provides basic information about food processor response with respect to Malang meatballs and Kediri tofu. There remains ample opportunity for further research in these areas. This could include the opportunities and challenges face by food processors in these areas that could ensure food processors become more profitable. These products, in turn, could then reach a wider market share not only locally but also nationally.
- (3) The research could be extended to analyse the nutrient content of Malang meatballs and Kediri tofu. This research could provide valuable information on the inclusion on protein in these foods that could be incorporated within the government programme for improving protein intake of Indonesian people.

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Appendix-1 Correlation analysis of explanatory variables for consumers' purchasing behaviour towards Malang meatballs

Variables	'Sensory attributes related to attitudes'	'Freshness and halal food related to attitudes'	'Appearance related attitudes and social norms'	'Price related to attitudes'	'Food attributes'	'Hygiene and convenience'	'Social status and the value of time'	'Knowledge accessibility'	'Price consciousness'	'Competition and branch image'	'Environmental consciousness'	Consumer's gender	Consumer's age	Consumer's marital status	Consumer's education	Consumer's occupation	Consumer's experience in consuming meatball	The number of females in the household	The number of males in the household	Household's income	The use of Malang meatballs	Loyalty to one place	Purchasing place of Malang meatballs	Location (urban vs. rural)
'Sensory attributes related to attitudes'	1	0	0	0	-0.15178	0.12548	0.03071	0.11573	-0.1097	0.01658	0.15864	0.0263	-0.1323	-0.12	0.12006	0.03776	0.03101	0.05917	0.05797	-0.0075	-0.0291	-0.0272	-0.1326	-0.0004
		1	1	1	0.0023	0.012	0.5402	0.0206	0.0283	0.741	0.0015	0.6	0.0081	0.0163	0.0163	0.4514	0.5363	0.2377	0.2474	0.8817	0.5613	0.5876	0.0079	0.9943
Freshness and halal food related to attitudes'	0	1	0	0	-0.04883	0.24526	0.06013	0.2698	0.11066	-0.28217	-0.0279	-0.056	0.01743	-0.1068	0.08538	0.00989	-0.1724	0.04716	0.06585	0.00488	0.03424	0.02784	-0.0926	0.11707
			1	1	0.33	<.0001	0.2301	<.0001	0.0269	<.0001	0.5779	0.264	0.7282	0.0327	0.0881	0.8438	0.0005	0.3468	0.1887	0.9225	0.4947	0.5787	0.0644	0.0192
'Appearance related attitudes and social norms'	0	0	1	0	0.1031	0.21966	-0.0462	0.08524	0.00599	0.20822	0.14979	-0.0518	0.00994	-0.0012	0.06678	0.05998	-0.1504	0.01219	0.00649	0.10757	-0.0347	-0.0727	0.00542	0.04221
				1	0.0393	<.0001	0.3568	0.0886	0.9049	<.0001	0.0027	0.3011	0.8428	0.9803	0.1826	0.2314	0.0026	0.8079	0.897	0.0315	0.4892	0.1469	0.914	0.3999
'Price related to attitudes'	0	0	0	1	0.0352	-0.265	0.29214	-0.0355	0.0922	-0.05709	0.00825	0.04885	0.00595	0.03965	-0.105	0.00397	-0.1217	-0.1023	0.01105	-0.0839	-0.1791	-0.0734	0.00108	-0.1056
					0.4827	<.0001	<.0001	0.4793	0.0655	0.2547	0.8693	0.3298	0.9055	0.4291	0.0358	0.9369	0.0149	-0.0409	0.8256	0.0936	0.0003	0.143	0.9828	0.0347
'Food attributes'	-0.1518	-0.0488	0.1031	0.0352 <sup>(*)</sup>	1	0	0	0	0	0	0	-0.0698	-0.1256	-0.1246	0.26003	0.23232	-0.187	0.02711	-0.105	0.23705	0.05224	0.11806	-0.1014	0.25718
						1	1	1	1	1	1	0.1637	0.0119	0.0127	<.0001	<.0001	0.0002	0.5888	0.0358	<.0001	0.2973	0.0182	0.0427	<.0001
'Hygiene and convenience'	0.12548	0.24526	0.21966	-0.26503 <sup>(**)</sup>	0	1	0	0	0	0	0	-0.1321	0.09111	0.01258	0.15418	0.03013	0.06087	0.11218	-0.0503	0.17421	0.01749	0.08621	-0.0408	0.15687
							1	1	1	1	1	0.0081	0.0687	0.802	0.002	0.5479	0.2245	0.0249	0.3157	0.0005	0.7272	0.0851	0.4159	0.0016
'Social status and the value of time'	0.03071	0.06013	-0.0462	0.29214	0	0	1	0	0	0	0	-0.0324	0.02172	-0.008	-0.0421	0.03329	0.0108	0.00382	-0.0806	-0.0246	-0.173	-0.1211	0.02072	0.02226
								1	1	1	1	0.5186	0.665	0.8736	0.4013	0.5068	0.8296	0.9394	0.1076	0.6244	0.0005	0.0154	0.6795	0.6572
'Knowledge accessibility'	0.11573	0.2698	0.08524	-0.03547	0	0	0	1	0	0	0	0.11842	0.0433	-0.0172	0.02458	0.12567	-0.1595	0.11243	-0.012	0.03141	-0.1207	-0.1163	-0.0803	0.1496
									1	1	1	0.0178	0.3877	0.7315	0.624	0.0119	0.0014	0.0245	0.8115	0.5311	0.0157	0.0199	0.1088	0.0027
'Price consciousness'	-0.1097	0.11066	0.00599	0.0922	0	0	0	0	1	0	0	-0.0858	-0.0935	-0.0306	0.00984	-0.041	-0.046	0.00592	-0.0292	-0.0017	0.01761	0.01129	0.03782	0.05369
										1	1	0.0864	0.0618	0.5413	0.8445	0.4134	0.3584	0.906	0.5611	0.9737	0.7254	0.8219	0.4506	0.2841
'Competition and branch image'	0.01658	-0.2822	0.20822	-0.05709	0	0	0	0	0	1	0	-0.0851	-0.0081	0.03164	0.09199	0.01	0.14409	-0.0151	0.01818	0.1314	-0.1683	-0.0881	-0.0603	0.05872
											1	0.0892	0.8712	0.528	0.0661	0.8419	0.0039	0.764	0.7169	0.0085	0.0007	0.0785	0.2293	0.2413
'Environmental consciousness'	0.15864	-0.0279	0.14979	0.00825	0	0	0	0	0	0	1	-0.016	-0.1101	-0.1666	0.01822	0.07168	0.05841	0.0306	0.00579	-0.1057	-0.0281	-0.1334	0.08617	-0.043
												0.7497	0.0277	0.0008	0.7163	0.1525	0.2438	0.5417	0.9081	0.0347	0.5755	0.0076	0.0852	0.3906
Consumer's gender	0.0263	-0.056	-0.0518	0.04885	-0.06977	-0.1321	-0.0324	0.11842	-0.0858	-0.08509	-0.016	1	0.04978	-0.0459	-0.0896	0.16408	-0.0324	-0.1269	0.11967	-0.0867	-0.0257	-0.0163	-8E-05	-0.1654
													0.3207	0.3599	0.0736	0.001	0.5178	0.0111	0.0166	0.0832	0.6078	0.7454	0.9988	0.0009
Consumer's age	-0.1323	0.01743	0.00994	0.00595	-0.12562	0.09111	0.02172	0.0433	-0.0935	-0.00813	-0.1101	0.04978	1	0.68649	-0.3731	-0.3152	0.21228	-0.0101	0.01114	0.07038	-0.0697	0.03826	0.10044	0.015
														<.0001	<.0001	<.0001	<.0001	0.8411	0.8242	0.16	0.1641	0.4454	0.0447	0.7649

Note:  
<sup>(\*)</sup> Correlation between independent variables were 0.0-0.2 (very weak, negligible relationship); 0.2-0.4 (weak and low association); 0.4-0.7 (moderate association); 0.7-0.9 (strong, high, marked association); 0.9-1.0 (very high, very strong relationship) (Argyrous, 1997).  
<sup>(\*)</sup> Correlation between independent variables equal to or greater than 0.30 are considered significant (Howell, 1992) and therefore, and this is considered as multicollinearity between these variables.  
<sup>(\*\*)</sup> Low multicollinearity with correlations between consumer attitudes ('price related attitudes') and consumer perceptions ('hygiene and convenience').



## Appendix-1 Correlation analysis of explanatory variables for consumers' purchasing behaviour towards Malang meatballs

Variables	'Sensory attributes related to attitudes'	'Freshness and halal food related to attitudes'	'Appearance related attitudes and social norms'	'Price related to attitudes'	'Food attributes'	'Hygiene and convenience'	'Social status and the value of time'	'Knowledge accessibility'	'Price consciousness'	'Competition and brand image'	'Environmental consciousness'	Consumer's gender	Consumer's age	Consumer's marital status	Consumer's education	Consumer's occupation	Consumer's experience in consuming Malang meatballs	The number of females in the household	The number of males in the household	Household's income	The use of Malang meatballs	Loyalty to one place	Purchasing place of Malang meatballs	Location (urban vs. rural)
Consumer's marital status	-0.12002 0.0163	-0.1068 0.0327	-0.0012 0.9803	0.03965 0.4291	-0.12456 0.0127	0.01258 0.802	-0.008 0.8736	-0.0172 0.7315	-0.0306 0.5413	0.03164 0.528	-0.1666 0.0008	-0.0459 0.3599	0.68649 <.0001	1 <.0001	-0.3254 <.0001	-0.3485 <.0001	0.23386 <.0001	-0.1087 0.0298	-0.1463 0.0034	0.08467 0.0908	-0.0457 0.3617	-0.0296 0.5552	0.10921 0.029	-0.0565 0.26
Consumer's education	0.12006 0.0163	0.08538 0.0881	0.06678 0.1826	-0.10498 0.0358	0.26003 <sup>(*)</sup> <.0001	0.15418 0.002	-0.0421 0.4013	0.02458 0.624	0.00984 0.8445	0.09199 0.0661	0.01822 0.7163	-0.0896 0.0736	-0.3731 <.0001	-0.3254 <.0001	1 <.0001	0.22003 <.0001	-0.1174 0.0188	-0.0409 0.4143	-0.046 0.3588	0.32056 <.0001	0.1395 0.0052	0.09594 0.0552	-0.1484 0.0029	0.32005 <.0001
Consumer's occupation	0.03776 0.4514	0.00989 0.8438	0.05998 0.2314	0.00397 0.9369	0.23232 <.0001	0.03013 0.5479	0.03329 0.5068	0.12567 0.0119	-0.041 0.4134	0.01 0.8419	0.07168 0.1525	0.16408 0.001	-0.3152 <.0001	-0.3485 <.0001	0.22003 <.0001	1 <.0001	-0.1742 0.0005	0.02023 0.6867	-0.0402 0.423	0.12632 0.0115	0.03565 0.4771	-0.0461 0.3574	-0.1196 0.0167	0.14003 0.005
Consumer's experience in consuming meatballs	0.03101 0.5363	-0.1724 0.0005	-0.1504 0.0026	-0.12169 0.0149	-0.18697 0.0002	0.06087 0.2245	0.0108 0.8296	-0.1595 0.0014	-0.046 0.3584	0.14409 0.0039	0.05841 0.2438	-0.0324 0.5178	0.21228 <.0001	0.23386 <.0001	-0.1174 0.0188	-0.1742 0.0005	1 0.677	-0.0209 0.5631	0.02899 0.2455	-0.0582 0.7233	0.01776 0.8317	0.01066 0.0038	0.14457 0.0038	-0.0881 0.0784
The number females in the household	0.05917 0.2377	0.04716 0.3468	0.01219 0.8079	-0.10229 0.0409	0.02711 0.5888	0.11218 0.0249	0.00382 0.9394	0.11243 0.0245	0.00592 0.906	-0.01506 0.764	0.0306 0.5417	-0.1269 0.0111	-0.0101 0.8411	-0.1087 0.0298	-0.0409 0.4143	0.02023 0.6867	-0.0209 0.677	1 0.0529	0.09685 0.2103	-0.0628 0.9128	0.00549 0.5386	-0.0308 0.9129	-0.0055 0.3348	0.04835
The number of males in the household	0.05797 0.2474	0.06585 0.1887	0.00649 0.897	0.01105 0.8256	-0.10499 0.0358	-0.0503 0.3157	-0.0806 0.1076	-0.012 0.8115	-0.0292 0.5611	0.01818 0.7169	0.00579 0.9081	0.11967 0.0166	0.01114 0.8242	-0.1463 0.0034	-0.046 0.3588	-0.0402 0.423	0.02899 0.5631	0.09685 0.0529	1 0.0424	-0.1015 0.8042	0.01243 0.4677	0.03641 0.9639	0.00227 0.1505	-0.072
Household's income	-0.0075 0.8817	0.00488 0.9225	0.10757 0.0315	-0.08394 0.0936	0.23705 <.0001	0.17421 0.0605	-0.0246 0.6244	0.03141 0.5311	-0.0017 0.9737	0.1314 0.0085	-0.1057 0.0347	-0.0867 0.0832	0.07038 0.16	0.08467 0.0908	0.32056 <.0001	0.12632 0.0115	-0.0582 0.2455	-0.0628 0.2103	-0.1015 0.0424	1 0.06457	0.04042 0.1975	0.04042 0.4201	-0.1536 0.0021	0.35554 <.0001
The use of Malang meatballs	-0.0291 0.5613	0.03424 0.4947	-0.0347 0.4892	-0.1791 0.0003	0.05224 0.2973	0.01749 0.7272	-0.173 0.0005	-0.1207 0.0157	0.01761 0.7254	-0.16831 0.0007	-0.0281 0.5755	-0.0257 0.6078	-0.0697 0.1641	-0.0457 0.3617	0.1395 0.0052	0.03565 0.4771	0.01776 0.7233	0.00549 0.9128	0.01243 0.8042	0.06457 0.1975	1 0.1246	0.07692 0.4152	0.04085 0.0939	0.08386
Loyalty to one purchasing place	-0.0272 0.5876	0.02784 0.5787	-0.0727 0.1469	-0.07336 0.143	0.11806 0.0182	0.08621 0.0851	-0.1211 0.0154	-0.1163 0.0199	0.01129 0.8219	-0.08807 0.0785	-0.1334 0.0076	-0.0163 0.7454	0.03826 0.4454	-0.0296 0.5552	0.09594 0.0552	-0.0461 0.3574	0.01066 0.8317	-0.0308 0.5386	0.03641 0.4677	0.04042 0.4201	0.07692 0.1246	1 0.1246	-0.0302 0.5465	0.05241 0.2957
Purchasing place of Malang	-0.1326 0.0079	-0.0926 0.0644	0.00542 0.914	0.00108 0.9828	-0.10139 0.0427	-0.0408 0.4159	0.02072 0.6795	-0.0803 0.1088	0.03782 0.4506	-0.06025 0.2293	0.08617 0.0852	-8E-05 0.9988	0.10044 0.0447	0.10921 0.029	-0.1484 0.0029	-0.1196 0.0167	0.14457 0.0038	-0.0055 0.9129	0.00227 0.9639	-0.1536 0.0021	0.04085 0.4152	-0.0302 0.5465	1 0.0029	-0.0354 0.4798
Location (urban vs. rural)	-0.0004 0.9943	0.11707 0.0192	0.04221 0.3999	-0.10562 0.0347	0.25718 <.0001	0.15687 0.0016	0.02226 0.6572	0.1496 0.0027	0.05369 0.2841	0.05872 0.2413	-0.043 0.3906	-0.1654 0.0009	0.015 0.7649	-0.0565 0.26	0.32005 <.0001	0.14003 0.005	-0.0881 0.0784	0.04835 0.3348	-0.072 0.1505	0.35554 <.0001	0.08386 0.0939	0.05241 0.2957	-0.0354 0.4798	1

Note:

(\*) Low multicollinearity with correlations between consumer perceptions ('food attributes') and consumer's education.

**Appendix-1-1 Correlation analysis of explanatory variables for urban consumers' purchasing behaviour towards Malang meatballs**

Variables	'Sensory attributes related to attitudes'	'Freshness and halal food related to attitudes'	'Appearance related to attitudes and social norms'	'Price related to attitudes'	'Knowledge accessibility and food attributes'	'Hygiene and convenience'	'Social status and the value of time'	'Price consciousness'	'Branch image, variety, and self service'	'Halal food awareness'	'Environment and competition'	Consumer's gender	Consumer's age	Consumer's marital status	Consumer's education	Consumer's occupation	Consumer's experience in consuming Malang meatball	The number of females in the household	The number of males in the household	Household's income	The use of Malang meatballs	Loyalty to one place	Purchasing place of Malang meatballs
'Sensory attributes related to attitudes'	1	0	0	0	0.08925	0.17887	0.05896	-0.0492	-0.1393	-0.0197	0.17758	-0.0464	-0.1107	-0.0551	0.08665	0.02025	0.13227	0.03073	0.12818	-0.0299	-0.1083	-0.0463	-0.1097
		1	1	1	0.2088	0.0113	0.4069	0.4894	0.0492	0.7816	0.0119	0.5145	0.1185	0.4387	0.2224	0.7759	0.0619	0.6657	0.0705	0.6739	0.1268	0.5154	0.122
'Freshness and halal food related to attitudes'	0	1	0	0	0.1296	0.1887	0.05118	0.07843	-0.0555	0.31462	-0.1947	-0.0244	-0.0262	-0.11	0.02947	0.06111	-0.1472	0.02415	0.0754	-0.0389	-0.0173	-0.0321	-0.1664
	1		1	1	0.0674	0.0075	0.4717	0.2696	0.435	<.0001	0.0057	0.7317	0.7128	0.121	0.6787	0.39	0.0376	0.7342	0.2886	0.5842	0.8078	0.6519	0.0185
'Appearance related to attitudes and social norms'	0	0	1	0	0.20512	0.25438	-0.07339	-0.0226	0.16159	0.01947	0.14673	-0.0658	0.03174	0.02126	0.04586	0.00582	-0.1372	0.03788	-0.0281	0.13058	-0.088	-0.0823	-0.0196
	1	1		1	0.0036	0.0003	0.3017	0.7508	0.0223	0.7843	0.0381	0.3548	0.6555	0.7651	0.5191	0.9349	0.0528	0.5943	0.6924	0.0653	0.2155	0.2466	0.7826
'Price related to attitudes'	0	0	0	1	0.02415	-0.0872	0.31171 <sup>(1)</sup>	-0.1262	0.01508	-0.168	-0.099	0.11252	-0.0105	0.06027	0.11684	0.06872	-0.0368	-0.17	0.00228	0.10676	-0.1927	0.01225	-0.0124
	1	1	1		0.7343	0.2196	<.0001	0.075	0.8322	0.0174	0.1631	0.1126	0.883	0.3965	0.0994	0.3336	0.6048	0.0161	0.9744	0.1324	0.0063	0.8633	0.8612
'Knowledge accessibility and food attributes'	0.08925	0.1296	0.20512	0.02415	1	0	0	0	0	0	0	0.06264	-0.0319	0.01993	0.16756	0.16681	-0.1926	0.07369	-0.1	0.25696	-0.1929	0.01906	-0.2406
	0.2088	0.0674	0.0036	0.7343		1	1	1	1	1	1	0.3782	0.6541	0.7794	0.0177	0.0182	0.0063	0.2998	0.1587	0.0002	0.0062	0.7888	0.0006
'Hygiene and convenience'	0.17887	0.1887	0.25438	-0.0872	0	1	0	0	0	0	0	-0.105	0.02705	0.00518	0.11149	0.05097	0.13614	0.17801	-0.0507	0.09179	-0.0421	0.0201	-0.0047
	0.0113	0.0075	0.0003	0.2196	1		1	1	1	1	1	0.1389	0.7037	0.942	0.116	0.4735	0.0546	0.0117	0.4762	0.1961	0.5537	0.7776	0.9477
'Social status and the value of time'	0.05896	0.05118	-0.0734	0.31171	0	0	1	0	0	0	0	-0.0149	0.05548	0.02692	-0.0625	0.02809	0.12072	0.00958	-0.0813	0.00752	-0.1572	-0.0731	0.04127
	0.4069	0.4717	0.3017	<.0001	1	1		1	1	1	1	0.8343	0.4353	0.7051	0.3793	0.6929	0.0886	0.8929	0.2525	0.9158	0.0262	0.3036	0.5617
'Price consciousness'	-0.0492	0.07843	-0.0226	-0.1262	0	0	0	1	0	0	0	-0.0605	-0.1773	-0.1233	0.04534	0.10769	-0.1207	0.02258	-0.039	0.06404	0.0005	0.10092	-0.0587
	0.4894	0.2696	0.7508	0.075	1	1	1		1	1	1	0.3951	0.012	0.082	0.5238	0.1291	0.0887	0.7509	0.5838	0.3676	0.9944	0.155	0.4093
'Branch image, variety, and self service'	-0.1393	-0.0555	0.16159	0.01508	0	0	0	0	1	0	0	-0.1148	-0.0866	-0.1036	-0.0112	0.06077	0.13463	-0.0376	-0.0972	0.01813	-0.0785	0.0228	0.05261
	0.0492	0.435	0.0223	0.8322	1	1	1		1	1	1	0.1057	0.2227	0.1445	0.8755	0.3926	0.0573	0.5973	0.1708	0.7989	0.2691	0.7487	0.4594
'Halal food awareness'	-0.0197	0.31462	0.01947	-0.168	0	0	0	0	0	1	0	0.01349	-0.0617	-0.1494	-0.1286	0.19754	-0.2097	0.02854	-0.025	-0.1125	-0.063	-0.0318	-0.0996
	0.7816	<.0001	0.7843	0.0174	1	1	1		1	1	1	0.8496	0.3855	0.0348	0.0695	0.005	0.0029	0.6883	0.7251	0.1127	0.3753	0.655	0.1605
'Environment and competition'	0.17758	-0.1947	0.14673	-0.099	0	0	0	0	0	0	1	-0.1393	-0.1169	-0.1023	0.10256	0.06885	0.13583	-0.0087	0.07282	-0.0935	-0.1615	-0.1397	0.09907
	0.0119	0.0057	0.0381	0.1631	1	1	1		1	1	1	0.0492	0.0993	0.1494	0.1484	0.3327	0.0551	0.9027	0.3055	0.188	0.0224	0.0485	0.1628
Consumer's gender	-0.0464	-0.0244	-0.0658	0.11252	0.06264	-0.105	-0.01488	-0.0605	-0.1148	0.01349	-0.1393	1	0.00201	-0.0949	-0.0389	0.19956	-0.0622	-0.0395	0.25652	0.07375	-0.0456	0.00519	-0.0081
	0.5145	0.7317	0.3548	0.1126	0.3782	0.1389	0.8343	0.3951	0.1057	0.8496	0.0492		0.9775	0.1816	0.5849	0.0046	0.382	0.5788	0.0002	0.2993	0.5211	0.9419	0.9094
Consumer's age	-0.1107	-0.0262	0.03174	-0.0105	-0.03187	0.02705	0.05548	-0.1773	-0.0866	-0.0617	-0.1169	0.00201	1	0.69688	-0.2897	-0.3275	0.19918	-0.116	0.02638	0.07759	-0.0082	0.1188	0.11848
	0.1185	0.7128	0.6555	0.883	0.6541	0.7037	0.4353	0.012	0.2227	0.3855	0.0993	0.9775		<.0001	<.0001	<.0001	0.0047	0.1019	0.7108	0.2748	0.9081	0.0939	0.0947

Note:  
<sup>(1)</sup> Low multicollinearity with correlations between urban consumer attitudes ('price related attitudes') and his/her perceptions ('social status and the value of time').

**Appendix-1.1 Correlation analysis results of explanatory variables for urban consumers' purchasing behaviour towards Malang meatballs**

Variables	'Sensory attributes related to attitudes'	'Freshness and halal food related to attitudes'	'Appearance related to attitudes and social norms'	'Price related to attitudes'	'Knowledge accessibility and food attributes'	'Hygiene and convenience'	'Social status and the value of time'	'Price consciousness'	'Branch image, variety, and self service'	'Halal food awareness'	'Environment and competition'	Consumer's gender	Consumer's age	Consumer's marital status	Consumer's education	Consumer's occupation	Consumer's experience in consuming Malang meatballs	The number of females in the household	The number of males in the household	Household's income	The use of Malang meatballs	Loyalty to one place	Purchasing place of Malang meatballs
Consumer's status	-0.0551	-0.11	0.02126	0.06027	0.01993	0.00518	0.02692	-0.1233	-0.1036	-0.1494	-0.1023	-0.0949	0.69688	1	-0.2351	-0.3672	0.14894	-0.1445	-0.1128	0.10531	0.11563	0.08646	0.11203
	0.4387	0.121	0.7651	0.3965	0.7794	0.942	0.7051	0.082	0.1445	0.0348	0.1494	0.1816	<.0001		0.0008	<.0001	0.0353	0.0412	0.1118	0.1378	0.103	0.2235	0.1143
Consumer's education	0.08665	0.02947	0.04586	0.11684	0.16756	0.11149	-0.06249	0.04534	-0.0112	-0.1286	0.10256	-0.0389	-0.2897	-0.2351	1	0.06266	-0.0026	0.06408	0.01887	0.21508	-0.0984	0.05374	-0.133
	0.2224	0.6787	0.5191	0.0994	0.0177	0.116	0.3793	0.5238	0.8755	0.0695	0.1484	0.5849	<.0001	0.0008		0.3781	0.9706	0.3673	0.7908	0.0022	0.1658	0.4498	0.0605
Consumer's occupation	0.02025	0.06111	0.00582	0.06872	0.16681	0.05097	0.02809	0.10769	0.06077	0.19754	0.06885	0.19956	-0.3275	-0.3672	0.06266	1	-0.2143	0.12561	-0.0918	0.0977	-0.0666	-0.0523	-0.1625
	0.7759	0.39	0.9349	0.3336	0.0182	0.4735	0.6929	0.1291	0.3926	0.005	0.3327	0.0046	<.0001	<.0001	0.3781		0.0023	0.0763	0.1963	0.1687	0.3488	0.4619	0.0215
Consumer's experience in consuming	0.13227	-0.1472	-0.1372	-0.0368	-0.19264	0.13614	0.12072	-0.1207	0.13463	-0.2097	0.13583	-0.0622	0.19918	0.14894	-0.0026	-0.2143	1	0.00646	0.05811	-0.0966	0.0794	0.06843	0.1739
	0.0619	0.0376	0.0528	0.6048	0.0063	0.0546	0.0886	0.0887	0.0573	0.0029	0.0551	0.382	0.0047	0.0353	0.9706	0.0023		0.9276	0.4137	0.1737	0.2637	0.3357	0.0138
The number females in the household	0.03073	0.02415	0.03788	-0.17	0.07369	0.17801	0.00958	0.02258	-0.0376	0.02854	-0.0087	-0.0395	-0.116	-0.1445	0.06408	0.12561	0.00646	1	0.04418	-0.1178	0.00352	-0.0789	-0.0013
	0.6657	0.7342	0.5943	0.0161	0.2998	0.0117	0.8929	0.7509	0.5973	0.6883	0.9027	0.5788	0.1019	0.0412	0.3673	0.0763	0.9276		0.5344	0.0968	0.9606	0.2667	0.9857
The number males in the household	0.12818	0.0754	-0.0281	0.00228	-0.10004	-0.0507	-0.08128	-0.039	-0.0972	-0.025	0.07282	0.25652	0.02638	-0.1128	0.01887	-0.0918	0.05811	0.04418	1	-0.1137	-0.0616	0.01511	-0.0446
	0.0705	0.2886	0.6924	0.9744	0.1587	0.4762	0.2525	0.5838	0.1708	0.7251	0.3055	0.0002	0.7108	0.1118	0.7908	0.1963	0.4137	0.5344		0.1088	0.3861	0.8318	0.5304
Household's income	-0.0299	-0.0389	0.13058	0.10676	0.25696 <sup>(*)</sup>	0.09179	0.00752	0.06404	0.01813	-0.1125	-0.0935	0.07375	0.07759	0.10531	0.21508	0.0977	-0.0966	-0.1178	-0.1137	1	-0.1519	0.07037	-0.207
	0.6739	0.5842	0.0653	0.1324	0.0002	0.1961	0.9158	0.3676	0.7989	0.1127	0.188	0.2993	0.2748	0.1378	0.0022	0.1687	0.1737	0.0968	0.1088		0.0318	0.3221	0.0033
The use of Malang meatballs	-0.1083	-0.0173	-0.088	-0.1927	-0.19287	-0.0421	-0.15724	0.0005	-0.0785	-0.063	-0.1615	-0.0456	-0.0082	0.11563	-0.0984	-0.0666	0.0794	0.00352	-0.0616	-0.1519	1	0.05024	0.1028
	0.1268	0.8078	0.2155	0.0063	0.0062	0.5537	0.0262	0.9944	0.2691	0.3753	0.0224	0.5211	0.9081	0.103	0.1658	0.3488	0.2637	0.9606	0.3861	0.0318		0.4798	0.1475
Loyalty to one purchasing place	-0.0463	-0.0321	-0.0823	0.01225	0.01906	0.0201	-0.07311	0.10092	0.0228	-0.0318	-0.1397	0.00519	0.1188	0.08646	0.05374	-0.0523	0.06843	-0.0789	0.01511	0.07037	0.05024	1	0
	0.5154	0.6519	0.2466	0.8633	0.7888	0.7776	0.3036	0.155	0.7487	0.655	0.0485	0.9419	0.0939	0.2235	0.4498	0.4619	0.3357	0.2667	0.8318	0.3221	0.4798		1
Purchasing place of Malang	-0.1097	-0.1664	-0.0196	-0.0124	-0.24061	-0.0047	0.04127	-0.0587	0.05261	-0.0996	0.09907	-0.0081	0.11848	0.11203	-0.133	-0.1625	0.1739	-0.0013	-0.0446	-0.207	0.1028	0	1
	0.122	0.0185	0.7826	0.8612	0.0006	0.9477	0.5617	0.4093	0.4594	0.1605	0.1628	0.9094	0.0947	0.1143	0.0605	0.0215	0.0138	0.9857	0.5304	0.0033	0.1475	1	

Note:  
<sup>(\*)</sup> Low multicollinearity with correlations between urban consumer perceptions ('knowledge accessibility and food attributes') and his/her household income.



Appendix-1.2 Correlation analysis of explanatory variables for rural consumers' purchasing behaviour towards Malang meatballs

Variables	'Sensory attributes related to attitudes'	'Freshness and halal food related to attitudes'	'Appearance related attitudes and social norms'	'Price related to attitudes'	'Food attributes'	'Hygiene and convenience'	'Social status and the value of time'	'Knowledge accessibility'	'Price consciousness'	'Branch image and competition'	'Environmental consciousness'	Consumer's gender	Consumer's age	Consumer's marital status	Consumer's education	Consumer's occupation	Consumer's experience in consuming Malang meatballs	The number of females in the household	The number of males in the household	Household's income	The use of Malang meatballs	Loyalty to one purchasing place	Purchasing place of Malang meatballs
'Sensory attributes related to attitudes'	1	0	0	0	-0.19459	0.04882	0.0028	0.11796	-0.16891	-0.02398	0.26636	0.08252	-0.14148	-0.18463	0.12306	0.04779	-0.11147	0.09068	-0.00341	-0.01227	0.02845	-0.0031	-0.14597
		1	1	1	0.0058	0.4924	0.9686	0.0962	0.0168	0.7361	0.0001	0.2454	0.0457	0.0089	0.0826	0.5016	0.1161	0.2016	0.9618	0.863	0.6892	0.9652	0.0392
'Freshness and halal food related to attitudes'	0	1	0	0	-0.20867	0.26035	0.10982	0.22649	0.07634	-0.32725 <sup>(*)</sup>	-0.03255	-0.03758	0.04702	-0.08346	0.0968	-0.0755	-0.14922	0.06857	0.06551	-0.00983	0.08249	0.05138	-0.03086
			1	1	0.003	0.0002	0.1216	0.0013	0.2826	<.0001	0.6473	0.5973	0.5085	0.24	0.1727	0.288	0.035	0.3346	0.3567	0.8901	0.2455	0.4699	0.6644
'Appearance related attitudes and social norms'	0	0	1	0	0.06544	0.21128	0.03903	0.02589	0.03876	0.12232	0.21199	-0.03078	-0.00554	-0.02315	0.06424	0.11676	-0.17691	-0.00353	0.04785	0.05837	0.02675	-0.08634	0.03287
				1	0.3573	0.0027	0.5832	0.716	0.5858	0.0844	0.0026	0.6653	0.938	0.7449	0.3662	0.0996	0.0122	0.9604	0.501	0.4116	0.707	0.2241	0.644
'Price related to attitudes'	0	0	0	1	0.12088	-0.37767	0.21183	-0.05304	0.22662	-0.14694	0.06789	-0.04393	0.05274	0.05616	-0.16202	-0.04395	-0.18529	-0.01402	-0.02203	-0.14018	-0.08907	-0.17167	0.00972
					0.0882	<.0001	0.0026	0.4557	0.0013	0.0379	0.3395	0.5368	0.4582	0.4296	0.0219	0.5366	0.0086	0.8438	0.7568	0.0477	0.2097	0.0151	0.8914
'Food attributes'	-0.19459	-0.20867	0.06544	0.12088	1	0	0	0	0	0	-0.06849	-0.13983	-0.13987	0.24928	0.2332	-0.16375	-0.00745	-0.06018	0.10403	0.11231	0.10942	-0.03467	
	0.0058	0.003	0.3573	0.0882		1	1	1	1	1	0.3352	0.0483	0.0482	0.0004	0.0009	0.0205	0.9166	0.3972	0.1427	0.1133	0.123	0.626	
'Hygiene and convenience'	0.04882	0.26035	0.21128	-0.37767	0	1	0	0	0	0	-0.11391	0.1477	0.03056	0.11644	-0.03198	0.0332	0.03568	-0.02565	0.14414	0.04398	0.11851	-0.06213	
	0.4924	0.0002	0.0027	<.0001	1		1	1	1	1	0.1082	0.0369	0.6675	0.1006	0.653	0.6407	0.616	0.7184	0.0417	0.5363	0.0946	0.3821	
'Social status and the value of time'	0.0028	0.10982	0.03903	0.21183	0	0	1	0	0	0	-0.04992	0.00816	-0.02643	-0.04752	0.0379	-0.11351	-0.01574	-0.04044	-0.10754	-0.25645	-0.21818	-0.04174	
	0.9686	0.1216	0.5832	0.0026	1	1		1	1	1	0.4827	0.9087	0.7103	0.5041	0.5942	0.1095	0.8249	0.5697	0.1296	0.0002	0.0019	0.5573	
'Knowledge accessibility'	0.11796	0.22649	0.02589	-0.05304	0	0	0	1	0	0	0.20283	0.00959	-0.05478	-0.03055	0.07619	-0.13096	0.17869	0.00633	-0.06529	-0.0631	-0.13648	0.03637	
	0.0962	0.0013	0.716	0.4557	1	1	1		1	1	0.004	0.8928	0.441	0.6676	0.2836	0.0646	0.0114	0.9291	0.3583	0.3747	0.054	0.6091	
'Price consciousness'	-0.16891	0.07634	0.03876	0.22662	0	0	0	0	1	0	-0.09896	-0.03984	0.04486	-0.04165	-0.17162	-0.01063	-0.01157	-0.03541	-0.05733	0.03864	-0.043	0.12085	
	0.0168	0.2826	0.5858	0.0013	1	1	1	1	1	1	0.1633	0.5754	0.5282	0.5582	0.0151	0.8813	0.8708	0.6187	0.42	0.587	0.5454	0.0883	
'Branch image and competition'	-0.02398	-0.32725	0.12232	-0.14694	0	0	0	0	0	1	0	-0.02639	0.04315	0.0203	-0.01274	0.07357	0.0532	0.00238	0.01375	0.14042	-0.18985	-0.14315	-0.10494
	0.7361	<.0001	0.0844	0.0379	1	1	1	1	1	1	0.7106	0.5441	0.7754	0.8579	0.3005		0.4544	0.9733	0.8468	0.0473	0.0071	0.0432	0.1392
'Environmental consciousness'	0.26636	-0.03255	0.21199	0.06789	0	0	0	0	0	0	1	0.07445	-0.10072	-0.12798	0.08764	0.03312	-0.01773	0.04706	0.00879	0.00557	0.0463	-0.17005	-0.0181
	0.0001	0.6473	0.0026	0.3395	1	1	1	1	1	1	0.2948	0.1559	0.0709	0.2172	0.6415	0.8032	0.5082	0.9017	0.9376	0.515	0.0161	0.7992	
Consumer's gender	0.08252	-0.03758	-0.03078	-0.04393	-0.06849	-0.11391	-0.04992	0.20283	-0.09896	-0.02639	0.07445	1	0.10512	-0.01541	-0.04077	0.18382	-0.03086	-0.20658	-0.02457	-0.14161	0.02044	-0.02139	-0.00387
	0.2454	0.5973	0.6653	0.5368	0.3352	0.1082	0.4827	0.004	0.1633	0.7106	0.2948		0.1385	0.8285	0.5665	0.0092	0.6644	0.0033	0.7299	0.0455	0.7739	0.7637	0.9566
Consumer's age	-0.14148	0.04702	-0.00554	0.05274	-0.13983	0.1477	0.00816	0.00959	-0.03984	0.04315	-0.10072	0.10512	1	0.68003	-0.48539	-0.31348	0.23403	0.09792	-0.00036	0.06129	-0.13102	-0.04644	0.08342
	0.0457	0.5085	0.938	0.4582	0.0483	0.0369	0.9087	0.8928	0.5754	0.5441	0.1559	0.1385		<.0001	<.0001	<.0001	0.0009	0.1678	0.9959	0.3886	0.0644	0.5138	0.2402

Note:

(\*) Low multicollinearity with correlations between rural consumer attitudes ('freshness and halal food related to attitudes') and his/her perceptions ('branch image and competition').

Appendix-1.2 Correlation analysis of explanatory variables for rural consumers' purchasing behaviour towards Malang meatballs

Variables	'Sensory attributes related to attitudes'	Freshness and halal food related to attitudes'	'Appearance related attitudes and social norms'	'Price related to attitudes'	'Food attributes'	'Hygiene and convenience'	'Social status and the value of time'	'Knowledge accessibility'	'Price consciousness'	'Branch image and competition'	'Environmental consciousness'	Consumer's gender	Consumer's age	Consumer's marital status	Consumer's education	Consumer's occupation	Consumer experience in consuming Malang meatballs	The number of females in the household	The number of males in the household	Household's income	The use of Malang meatballs	Loyalty to one purchasing place	Purchasing place of Malang meatballs
Consumer's status	-0.18463	-0.08346	-0.02315	0.05616	-0.13987	0.03056	-0.02643	-0.05478	0.04486	0.0203	-0.12798	-0.01541	0.68003 <sup>(*)</sup>	1	-0.39914	-0.32149	0.32956	-0.06563	-0.18681	0.11969	-0.19392	-0.14678	0.1027
	0.0089	0.24	0.7449	0.4296	0.0482	0.6675	0.7103	0.441	0.5282	0.7754	0.0709	0.8285	<.0001	<.0001	<.0001	<.0001	0.3558	0.0081	0.0914	0.0059	0.0381	0.1478	
Consumer's education	0.12306	0.0968	0.06424	-0.16202	0.24928	0.11644	-0.04752	-0.03055	-0.04165	-0.01274	0.08764	-0.04077	-0.48539	-0.39914	1	0.27639	-0.17471	-0.14898	-0.05102	0.25556	0.26277	0.10779	-0.15742
	0.0826	0.1727	0.3662	0.0219	0.0004	0.1006	0.5041	0.6676	0.5582	0.8579	0.2172	0.5665	<.0001	<.0001		<.0001	0.0133	0.0353	0.4731	0.0003	0.0002	0.1287	0.026
Consumer's occupation	0.04779	-0.0755	0.11676	-0.04395	0.2332	-0.03198	0.0379	0.07619	-0.17162	0.07357	0.03312	0.18382	-0.31348	-0.32149	0.27639	1	-0.10663	-0.10148	0.02404	0.06715	0.10987	-0.05592	-0.06895
	0.5016	0.288	0.0996	0.5366	0.0009	0.653	0.5942	0.2836	0.0151	0.3005	0.6415	0.0092	<.0001	<.0001	<.0001		0.1329	0.1528	0.7354	0.3448	0.1215	0.4316	0.332
Consumer's experience in consuming Malang meatballs	-0.11147	-0.14922	-0.17691	-0.18529	-0.16375	0.0332	-0.11351	-0.13096	-0.01063	0.0532	-0.01773	-0.03086	0.23403	0.32956	-0.17471	-0.10663	1	-0.04501	-0.01403	0.05444	-0.03475	-0.0492	0.1051
	0.1161	0.035	0.0122	0.0086	0.0205	0.6407	0.1095	0.0646	0.8813	0.4544	0.8032	0.6644	0.0009	<.0001	0.0133	0.1329		0.5268	0.8437	0.4439	0.6252	0.489	0.1386
The number of females in the household	0.09068	0.06857	-0.00353	-0.01402	-0.00745	0.03568	-0.01574	0.17869	-0.01157	0.00238	0.04706	-0.20658	0.09792	-0.06563	-0.14898	-0.10148	-0.04501	1	0.15352	-0.05096	-0.00059	0.01511	-0.00639
	0.2016	0.3346	0.9604	0.8438	0.9166	0.616	0.8249	0.0114	0.8708	0.9733	0.5082	0.0033	0.1678	0.3558	0.0353	0.1528	0.5268		0.03	0.4736	0.9934	0.8319	0.9284
The number of males in the household	-0.00341	0.06551	0.04785	-0.02203	-0.06018	-0.02565	-0.04044	0.00633	-0.03541	0.01375	0.00879	-0.02457	-0.00036	-0.18681	-0.05102	0.02404	-0.01403	0.15352	1	-0.05167	0.08671	0.06391	0.03987
	0.9618	0.3567	0.501	0.7568	0.3972	0.7184	0.5697	0.9291	0.6187	0.8468	0.9017	0.7299	0.9959	0.0081	0.4731	0.7354	0.8437	0.03		0.4674	0.2221	0.3686	0.5751
Household's income	-0.01227	-0.00983	0.05837	-0.14018	0.10403	0.14414	-0.10754	-0.06529	-0.05733	0.14042	0.00557	-0.14161	0.06129	0.11969	0.25556	0.06715	0.05444	-0.05096	-0.05167	1	0.22501	-0.0275	-0.09168
	0.863	0.8901	0.4116	0.0477	0.1427	0.0417	0.1296	0.3583	0.42	0.0473	0.9376	0.0455	0.3886	0.0914	0.0003	0.3448	0.4439	0.4736	0.4674		0.0014	0.699	0.1966
The use of Malang meatballs	0.02845	0.08249	0.02675	-0.08907	0.11231	0.04398	-0.25645	-0.0631	0.03864	-0.18985	0.0463	0.02044	-0.13102	-0.19392	0.26277	0.10987	-0.03475	-0.00059	0.08671	0.22501	1	0.09521	-0.01232
	0.6892	0.2455	0.707	0.2097	0.1133	0.5363	0.0002	0.3747	0.587	0.0071	0.515	0.7739	0.0644	0.0059	0.0002	0.1215	0.6252	0.9934	0.2221	0.0014		0.1799	0.8625
Loyalty to one purchasing place	-0.0031	0.05138	-0.08634	-0.17167	0.10942	0.11851	-0.21818	-0.13648	-0.043	-0.14315	-0.17005	-0.02139	-0.04644	-0.14678	0.10779	-0.05592	-0.0492	0.01511	0.06391	-0.0275	0.09521	1	-0.05817
	0.9652	0.4699	0.2241	0.0151	0.123	0.0946	0.0019	0.054	0.5454	0.0432	0.0161	0.7637	0.5138	0.0381	0.1287	0.4316	0.489	0.8319	0.3686	0.699	0.1799	0.4132	
Purchasing place of Malang meatballs	-0.14597	-0.03086	0.03287	0.00972	-0.03467	-0.06213	-0.04174	0.03637	0.12085	-0.10494	-0.0181	-0.00387	0.08342	0.1027	-0.15742	-0.06895	0.1051	-0.00639	0.03987	-0.09168	-0.01232	-0.05817	1
	0.0392	0.6644	0.644	0.8914	0.626	0.3821	0.5573	0.6091	0.0883	0.1392	0.7992	0.9566	0.2402	0.1478	0.026	0.332	0.1386	0.9284	0.5751	0.1966	0.8625	0.4132	

Note:

(\*) Moderate multicollinearity with correlations between rural consumer's status and his/her age.

### Appendix-1.3 Regression analysis results of explanatory variables for urban and rural consumers' purchasing behaviour towards Malang meatballs

Parameter	Urban			Rural
	Consumer job	Consumer's marital status	'Hygiene and convenience'	Consumer's marital status
	Estimate	Estimate	Estimate	Estimate
Intercept	0.87	0.50	-1.00	0.61
'Sensory attributes related to attitudes'	0.00	0.02	0.17***	-0.02
'Appearance related to attitudes and social norms'	-0.04	-0.01	0.30*****	0.02
'Hygiene and convenience'	0.05*	0.01	-0.01	-0.02
'Social status and the value of time'	0.00	-0.02	-0.02	-0.03
'Price consciousness'	0.03	0.01	-0.05	0.02
'Branch image, variety and self service'	0.04	-0.02	-0.06	-0.02
'Halal food awareness'	0.08***	-0.01	-0.07	-0.01
'Environment and competition'	0.07***	0.00	0.24*	0.00
'Food attributes' <sup>(a)</sup>				-0.02
'Knowledge accessibility' <sup>(a)</sup>				0.00
'Branch image and competition' <sup>(a)</sup>				-0.04**
'Environmental consciousness' <sup>(a)</sup>				-0.03
Purchasing place of Malang meatballs	-0.08	-0.16****	0.08	0.00
The use of Malang meatballs	0.08	0.01	-0.14	-0.10***
Loyalty to one purchasing place	-0.01	0.14***	0.10	-0.11***
Household's income	0.10	-0.01	0.20	0.12***
Consumer's gender	0.21****	0.06	-0.11	-0.07
Consumer's experience in consuming Malang meatballs	-0.15*	-0.06	0.46***	0.19***
The number of females in the household <sup>(b)</sup>	0.04*	-0.01	0.12***	
The number of males in the household <sup>(c)</sup>				-0.06****
Consumer's marital status	-0.27****	-0.01	0.08	-0.01
R <sup>2</sup> (R <sup>2</sup> -Squared)	0.31	0.58	0.35	0.61
F value	3.65	11	2.72	13
N	200	200	200	200

Note:

\*\*\*\*\*p<0.0001; \*\*\*\*p<0.01; \*\*\*p<0.05; \*\*p<0.1; \*p<0.15.

<sup>(a)</sup> Results of factor analysis for rural consumers only.

<sup>(b)</sup> This variable was represented by the number of males in the household.

<sup>(c)</sup> This variable was represented by the number of females in the household.

## Appendix-2 Correlation analysis of explanatory variables for processing strategies used by meatball processors

Variables	'Meat quality and other ingredients'	'Meat availability and price'	'Quality of other ingredients'	Food processor's age	Food processor's education	Food processor's experience in operating enterprise	The number of females in the household	The number of males in the household	Number of female workers	Number of male workers	Working capital
'Meat quality and other ingredients'	1	0	0	-0.06507	-0.13298	0.08156	0.10593	0.05726	0.16727	0.01781	0.00921
		1	1	0.5201	0.1872	0.4199	0.2942	0.5715	0.0962	0.8604	0.9276
'Meat availability and price'	0	1	0	-0.21542	0.16442	0.13347	0.16532	0.11636	0.26586	0.18865	-0.12259
	1		1	0.0314	0.1021	0.1856	0.1002	0.2489	0.0075	0.0601	0.2244
'Quality of other ingredients'	0	0	1	-0.03538	-0.05294	0.18391	0.02134	0.08965	0.05156	0.08283	-0.12768
	1	1		0.7268	0.6009	0.067	0.8331	0.3751	0.6104	0.4126	0.2056
Food processor's age	-0.06507	-0.21542	-0.03538	1	0.11671	-0.46795 <sup>(*)</sup>	-0.34587	-0.18909	-0.17727	0.0314	-0.02228
	0.5201	0.0314	0.7268		0.2475	<.0001	0.0004	0.0595	0.0777	0.7565	0.8259
Food processor's education	-0.13298	0.16442	-0.05294	0.11671	1	-0.24149	-0.0503	0.09406	-0.1506	0.02799	-0.16929
	0.1872	0.1021	0.6009	0.2475		0.0155	0.6192	0.3519	0.1348	0.7822	0.0922
Food processor's experience in operating enterprise	0.08156	0.13347	0.18391	-0.46795	-0.24149	1	0.0703	0.14505	0.02898	0.03738	-0.14204
	0.4199	0.1856	0.067	<.0001	0.0155		0.487	0.1499	0.7747	0.712	0.1586
The number of females in the household	0.10593	0.16532	0.02134	-0.34587	-0.0503	0.0703	1	-0.09945	0.10793	0.06173	-0.00101
	0.2942	0.1002	0.8331	0.0004	0.6192	0.487		0.3249	0.2851	0.5418	0.9921
The number of males in the household	0.05726	0.11636	0.08965	-0.18909	0.09406	0.14505	-0.09945	1	0.05642	0.09072	-0.2931
	0.5715	0.2489	0.3751	0.0595	0.3519	0.1499	0.3249		0.5771	0.3693	0.0031
Number of female workers	0.16727	0.26586	0.05156	-0.17727	-0.1506	0.02898	0.10793	0.05642	1	0.63644	-0.23341
	0.0962	0.0075	0.6104	0.0777	0.1348	0.7747	0.2851	0.5771		<.0001	0.0194
Number of male workers	0.01781	0.18865	0.08283	0.0314	0.02799	0.03738	0.06173	0.09072	0.63644	1	-0.47776
	0.8604	0.0601	0.4126	0.7565	0.7822	0.712	0.5418	0.3693	<.0001		<.0001
Working capital	0.00921	-0.12259	-0.12768	-0.02228	-0.16929	-0.14204	-0.00101	-0.2931	-0.23341	-0.47776	1
	0.9276	0.2244	0.2056	0.8259	0.0922	0.1586	0.9921	0.0031	0.0194	<.0001	

Note:

(\*) Moderate multicollinearity with correlations between food processor's age and his/her experience in operating enterprise.

## Appendix-2.1 Correlation analysis of explanatory variables of processing strategies used by the 'small' group of meatball processors

Variables	'Meat quality, time of purchase, and other ingredients'	'Meat availability and price'	Food processor's age	Food processor's education	Food processor's experience in operating enterprise	The number of females in the household	The number of males in the household	Number of female workers	Number of male workers	Working capital
'Meat quality, time of purchase, and other ingredients'	1	0	0.01755	-0.14384	-0.04814	-0.01339	0.02427	-0.05911	-0.15414	0.00857
		1	0.8932	0.2687	0.7125	0.9184	0.8527	0.6509	0.2356	0.9478
'Meat availability and price'	0	1	-0.14672	0.07821	0.1504	0.18416	0.08688	-0.18935	0.11586	0.04649
	1		0.2592	0.5491	0.2473	0.1554	0.5056	0.1439	0.3739	0.722
Food processor's age	0.01755	-0.14672	1	0.1183	-0.52894 <sup>(*)</sup>	-0.48927	-0.19993	-0.0938	0.12697	-0.04437
	0.8932	0.2592		0.3639	<.0001	<.0001	0.1224	0.4721	0.3295	0.7342
Food processor's education	-0.14384	0.07821	0.1183	1	-0.2734	-0.06145	0.11628	-0.44008	0.00088	-0.01917
	0.2687	0.5491	0.3639		0.033	0.638	0.3722	0.0004	0.9946	0.8834
Food processor's experience in operating enterprise	-0.04814	0.1504	-0.52894	-0.2734	1	0.09493	-0.03733	-0.06414	0.08201	-0.022
	0.7125	0.2473	<.0001	0.033		0.4668	0.7752	0.6233	0.5298	0.8664
The number of females in the household	-0.01339	0.18416	-0.48927	-0.06145	0.09493	1	-0.0213	0.23037	-0.07634	0.0371
	0.9184	0.1554	<.0001	0.638	0.4668		0.8706	0.0741	0.5587	0.7765
The number of males in the household	0.02427	0.08688	-0.19993	0.11628	-0.03733	-0.0213	1	-0.02949	0.19434	-0.2053
	0.8527	0.5056	0.1224	0.3722	0.7752	0.8706		0.8215	0.1334	0.1125
Number of female workers	-0.05911	-0.18935	-0.0938	-0.44008	-0.06414	0.23037	-0.02949	1	-0.00978	-0.21893
	0.6509	0.1439	0.4721	0.0004	0.6233	0.0741	0.8215		0.9404	0.09
Number of male workers	-0.15414	0.11586	0.12697	0.00088	0.08201	-0.07634	0.19434	-0.00978	1	-0.43352
	0.2356	0.3739	0.3295	0.9946	0.5298	0.5587	0.1334	0.9404		0.0005
Working capital	0.00857	0.04649	-0.04437	-0.01917	-0.022	0.0371	-0.2053	-0.21893	-0.43352	1
	0.9478	0.722	0.7342	0.8834	0.8664	0.7765	0.1125	0.09	0.0005	

Note:

(\*) Moderate multicollinearity with correlations between food processor's age and his/her experience in operating enterprise (the 'small' group).



**Appendix-2.2 Correlation analysis of explanatory variables of processing strategies used by the 'medium to large' group of meatball processors**

Variables	'Meat quality, time of purchase, and other ingredients'	'Meat availability, price, and quality of other ingredients'	Food processor's age	Food processor's education	Food processor's experience in operating enterprise	The number of females in the household	The number of males in the household	Number of female workers	Number of male workers	Working capital
'Meat quality, time of purchase, and other ingredients'	1	0	-0.21281	-0.07713	0.36573 <sup>(*)</sup>	0.26219	0.11982	0.28971	0.13845	-0.24216
		1	0.1933	0.6407	0.022	0.1069	0.4675	0.0736	0.4006	0.1375
'Meat availability, price, and quality of other ingredients'	0	1	-0.28865	0.12655	0.19559	0.123	0.14343	0.42399	0.18998	-0.22302
	1		0.0747	0.4427	0.2327	0.4557	0.3837	0.0071	0.2467	0.1723
Food processor's age	-0.21281	-0.28865	1	0.10426	-0.38307	-0.12134	-0.2019	-0.28594	-0.01428	0.155
	0.1933	0.0747		0.5276	0.0161	0.4618	0.2177	0.0776	0.9312	0.3461
Food processor's education	-0.07713	0.12655	0.10426	1	-0.2452	-0.04125	0.00441	-0.1274	-0.08376	-0.19391
	0.6407	0.4427	0.5276		0.1324	0.8031	0.9788	0.4396	0.6122	0.2369
Food processor's experience in operating enterprise	0.36573	0.19559	-0.38307	-0.2452	1	0.02876	0.37044	0.04354	-0.04581	-0.31068
	0.022	0.2327	0.0161	0.1324		0.862	0.0203	0.7924	0.7819	0.0542
The number of females in the household	0.26219	0.123	-0.12134	-0.04125	0.02876	1	-0.2167	0.0797	0.12614	-0.02944
	0.1069	0.4557	0.4618	0.8031	0.862		0.1852	0.6296	0.4442	0.8588
The number of males in the household	0.11982	0.14343	-0.2019	0.00441	0.37044	-0.2167	1	0.03651	-0.05553	-0.33404
	0.4675	0.3837	0.2177	0.9788	0.0203	0.1852		0.8254	0.7371	0.0377
Number of female workers	0.28971	0.42399	-0.28594	-0.1274	0.04354	0.0797	0.03651	1	0.68092	-0.07748
	0.0736	0.0071	0.0776	0.4396	0.7924	0.6296	0.8254		<.0001	0.6392
Number of male workers	0.13845	0.18998	-0.01428	-0.08376	-0.04581	0.12614	-0.05553	0.68092	1	-0.1569
	0.4006	0.2467	0.9312	0.6122	0.7819	0.4442	0.7371	<.0001		0.3401
Working capital	-0.24216	-0.22302	0.155	-0.19391	-0.31068	-0.02944	-0.33404	-0.07748	-0.1569	1
	0.1375	0.1723	0.3461	0.2369	0.0542	0.8588	0.0377	0.6392	0.3401	

Note:

(\*) Low multicollinearity with correlations between food processor perceptions ('meat quality, time of purchase and other ingredients') and his/her experience in operating enterprise (the 'medium to large' group).

### Appendix-3 Correlation analysis of explanatory variables for marketing strategies used by meatball processors

Variables	Consumer characteristics and competition'	Loyalty of consumers and formal institutions'	Food processor's age	Food processor's education	Food processor's experience in operating enterprise	The number of females in the household	The number of males in the household	Number of female workers	Number of male workers	The amount of hours for selling meatballs per day	Place for selling meatballs	Working capital
Consumer characteristics and competition'	1	0	0.11532	-0.12403	-0.13365	-0.08063	0.00031	0.0068	-0.13368	0.1351	0.12014	0.12021
Loyalty of consumers and formal institutions'		1	0.2532	0.2189	0.185	0.4252	0.9975	0.9465	0.1849	0.1802	0.2338	0.2335
Food processor's age			1	0.11671	-0.46795 <sup>(*)</sup>	-0.34587	-0.18909	-0.17727	0.0314	0.06885	-0.1061	-0.02228
Food processor's education				1	-0.24149	-0.0503	0.09406	-0.1506	0.02799	-0.32647	0.14132	-0.16929
Food processor's experience in operating enterprise					1	0.0703	0.14505	0.02898	0.03738	0.04989	-0.03429	-0.14204
The number of females in the household						1	-0.09945	0.10793	0.06173	0.03813	-0.01334	-0.00101
The number of males in the household							1	0.05642	0.09072	0.06844	0.20059	-0.2931
Number of female workers								1	0.63644	-0.30579	-0.05237	-0.23341
Number of male workers									1	-0.27189	-0.0656	-0.47776
The amount of hours for selling meatballs per day										1	-0.11577	0.07165
Place for selling meatballs											1	0.12025
Working capital												1

Note:

(\*) Moderate multicollinearity with correlations between food processor's age and his/her experience in operating enterprise.



### Appendix-3.1 Correlation analysis of explanatory variables of marketing strategies used by the 'small' group of meatball processors

Variables	'Consumer characteristics and product substitutions'	'Loyalty of consumers and formal institutions'	Perceptions towards the importance of location for selling meatballs	Food processor's age	Food processor's education	Food processor's experience in operating enterprise	The number of females in the household	The number of males in the household	Number of female workers	Number of male workers	The amount of hours for selling meatballs per day	Place for selling meatballs	Working capital
'Consumer characteristics and product substitutions'	1	0	-0.5587 <sup>(*)</sup>	0.01755	-0.14384	-0.04814	-0.01339	0.02427	-0.05911	-0.15414	0.24801	0.08282	0.00857
		1	<.0001	0.8932	0.2687	0.7125	0.9184	0.8527	0.6509	0.2356	0.054	0.5257	0.9478
'Loyalty of consumers and formal institutions'	0	1	0.37827	-0.14672	0.07821	0.1504	0.18416	0.08688	-0.18935	0.11586	0.07666	0.15734	0.04649
	1		0.0026	0.2592	0.5491	0.2473	0.1554	0.5056	0.1439	0.3739	0.5571	0.2259	0.722
Perception towards location for selling meatballs	-0.55877	0.37827	1	0.09421	0.17532	0.00974	0.0122	-0.1593	-0.11925	0.1773	-0.26804	-0.12481	-0.022
	<.0001	0.0026		0.4702	0.1765	0.9406	0.9256	0.2201	0.36	0.1716	0.0368	0.3379	0.8664
Food processor's age	0.01755	-0.14672	0.09421	1	0.1183	-0.52894	-0.48927	-0.19993	-0.0938	0.12697	0.09685	-0.18498	-0.04437
	0.8932	0.2592	0.4702		0.3639	<.0001	<.0001	0.1224	0.4721	0.3295	0.4578	0.1535	0.7342
Food processor's education	-0.14384	0.07821	0.17532	0.1183	1	-0.2734	-0.06145	0.11628	-0.44008	0.00088	-0.38355	0.29508	-0.01917
	0.2687	0.5491	0.1765	0.3639		0.033	0.638	0.3722	0.0004	0.9946	0.0023	0.021	0.8834
Food processor's experience in operating enterprise	-0.04814	0.1504	0.00974	-0.52894	-0.2734	1	0.09493	-0.03733	-0.06414	0.08201	0.04489	-0.04206	-0.022
	0.7125	0.2473	0.9406	<.0001	0.033		0.4668	0.7752	0.6233	0.5298	0.7312	0.7476	0.8664
The number of females in the household	-0.01339	0.18416	0.0122	-0.48927	-0.06145	0.09493	1	-0.0213	0.23037	-0.07634	0.15427	-0.00085	0.0371
	0.9184	0.1554	0.9256	<.0001	0.638	0.4668		0.8706	0.0741	0.5587	0.2352	0.9948	0.7765
The number of males in the household	0.02427	0.08688	-0.1593	-0.19993	0.11628	-0.03733	-0.0213	1	-0.02949	0.19434	0.12243	0.18382	-0.2053
	0.8527	0.5056	0.2201	0.1224	0.3722	0.7752	0.8706		0.8215	0.1334	0.3472	0.1562	0.1125
Number of female workers	-0.05911	-0.18935	-0.11925	-0.0938	-0.44008	-0.06414	0.23037	-0.02949	1	-0.00978	-0.00535	-0.08381	-0.21893
	0.6509	0.1439	0.36	0.4721	0.0004	0.6233	0.0741	0.8215		0.9404	0.9673	0.5208	
Number of male workers	-0.15414	0.11586	0.1773	0.12697	0.00088	0.08201	-0.07634	0.19434	-0.00978	1	0.02036	-0.01567	-0.43352
	0.2356	0.3739	0.1716	0.3295	0.9946	0.5298	0.5587	0.1334	0.9404		0.8762	0.9046	0.0005
The amount of hours for selling meatballs per day	0.24801	0.07666	-0.26804	0.09685	-0.38355	0.04489	0.15427	0.12243	-0.00535	0.02036	1	-0.17202	0.04812
	0.054	0.5571	0.0368	0.4578	0.0023	0.7312	0.2352	0.3472	0.9673	0.8762		0.185	0.7127
Place for selling meatballs	0.08282	0.15734	-0.12481	-0.18498	0.29508	-0.04206	-0.00085	0.18382	-0.08381	-0.01567	-0.17202	1	-0.17817
	0.5257	0.2259	0.3379	0.1535	0.021	0.7476	0.9948	0.1562	0.5208	0.9046	0.185		0.1695
Working capital	0.00857	0.04649	-0.022	-0.04437	-0.01917	-0.022	0.0371	-0.2053	-0.21893	-0.43352	0.04812	-0.17817	1
	0.9478	0.722	0.8664	0.7342	0.8834	0.8664	0.7765	0.1125	0.09	0.0005	0.7127	0.1695	

Note:

<sup>(\*)</sup> Moderate multicollinearity with correlations between food processor perceptions ('consumer characteristics and product substitutions') and his/her perceptions towards the importance of location for selling meatball (the 'small' group).

### Appendix-3.2 Correlation analysis of explanatory variables of marketing strategies used by the 'medium to large' group of meatball process

Variables	'Consumer characteristics and product substitutions'	'Loyalty of consumers and formal institutions'	Perceptions towards location for selling meatballs	Food processor's age	Food processor's education	Food processor's experience in operating enterprise	The number of females in the household	The number of males in the household	Number of female workers	Number of male workers	The amount of hours for selling meatballs per day	Place for selling meatballs	Working capital
'Consumer characteristics and product substitutions'	1	0	-0.71229	0.00297	0.0151	-0.09901	0.11638	0.19837	0.04293	-0.00034	-0.06349	0.26671	-0.16179
		1	<.0001	0.9857	0.9273	0.5487	0.4805	0.2261	0.7952	0.9984	0.701	0.1007	0.3251
'Loyalty of consumers and formal institutions'	0	1	-0.18827	-0.31035 <sup>(*)</sup>	-0.06422	0.36697	0.20564	0.2278	0.38526	0.14703	-0.07844	-0.06287	-0.12613
	1		0.2511	0.0545	0.6977	0.0216	0.2091	0.1631	0.0154	0.3718	0.635	0.7038	0.4442
Perceptions towards location for selling meatballs	-0.71229	-0.18827	1	0.21167	0.16551	-0.24778	0.06432	-0.31664	0.07759	0.14829	-0.0635	-0.16551	0.11811
	<.0001	0.2511		0.1958	0.314	0.1283	0.6973	0.0495	0.6387	0.3676	0.7009	0.314	0.4739
Food processor's age	0.00297	-0.31035	0.21167	1	0.10426	-0.38307	-0.12134	-0.2019	-0.28594	-0.01428	0.03704	0.00869	0.155
	0.9857	0.0545	0.1958		0.5276	0.0161	0.4618	0.2177	0.0776	0.9312	0.8229	0.9581	0.3461
Food processor's education	0.0151	-0.06422	0.16551	0.10426	1	-0.2452	-0.04125	0.00441	-0.1274	-0.08376	-0.23458	0.05978	-0.19391
	0.9273	0.6977	0.314	0.5276		0.1324	0.8031	0.9788	0.4396	0.6122	0.1506	0.7177	0.2369
Food processor's experience in operating enterprise	-0.09901	0.36697	-0.24778	-0.38307	-0.2452	1	0.02876	0.37044	0.04354	-0.04581	0.08018	0.02786	-0.31068
	0.5487	0.0216	0.1283	0.0161	0.1324		0.862	0.0203	0.7924	0.7819	0.6275	0.8663	0.0542
The number of males in the household	0.11638	0.20564	0.06432	-0.12134	-0.04125	0.02876	1	-0.2167	0.0797	0.12614	-0.12134	-0.0231	-0.02944
	0.4805	0.2091	0.6973	0.4618	0.8031	0.862		0.1852	0.6296	0.4442	0.4618	0.889	0.8588
The number of females in the household	0.19837	0.2278	-0.31664	-0.2019	0.00441	0.37044	-0.2167	1	0.03651	-0.05553	0.04226	0.33924	-0.33404
	0.2261	0.1631	0.0495	0.2177	0.9788	0.0203	0.1852		0.8254	0.7371	0.7984	0.0346	0.0377
Number of female workers	0.04293	0.38526	0.07759	-0.28594	-0.1274	0.04354	0.0797	0.03651	1	0.68092	-0.47314	0.02702	-0.07748
	0.7952	0.0154	0.6387	0.0776	0.4396	0.7924	0.6296	0.8254		<.0001	0.0024	0.8703	0.6392
Number of male workers	-0.00034	0.14703	0.14829	-0.01428	-0.08376	-0.04581	0.12614	-0.05553	0.68092	1	-0.41658	0.08376	-0.1569
	0.9984	0.3718	0.3676	0.9312	0.6122	0.7819	0.4442	0.7371	<.0001		0.0083	0.6122	0.3401
The amount of hours for selling meatballs per day	-0.06349	-0.07844	-0.0635	0.03704	-0.23458	0.08018	-0.12134	0.04226	-0.47314	-0.41658	1	-0.10426	-0.09687
	0.701	0.635	0.7009	0.8229	0.1506	0.6275	0.4618	0.7984	0.0024	0.0083		0.5276	0.5574
Place for selling meatballs	0.26671	-0.06287	-0.16551	0.00869	0.05978	0.02786	-0.0231	0.33924	0.02702	0.08376	-0.10426	1	-0.04242
	0.1007	0.7038	0.314	0.9581	0.7177	0.8663	0.889	0.0346	0.8703	0.6122	0.5276		0.7976
Working capital	-0.16179	-0.12613	0.11811	0.155	-0.19391	-0.31068	-0.02944	-0.33404	-0.07748	-0.1569	-0.09687	-0.04242	1
	0.3251	0.4442	0.4739	0.3461	0.2369	0.0542	0.8588	0.0377	0.6392	0.3401	0.5574	0.7976	

Note:

(\*) Moderate multicollinearity with correlations between food processor perceptions ('loyalty consumers and formal institutions') and his/her age the 'medium to large' group).

#### Appendix-4 Percentage of processing and marketing strategies used by meatball processors

Variables	General (%)		'Small' group (%) <sup>(a)</sup>		'Medium to large' group (%) <sup>(b)</sup>	
	Yes	No	Yes	No	Yes	No
<b>Processing strategies</b>						
- Using good quality of meat	90.0	10.0	88.5	11.5	92.3	7.7
- Using local meat type	97.0	3.0	96.7	3.3	97.4	2.6
- Using good quality of other ingredients	81.0	19.0	82.0	18.0	79.5	20.5
- Using machine technique for meat cutting <sup>(c)</sup>	69.0	31.0	73.8	26.2	61.5	38.5
- Using machine technique for mixing meat with other ingredients <sup>(d)</sup>	72.0	28.0	73.8	26.2	69.2	30.8
- The mixing meat and other ingredients carried out at the market <sup>(e)</sup>	72.0	28.0	73.8	26.2	69.2	30.8
- Using machine technique for meat grinding <sup>(f)</sup>	100.0	0.0	100.0	0.0	100.0	0.0
- Meat grinding carried out at the market <sup>(g)</sup>	100.0	0.0	100.0	0.0	100.0	0.0
- Using kerosene stove for cooking meatballs <sup>(h)</sup>	96.0	4.0	100.0	0.0	89.7	10.3
- Using manual technique for forming meatballs	100.0	0.0	100.0	0.0	100.0	0.0
- Using manual technique for cooling meatballs <sup>(i)</sup>	96.0	4.0	96.7	3.3	94.9	5.1
<b>Marketing strategies</b>						
- Offering of a fresh meatball	99.0	1.0	100.0	0.0	97.4	2.6
- Offering of a variety of meatballs choice	87.0	13.0	83.6	16.4	92.3	7.7
- Offering of a good quality	83.0	17.0	80.3	19.7	87.2	12.8
- Offering of unique taste	61.0	39.0	32.8	67.2	38.5	61.5
- Offering of a low price	61.0	39.0	60.7	39.3	61.5	38.5
- Offering of a high price	4.0	96.0	1.6	98.4	7.7	92.3
- Offering of packaging for meatballs	0.0	100.0	0.0	100.0	0.0	100.0
- Using the branch name	70.0	30.0	62.3	37.7	82.1	18.0
- Using a 'halal food' label	62.0	38.0	50.8	49.2	79.5	20.5
- Using advertisements	75.0	25.0	63.9	36.1	92.3	7.7
- Using word of mouth for selling meatballs	10.0	90.0	8.2	91.8	12.8	87.2
- Offering of a clean place	65.0	35.0	62.3	37.7	69.2	30.8
- Offering of a convenient place	55.0	45.0	54.1	45.9	56.4	43.6
- Offering of a self service	89.0	11.0	93.4	6.6	82.1	18.0
- Offering of the longest time daily for selling meatballs	60.0	40.0	65.6	34.4	51.3	48.7
- Offering of a good service	44.0	56.0	50.8	49.2	33.3	66.7

Note:

<sup>(a)</sup> Meatball processors using less than 5 Kg of meat per day

<sup>(b)</sup> Meatball processors using 5 Kg or more of meat per day

<sup>(c)</sup> 'No' means using combination between machine and manual techniques for meat cutting.

<sup>(d)</sup> 'No' means using combination between machine and manual techniques for mixing meat and other ingredients.

<sup>(e)</sup> 'No' means mixing meat and other ingredients carried out at combination between the market and home.

<sup>(f)</sup> 'No' means using combination between machine and manual techniques for grinding meat

<sup>(g)</sup> 'No' means grinding meat carried out at combination between market and home

<sup>(h)</sup> 'No' means using combination between kerosene stove and gas stove or kerosene stove and hearth.

<sup>(i)</sup> 'No' means using fan in cooling meatballs.

Appendix-5 Correlation analysis of explanatory variables for consumers' purchasing behaviour towards Kediri tofu

Variables	'Freshness and halal food related to attitudes'	'Taste and texture related to attitudes'	'Appearance and aroma related to attitudes'	'Price related to attitudes'	Social norms	'Promotional tools and food attributes'	'Hygiene and convenience'	'Uncertainty perceptions'	'Knowledge accessibility'	'Environment and competition'	Consumer's gender	Consumer's age	Consumer's marital status	Consumer's education	Consumer's occupation	Consumer experience in consuming Kediri tofu	The number of females in the household	The number of males in the household	Household's income	The use of Kediri tofu	Loyalty to one place	Purchasing place of Kediri tofu	Location (urban and rural)
'Freshness and halal food related to attitudes'	1	0	0	0	0.14697	0.24314	0.13036	-0.1449	0.20835	-0.2033	-0.0052	0.08652	0.09212	0.05973	-0.0298	-0.0491	0.02164	-0.0205	-0.0804	-0.0767	0.2961	0.08297	0.14321
		1	1	1	0.0032	<.0001	0.009	0.0037	<.0001	<.0001	0.9168	0.0839	0.0657	0.2333	0.5525	0.327	0.6661	0.6832	0.1086	0.1255	<.0001	0.0975	0.0041
'Taste and texture related to attitudes'	0	1	0	0	0.00365	0.26263	0.19161	0.00081	0.05127	0.14007	0.05694	0.01688	0.02917	0.21985	0.00976	-0.2017	0.05736	-0.0548	0.12965	-0.0273	0.02503	0.22728	0.22021
	1	1	1	1	0.9419	<.0001	0.0001	0.9871	0.3063	0.005	0.2559	0.7364	0.5607	<.0001	0.8457	<.0001	0.2524	0.2739	0.0094	0.5856	0.6177	<.0001	<.0001
'Appearance and aroma related to attitudes'	0	0	1	0	0.11725	0.14389	-0.0117	0.02299	-0.0004	0.04684	-0.0471	0.09476	0.06127	-0.098	0.05927	0.03358	-0.0855	-0.0236	-0.0504	-0.0042	0.09072	0.06993	0.09049
	1	1	1	1	0.019	0.0039	0.8161	0.6467	0.9945	0.3501	0.3478	0.0583	0.2214	0.0501	0.2369	0.503	0.0876	0.6387	0.3146	0.9331	0.0699	0.1628	0.0706
'Price related to attitudes'	0	0	0	1	-0.0691	-0.1907	-0.1107	0.30757	0.00601	0.11381	0.02114	-0.067	-0.074	-0.0801	-0.0601	0.14396	-0.02	-0.0314	-0.1604	0.01239	-0.1126	-0.1039	0.04351
	1	1	1	1	0.1678	0.0001	0.0268	<.0001	0.9046	0.0228	0.6734	0.1814	0.1398	0.1099	0.2306	0.0039	0.6904	0.531	0.0013	0.8049	0.0243	0.0378	0.3854
Social norms	0.14697	0.00365	0.11725	-0.0691	1	0.12854	0.20982	-0.0568	0.06729	-0.0487	-0.0038	0.03186	0.07776	-0.0054	0.13492	0.01755	0.10922	0.02958	-0.0495	-0.0242	0.10236	0.00051	-0.0362
	0.0032	0.9419	0.019	0.1678		0.0101	<.0001	0.2575	0.1792	0.3316	0.94	0.5252	0.1205	0.9139	0.0069	0.7263	0.029	0.5553	0.3238	0.63	0.0407	0.9918	0.4699
'Promotional tools and food attributes'	0.24314	0.26263 <sup>(*)</sup>	0.14389	-0.1907	0.12854	1	0	0	0	0	0.00664	0.11202	0.14423	0.1941	0.08227	-0.1999	0.00958	-0.1136	0.09492	-0.1123	0.2331	0.28895	0.21296
	<.0001	<.0001	0.0039	0.0001	0.0101		1	1	1	1	0.8947	0.0251	0.0038	<.0001	0.1004	<.0001	0.8485	0.023	0.0579	0.0248	<.0001	<.0001	<.0001
'Hygiene and convenience'	0.13036	0.19161	-0.0117	-0.1107	0.20982	0	1	0	0	0	0.04693	0.00005	-0.0325	0.02786	-0.0208	-0.1357	0.04787	-0.0067	0.01461	0.082	-0.0623	0.03766	0.06077
	0.009	0.0001	0.8161	0.0268	<.0001	1		1	1	1	0.3492	0.9992	0.5169	0.5785	0.6783	0.0066	0.3396	0.8931	0.7709	0.1015	0.2136	0.4526	0.2252
'Uncertainty perceptions'	-0.14494	0.00081	0.02299	0.30757	-0.0568	0	0	1	0	0	-0.0165	-0.0323	-0.0493	-0.0979	0.0318	0.07526	0.0644	0.07405	-0.0413	0.07684	-0.1285	-0.1418	-0.0583
	0.0037	0.9871	0.6467	<.0001	0.2575	1	1		1	1	0.7428	0.5199	0.3251	0.0505	0.5259	0.1329	0.1987	0.1393	0.4107	0.125	0.0101	0.0045	0.2444
'Knowledge accessibility'	0.20835	0.05127	-0.0004	0.00601	0.06729	0	0	0	1	0	-0.016	-0.0343	-0.0294	-0.0053	-0.0252	0.067	-0.072	-0.0607	0.12356	-0.0888	0.04087	0.11614	0.18306
	<.0001	0.3063	0.9945	0.9046	0.1792	1	1	1	1	0.7493	0.4934	0.5578	0.9152	0.6147	0.1811		0.1506	0.226	0.0134	0.0761	0.415	0.0202	0.0002
'Environment and competition'	-0.20328	0.14007	0.04684	0.11381	-0.0487	0	0	0	0	1	0.05307	-0.1607	-0.1105	0.17441	0.21386	-0.0398	0.04517	-0.0831	0.22769	0.06429	-0.1862	0.05801	-0.0219
	<.0001	0.005	0.3501	0.0228	0.3316	1	1	1	1	0.2897	0.0013	0.0271	0.0005	<.0001	0.4279		0.3676	0.097	<.0001	0.1995	0.0002	0.2471	0.6631
Consumer's gender	-0.00524	0.05694	-0.0471	0.02114	-0.0038	0.00664	0.04693	-0.0165	-0.016	0.05307	1	0.09522	0.0944	-0.0419	0.03136	-0.0475	-0.0205	0.06942	-0.0089	-0.0085	-0.0332	0.01572	0.01524
	0.9168	0.2559	0.3478	0.6734	0.94	0.8947	0.3492	0.7428	0.7493	0.2897	0.0571	0.0593	0.403	0.5317	0.3429		0.6828	0.1658	0.8591	0.866	0.5082	0.7539	0.7613
Consumer's age	0.08652	0.01688	0.09476	-0.067	0.03186	0.11202	0.00005	-0.0323	-0.0343	-0.1607	0.09522	1	0.62466	-0.257	-0.2183	0.18893	-0.1196	-0.1739	-0.0431	0.03021	0.11728	0.06013	-0.0113
	0.0839	0.7364	0.0583	0.1814	0.5252	0.0251	0.9992	0.5199	0.4934	0.0013	0.0571	<.0001	<.0001	<.0001	0.0001		0.0167	0.0005	0.39	0.5469	0.019	0.2302	0.8213

Note:

(\*) Low multicollinearity with correlations between consumer attitudes ('taste and texture related to attitudes') and his/her perceptions ('promotional tools and food attributes').



**Appendix-5 Correlation analysis of explanatory variables for consumers' purchasing behaviour towards Kediri tofu**

Variables	'Freshness and halal food related to attitudes'	'Taste and texture related to attitudes'	'Appearance and aroma related to attitudes'	'Price related to attitudes'	Social norms	'Promotional tools and food attributes'	'Hygiene and convenience'	'Uncertainty perceptions'	'Knowledge accessibility'	'Environment and competition'	Consumer's gender	Consumer's age	Consumer's marital status	Consumer's education	Consumer's occupation	Consumer's experience in consuming Kediri tofu	The number of females in the household	The number of males in the household	Household's income	The use of Kediri tofu	Loyalty to one place	Purchasing place of Kediri tofu	Location (urban and rural)
Consumer's marital status	0.09212 0.0657	0.02917 0.5607	0.06127 0.2214	-0.074 0.1398	0.07776 0.1205	0.14423 0.0038	-0.0325 0.5169	-0.0493 0.3251	-0.0294 0.5578	-0.1105 0.0271	0.0944 0.0593	0.62466 <.0001	1 <.0001	-0.2204 0.0067	-0.1354 0.031	0.10786	-0.0343 0.4939	-0.196 <.0001	-0.0503 0.3159	-0.0443 0.3773	0.16255 0.0011	0.09315 0.0627	-0.0724 0.1482
Consumer's education	0.05973 0.2333	0.21985 <.0001	-0.098 0.0501	-0.0801 0.1099	-0.0054 0.9139	0.1941 <.0001	0.02786 0.5785	-0.0979 0.0505	-0.0053 0.9152	0.17441 0.0005	-0.0419 0.403	-0.257 <.0001	-0.2204 <.0001	1 0.025	0.11207 <.0001	-0.3247	0.0497 0.3214	-0.0011 0.9823	0.30432 <.0001	-0.0035 0.9443	0.00951 0.8496	0.24397 <.0001	0.2314 <.0001
Consumer's occupation	-0.02979 0.5525	0.00976 0.8457	0.05927 0.2369	-0.0601 0.2306	0.13492 0.0069	0.08227 0.1004	-0.0208 0.6783	0.0318 0.5259	-0.0252 0.6147	0.21386 <.0001	0.03136 0.5317	-0.2183 <.0001	-0.1354 0.0067	0.11207 0.025	1 0.1812	-0.067	0.0861 0.0855	0.01704 0.7341	0.09265 0.0641	0.00167 0.9735	-0.0246 0.6234	0.08749 0.0805	0.025 0.6181
Consumer's experience in consuming Kediri tofu	-0.04914 0.327	-0.20173 <.0001	0.03358 0.503	0.14396 0.0039	0.01755 0.7263	-0.1999 <.0001	-0.1357 0.0066	0.07526 0.1329	0.067 0.1811	-0.0398 0.4279	-0.0475 0.3429	0.18893 0.0001	0.10786 0.031	-0.3247 <.0001	-0.067 0.1812	1	-0.0316 0.5288	0.00205 0.9674	-0.1075 0.0315	0.03305 0.5098	-0.0311 0.5355	-0.1905 0.0001	-0.1108 0.0267
The number females in the household	0.02164 0.6661	0.05736 0.2524	-0.0855 0.0876	-0.02 0.6904	0.10922 0.029	0.00958 0.8485	0.04787 0.3396	0.0644 0.1987	-0.072 0.1506	0.04517 0.3676	-0.0205 0.6828	-0.1196 0.0167	-0.0343 0.4939	0.0497 0.3214	0.0861 0.0855	-0.0316 0.5288	1	0.20697 <.0001	0.0542 0.2795	-0.0084 0.8669	0.04817 0.3366	-0.0065 0.8974	-0.0631 0.2082
The number males in the household	-0.02046 0.6832	-0.05484 0.2739	-0.0236 0.6387	-0.0314 0.531	0.02958 0.5553	-0.1136 0.023	-0.0067 0.8931	0.07405 0.1393	-0.0607 0.226	-0.0831 0.097	0.06942 0.1658	-0.1739 0.0005	-0.196 <.0001	-0.0011 0.9823	0.01704 0.7341	0.00205 0.9674	0.20697 <.0001	1	-0.023 0.6462	0.04388 0.3815	0.00239 0.9621	-0.0528 0.2924	-0.0755 0.1316
Household's income	-0.08035 0.1086	0.12965 0.0094	-0.0504 0.3146	-0.1604 0.0013	-0.0495 0.3238	0.09492 0.0579	0.01461 0.7709	-0.0413 0.4107	0.12356 0.0134	0.22769 <.0001	-0.0089 0.8591	-0.0431 0.39	-0.0503 0.3159	0.30432 <.0001	0.09265 0.0641	-0.1075 0.0315	0.0542 0.2795	-0.023 0.6462	1	0.05058 0.3129	0.01525 0.7611	0.28148 <.0001	0.20408 <.0001
The use of Kediri tofu	-0.07673 0.1255	-0.02734 0.5856	-0.0042 0.9331	0.01239 0.8049	-0.0242 0.63	-0.1123 0.0248	0.082 0.1015	0.07684 0.125	-0.0888 0.0761	0.06429 0.1995	-0.0085 0.866	0.03021 0.5469	-0.0443 0.3773	-0.0035 0.9443	0.00167 0.9735	0.03305 0.5098	-0.0084 0.8669	0.04388 0.3815	0.05058 0.3129	1	-0.0168 0.7384	0.03807 0.4477	0 1
Loyalty to one purchasing place	0.2961(*) <.0001	0.02503 0.6177	0.09072 0.0699	-0.1126 0.0243	0.10236 0.0407	0.2331 <.0001	-0.0623 0.2136	-0.1285 0.0101	0.04087 0.415	-0.1862 0.0002	-0.0332 0.5082	0.11728 0.019	0.16255 0.0011	0.00951 0.8496	-0.0246 0.6234	-0.0311 0.5355	0.04817 0.3366	0.00239 0.9621	0.01525 0.7611	-0.0168 0.7384	1	0.09605 0.0549	0.0201 0.6886
Purchasing place of Kediri tofu	0.08297 0.0975	0.22728 <.0001	0.06993 0.1628	-0.1039 0.0378	0.00051 0.9918	0.28895 <.0001	0.03766 0.4526	-0.1418 0.0045	0.11614 0.0202	0.05801 0.2471	0.01572 0.7539	0.06013 0.2302	0.09315 0.0627	0.24397 <.0001	0.08749 0.0805	-0.1905 0.0001	-0.0065 0.8974	-0.0528 0.2924	0.28148 <.0001	0.03807 0.4477	0.09605 0.0549	1	0.24644 <.0001
Location (urban and rural)	0.14321 0.0041	0.22021 <.0001	0.09049 0.0706	0.04351 0.3854	-0.0362 0.4699	0.21296 <.0001	0.06077 0.2252	-0.0583 0.2444	0.18306 0.0002	-0.0219 0.6631	0.01524 0.7613	-0.0113 0.8213	-0.0724 0.1482	0.2314 <.0001	0.025 0.6181	-0.1108 0.0267	-0.0631 0.2082	-0.0755 0.1316	0.20408 <.0001	0 1	0.0201 0.6886	0.24644 <.0001	1

Note:  
(\*) Low multicollinearity with correlations between consumer attitudes ('freshness and halal food related to attitudes') and loyalty to one purchasing place.

**Appendix-5.1 Correlation analysis of explanatory variables for urban consumers' purchasing behaviour towards Kediri tofu**

Variables	'Sensory attributes related to attitudes'	'Freshness and halal food related to attitudes, and social	'Appearance and price related to attitudes'	'Promotional tools and originality'	'Social status, the value of time, and competition'	'Hygiene and convenience'	'Halal food and food quality knowledge'	'Distance and nutrition knowledge'	'Environment and price consciousness'	Consumer's gender	Consumer's age	Consumer's marital status	Consumer's education	Consumer's occupation	Consumer's experience in consuming Kediri tofu	The number of females in the household	The number of males in the household	Household's income	The use of Kediri tofu	Loyalty to one place	Purchasing place of Kediri tofu
'Sensory attributes related to attitudes'	1	0	0	0.33745 <sup>(*)</sup>	0.02039	0.159	0.07056	0.11262	-0.01386	-0.01811	0.18611	0.1396	0.08298	0.00282	-0.10808	-0.12274	-0.11008	-0.00792	-0.0689	0.08532	0.15442
		1	1	<.0001	0.7745	0.0245	0.3208	0.1123	0.8456	0.7991	0.0083	0.0487	0.2427	0.9684	0.1277	0.0834	0.1207	0.9114	0.3323	0.2296	0.029
Freshness and halal food related to attitudes, and social norms'	0	1	0	0.16055	-0.17297	0.16622	0.15929	0.1571	0.07767	-0.04387	0.07217	0.12582	-0.09807	0.07103	0.06173	0.058	0.09352	-0.16948	0.03497	0.24557	-0.09708
	1		1	0.0231	0.0143	0.0187	0.0243	0.0263	0.2743	0.5373	0.3098	0.0758	0.1671	0.3176	0.3852	0.4146	0.1878	0.0164	0.623	0.0005	0.1715
'Appearance and price related to attitudes'	0	0	1	-0.05538	0.32002	-0.07177	-0.11939	0.147	-0.0788	-0.08281	-0.01592	-0.01332	-0.21043	0.07521	0.18399	0.06949	-0.06989	-0.07771	0.00157	-0.05772	-0.03478
	1	1		0.436	<.0001	0.3125	0.0922	0.0378	0.2674	0.2437	0.823	0.8515	0.0028	0.2898	0.0091	0.3282	0.3254	0.2741	0.9824	0.4169	0.6249
'Promotional tools and originality'	0.33745	0.16055	-0.05538	1	0	0	0	0	0	0.00551	0.1288	0.17783	0.11215	0.123	-0.0831	0.07527	-0.18673	0.0333	-0.01152	0.26463	0.14044
	<.0001	0.0231	0.436		1	1	1	1	1	0.9383	0.0691	0.0118	0.1139	0.0827	0.242	0.2894	0.0081	0.6397	0.8714	0.0002	0.0473
'Social status, the value of time, and competition'	0.02039	-0.17297	0.32002	0	1	0	0	0	0	-0.11656	-0.03367	-0.03337	0.03159	0.17212	0.09767	0.03772	-0.0139	0.11099	0.0645	-0.09411	-0.06158
	0.7745	0.0143	<.0001	1		1	1	1	1	0.1002	0.636	0.639	0.657	0.0148	0.1689	0.5959	0.8451	0.1177	0.3642	0.185	0.3864
'Hygiene and convenience'	0.159	0.16622	-0.07177	0	0	1	0	0	0	-0.03764	0.14302	0.01501	-0.08459	-0.15017	-0.08195	0.04556	0.04578	-0.15068	0.02671	-0.06145	0.0295
	0.0245	0.0187	0.3125	1	1		1	1	1	0.5967	0.0434	0.8329	0.2337	0.0338	0.2486	0.5218	0.5198	0.0332	0.7073	0.3874	0.6784
'Halal food and food quality knowledge'	0.07056	0.15929	-0.11939	0	0	0	1	0	0	0.03093	0.05592	0.04586	-0.11893	0.02042	0.0865	0.00578	-0.09282	0.06865	-0.13023	0.1286	-0.05827
	0.3208	0.0243	0.0922	1	1	1		1	1	0.6637	0.4316	0.5191	0.0935	0.7741	0.2233	0.9352	0.1911	0.3341	0.0661	0.0696	0.4125
'Distance and nutrition knowledge'	0.11262	0.1571	0.147	0	0	0	0	1	0	0.07122	-0.10683	-0.10691	-0.07838	0.08159	0.01228	0.11818	0.06526	-0.08173	-0.22393	-0.02701	0.04512
	0.1123	0.0263	0.0378	1	1	1	1		1	0.3163	0.1322	0.1319	0.2699	0.2508	0.863	0.0956	0.3586	0.25	0.0014	0.7042	0.5258
'Environment and price consciousness'	-0.01386	0.07767	-0.0788	0	0	0	0	0	1	0.03279	-0.0163	-0.02381	0.07791	-0.00728	-0.12381	0.00864	0.00604	0.08608	-0.13877	0.03126	0.11661
	0.8456	0.2743	0.2674	1	1	1	1	1		0.6448	0.8188	0.7379	0.2728	0.9185	0.0807	0.9034	0.9324	0.2255	0.05	0.6603	0.1001
Consumer's gender	-0.01811	-0.04387	-0.08281	0.00551	-0.11656	-0.03764	0.03093	0.07122	0.03279	1	-0.01996	0.01764	-0.07291	0.02669	-0.03345	0.02565	0.10836	-0.11363	-0.09846	-0.07469	0.00878
	0.7991	0.5373	0.2437	0.9383	0.1002	0.5967	0.6637	0.3163	0.6448		0.7791	0.8042	0.3049	0.7075	0.6382	0.7185	0.1267	0.1091	0.1654	0.2932	0.9018
Consumer's age	0.18611	0.07217	-0.01592	0.1288	-0.03367	0.14302	0.05592	-0.10683	-0.0163	-0.01996	1	0.74126	-0.25739	-0.23565	0.10772	-0.08219	-0.29589	-0.06112	-0.02252	0.14158	0.05268
	0.0083	0.3098	0.823	0.0691	0.636	0.0434	0.4316	0.1322	0.8188	0.7791		<.0001	0.0002	0.0008	0.129	0.2472	<.0001	0.3899	0.7516	0.0455	0.4588

Note:

<sup>(\*)</sup> Low multicollinearity with correlations between urban consumer attitudes ('sensory attributes related to attitudes') and his/her perceptions ('promotional tools and originality').



**Appendix-5.1 Correlation analysis of explanatory variables for urban consumers' purchasing behaviour towards Kediri tofu**

Variables	'Sensory attributes related to attitudes'	'Freshness and halal food related to attitudes, and social norms'	'Appearance and price related to attitudes'	'Promotional tools and originality'	'Social status, the value of time, and competition'	'Hygiene and convenience'	'The halal food and food quality knowledge'	'Distance and nutrition knowledge'	'Environment and price consciousness'	Consumer's gender	Consumer's age	Consumer's marital status	Consumer's education	Consumer's occupation	Consumer's experience in consuming Kediri tofu	The number of females in the household	The number of males in the household	Household's income	The use of Kediri tofu	The loyalty to one place	The purchasing place of Kediri tofu
Consumer's marital status	0.1396 0.0487	0.12582 0.0758	-0.01332 0.8515	0.17783 0.0118	-0.03337 0.639	0.01501 0.8329	0.04586 0.5191	-0.10691 0.1319	-0.02381 0.7379	0.01764 0.8042	0.74126 <.0001	1 <.0001	-0.21106 0.0027	-0.17324 0.0142	0.08907 0.2098	-0.06997 0.3249	-0.29721 <.0001	-0.03482 0.6245	-0.03849 0.5884	0.1861 0.0083	0.1066 0.133
Consumer's education	0.08298 0.2427	-0.09807 0.1671	-0.21043 0.0028	0.11215 0.1139	0.03159 0.657	-0.08459 0.2337	-0.11893 0.0935	-0.07838 0.2699	0.07791 0.2728	-0.07291 0.3049	-0.25739 0.0002	-0.21106 0.0027	1 0.5135	0.04647 0.0014	-0.22428 0.2995	-0.07373 0.2099	0.08903 0.2099	0.24059 0.0006	-0.09041 0.203	0.05512 0.4382	0.15822 0.0252
Consumer's occupation	0.00282 0.9684	0.07103 0.3176	0.07521 0.2898	0.123 0.0827	0.17212 0.0148	-0.15017 0.0338	0.02042 0.7741	0.08159 0.2508	-0.00728 0.9185	0.02669 0.7075	-0.23565 0.0008	-0.17324 0.0142	0.04647 0.5135	1 0.2887	-0.07538 0.9688	-0.00278 0.9688	-0.0164 0.8177	0.06232 0.3806	-0.00667 0.9253	0.13863 0.0503	0.06895 0.332
Consumer's experience in consuming Kediri tofu	-0.10808 0.1277	0.06173 0.3852	0.18399 0.0091	-0.0831 0.242	0.09767 0.1689	-0.08195 0.2486	0.0865 0.2233	0.01228 0.863	-0.12381 0.0807	-0.03345 0.6382	0.10772 0.129	0.08907 0.2098	-0.22428 0.0014	-0.07538 0.2887	1 0.2887	0.03452 0.6275	-0.03277 0.645	-0.01993 0.7793	0.02938 0.6796	0.01066 0.881	-0.13428 0.058
The number females in the household	-0.12274 0.0834	0.058 0.4146	0.06949 0.3282	0.07527 0.2894	0.03772 0.5959	0.04556 0.5218	0.00578 0.9352	0.11818 0.0956	0.00864 0.9034	0.02565 0.7185	-0.08219 0.2472	-0.06997 0.3249	-0.07373 0.2995	-0.00278 0.9688	0.03452 0.6275	1 0.102	0.102 0.1506	0.05007 0.4814	-0.06134 0.3882	0.03291 0.6436	-0.08674 0.222
The number males in the household	-0.11008 0.1207	0.09352 0.1878	-0.06989 0.3254	-0.18673 0.0081	-0.0139 0.8451	0.04578 0.5198	-0.09282 0.1911	0.06526 0.3586	0.00604 0.9324	0.10836 0.1267	-0.29589 <.0001	-0.29721 <.0001	0.08903 0.2099	-0.0164 0.8177	-0.03277 0.645	0.102 0.1506	1 0.1506	0.00575 0.9356	0.12393 0.0804	0.02573 0.7176	-0.16663 0.0184
Household's income	-0.00792 0.9114	-0.16948 0.0164	-0.07771 0.2741	0.0333 0.6397	0.11099 0.1177	-0.15068 0.0332	0.06865 0.3341	-0.08173 0.25	0.08608 0.2255	-0.11363 0.1091	-0.06112 0.3899	-0.03482 0.6245	0.24059 0.0006	0.06232 0.3806	-0.01993 0.7793	0.05007 0.4814	0.00575 0.9356	1 0.3458	-0.067 0.305	0.07289 0.0006	0.24124
The use of Kediri tofu	-0.0689 0.3323	0.03497 0.623	0.00157 0.9824	-0.01152 0.8714	0.0645 0.3642	0.02671 0.7073	-0.13023 0.0661	-0.22393 0.0014	-0.13877 0.05	-0.09846 0.1654	-0.02252 0.7516	-0.03849 0.5884	-0.09041 0.203	-0.00667 0.9253	0.02938 0.6796	-0.06134 0.3882	0.12393 0.0804	-0.067 0.3458	1 0.0718	0.12759 0.7731	0.02052
Loyalty to one purchasing place	0.08532 0.2296	0.24557 0.0005	-0.05772 0.4169	0.26463(*) 0.0002	-0.09411 0.185	-0.06145 0.3874	0.1286 0.0696	-0.02701 0.7042	0.03126 0.6603	-0.07469 0.2932	0.14158 0.0455	0.1861 0.0083	0.05512 0.4382	0.13863 0.0503	0.01066 0.881	0.03291 0.6436	0.02573 0.7176	0.07289 0.305	0.12759 0.0718	1 0.5303	0.04464
Purchasing place of Kediri tofu	0.15442 0.029	-0.09708 0.1715	-0.03478 0.6249	0.14044 0.0473	-0.06158 0.3864	0.0295 0.6784	-0.05827 0.4125	0.04512 0.5258	0.11661 0.1001	0.00878 0.9018	0.05268 0.4588	0.1066 0.133	0.15822 0.0252	0.06895 0.332	-0.13428 0.058	-0.08674 0.222	-0.16663 0.0184	0.24124 0.0006	0.02052 0.7731	0.04464 0.5303	1

Note:

(\*) Low multicollinearity with correlations between urban consumer loyalty to one purchasing place and his/her perceptions (promotional tools and originality).



**Appendix-5.2 Correlation analysis of explanatory variables for rural consumers' purchasing behaviour towards Kediri tofu**

Variables	'Freshness and halal food related to attitudes'	'Taste and texture related to attitudes'	'Appearance and aroma related to attitudes'	'Price related to attitudes'	Social norms	'Promotional tools and distance'	'Hygiene, convenience, and originality'	'Environment, competition, and food quality knowledge'	'Social status, the value of time, and price'	'Halal food and nutrition knowledge'	Consumer's gender	Consumer's age	Consumer's marital status	Consumer's education	Consumer's occupation	Consumer's experience in consuming Kediri tofu	The number of females in the household	The number of males in the household	Household's income	The use of Kediri tofu	Loyalty to one place	Purchasing place of Kediri tofu
'Freshness and halal food related to attitudes'	1	0	0	0	0.12587	0.21428	0.1717	-0.41213	-0.24173	0.29523	0.02087	0.10624	0.11778	0.04534	-0.10571	-0.05992	0.05298	-0.05133	-0.05675	-0.20667	0.38532	0.11646
		1	1	1	0.0757	0.0023	0.0151	<.0001	0.0006	<.0001	0.7693	0.1343	0.0967	0.5238	0.1363	0.3993	0.4562	0.4704	0.4248	0.0033	<.0001	0.1005
'Taste and texture related to attitudes'	0	1	0	0	0.10774	0.16201	0.23509	0.14306	0.06103	-0.12953	0.14055	-0.07249	-0.03406	0.14918	0.06297	-0.21922	0.18734	0.02458	0.09328	0.08967	0.03488	0.17452
		1	1	1	0.1289	0.0219	0.0008	0.0433	0.3906	0.0675	0.0471	0.3077	0.6321	0.035	0.3757	0.0018	0.0079	0.7297	0.1889	0.2067	0.6239	0.0135
'Appearance and aroma related to attitudes'	0	0	1	0	0.04667	0.1192	0.00937	0.06147	-0.17494	-0.11295	-0.03741	0.03912	0.02976	0.01463	0.01337	-0.07219	-0.12863	0.01433	-0.05858	-0.01894	0.10378	0.10882
		1	1	1	0.5117	0.0927	0.8952	0.3872	0.0132	0.1113	0.5989	0.5824	0.6757	0.8371	0.851	0.3097	0.0695	0.8404	0.4099	0.7901	0.1436	0.1251
'Price related to attitudes'	0	0	0	1	-0.13435	-0.14885	-0.16206	-0.00723	0.33829	-0.01724	0.1515	-0.0198	-0.06489	-0.15661	-0.09986	0.19894	-0.10607	0.00965	-0.26653	0.02094	-0.09466	-0.17524
		1	1	1	0.0579	0.0354	0.0219	0.919	<.0001	0.8085	0.0322	0.7808	0.3613	0.0268	0.1595	0.0047	0.1349	0.8921	0.0001	0.7686	0.1824	0.0131
Social norms	0.12587	0.10774	0.04667	-0.13435	1	0.32619 <sup>(*)</sup>	0.27587	0.04851	-0.13913	-0.07687	0.03672	0.10174	0.10295	0.15969	0.14735	-0.11483	0.09471	-0.03735	0.04708	-0.05576	0.07195	0.1178
	0.0757	0.1289	0.5117	0.0579		<.0001	<.0001	0.4952	0.0494	0.2793	0.6057	0.1517	0.1469	0.0239	0.0373	0.1054	0.1822	0.5995	0.508	0.4329	0.3113	0.0967
'Promotional tools and distance'	0.21428	0.16201	0.1192	-0.14885	0.32619	1	0	0	0	0	0.0336	0.10839	0.11684	0.17754	-0.03831	-0.32439	0.00472	-0.00954	0.0826	-0.19358	0.15173	0.33073
	0.0023	0.0219	0.0927	0.0354	<.0001		1	1	1	1	0.6367	0.1266	0.0994	0.0119	0.5902	<.0001	0.9471	0.8933	0.2449	0.006	0.032	<.0001
'Hygiene, convenience, and originality'	0.1717	0.23509	0.00937	-0.16206	0.27587	0	1	0	0	0	0.08566	-0.11179	-0.03843	0.08282	0.1133	-0.14621	0.06597	-0.02781	0.145	0.1052	-0.03844	0.02713
	0.0151	0.0008	0.8952	0.0219	<.0001	1	1	1	1	1	0.2278	0.115	0.589	0.2437	0.1102	0.0388	0.3534	0.6959	0.0405	0.1382	0.5889	0.7029
'Environment, competition, and food quality'	-0.41213	0.14306	0.06147	-0.00723	0.04851	0	0	1	0	0	0.11804	-0.15416	-0.12457	0.17029	0.24846	-0.03543	-0.03939	-0.1429	0.22731	0.17303	-0.34247	0.07555
	<.0001	0.0433	0.3872	0.919	0.4952	1	1		1	1	0.096	0.0293	0.0788	0.0159	0.0004	0.6185	0.5798	0.0435	0.0012	0.0143	<.0001	0.2877
'Social status, the value of time, and price'	-0.24173	0.06103	-0.17494	0.33829	-0.13913	0	0	0	1	0	0.00875	-0.08573	-0.12335	-0.12992	-0.10159	0.05135	0.06103	0.13914	-0.06234	0.13398	-0.19629	-0.20257
	0.0006	0.3906	0.0132	<.0001	0.0494	1	1	1	1	0.9022	0.2274	0.0818	0.0667	0.1523	0.4702		0.3906	0.0494	0.3805	0.0586	0.0053	0.004
'Halal food and nutrition knowledge'	0.29523	-0.12953	-0.11295	-0.01724	-0.07687	0	0	0	0	1	-0.13078	-0.01878	0.01526	-0.01978	-0.12374	0.11332	-0.15299	-0.04225	0.10638	-0.07514	0.12236	0.12477
	<.0001	0.0675	0.1113	0.8085	0.2793	1	1	1	1	0.0649	0.7918	0.8302	0.7811	0.0809	0.1101		0.0306	0.5525	0.1338	0.2903	0.0843	0.0783
Consumer's gender	0.02087	0.14055	-0.03741	0.1515	0.03672	0.0336	0.08566	0.11804	0.00875	-0.13078	1	0.21156	0.1818	-0.02482	0.03527	-0.06085	-0.05954	0.03996	0.10273	0.08104	0.00732	0.01514
	0.7693	0.0471	0.5989	0.0322	0.6057	0.6367	0.2278	0.096	0.9022	0.0649	0.0026	0.01	0.7272	0.62	0.392		0.4024	0.5743	0.1477	0.2539	0.9181	0.8315
Consumer's age	0.10624	-0.07249	0.03912	-0.0198	0.10174	0.10839	-0.11179	-0.15416	-0.08573	-0.01878	0.21156	1	0.49745	-0.26691	-0.20026	0.28368	-0.15558	-0.07445	-0.01935	0.08359	0.09332	0.07545
	0.1343	0.3077	0.5824	0.7808	0.1517	0.1266	0.115	0.0293	0.2274	0.7918	0.0026	<.0001	0.0001	0.0045	<.0001		0.0278	0.2948	0.7856	0.2393	0.1888	0.2883

Note:  
<sup>(\*)</sup> Low multicollinearity with correlations between social norms and rural consumer perceptions ('promotional tools and distance').

**Appendix-5.2 Correlation analysis of explanatory variables for rural consumers' purchasing behaviour towards Kediri tofu**

Variables	'Freshness and halal food related to attitudes'	'Taste and texture related to attitudes'	'Appearance and aroma related to attitudes'	'Price related to attitudes'	Social norms	'Promotional tools and distance'	'Hygiene, convenience, and originality'	'Environment, competition, and food quality knowledge'	'Social status, the value of time, and price'	'Halal food and nutrition knowledge'	Consumer's gender	Consumer's age	Consumer's marital status	Consumer's education	Consumer's occupation	Consumer's experience in consuming Kediri tofu	The number of females in the household	The number of males in the household	Household's income	The use of Kediri tofu	Loyalty to one place	Purchasing place of Kediri tofu
Consumer's marital status	0.11778	-0.03406	0.02976	-0.06489	0.10295	0.11684	-0.03843	-0.12457	-0.12335	0.01526	0.1818	0.49745	1	-0.21218	-0.09104	0.11549	-0.00924	-0.11875	-0.03831	-0.05098	0.14116	0.12653
	0.0967	0.6321	0.6757	0.3613	0.1469	0.0994	0.589	0.0788	0.0818	0.8302	0.01	<.0001	0.0026	0.1998	0.1034		0.8967	0.094	0.5902	0.4734	0.0462	0.0742
Consumer's education	0.04534	0.14918	0.01463	-0.15661	0.15969	0.17754	0.08282	0.17029	-0.12992	-0.01978	-0.02482	-0.26691	-0.21218	1	0.16344	-0.39902	0.17195	-0.03459	0.3042	0.07029	-0.03747	0.22349
	0.5238	0.035	0.8371	0.0268	0.0239	0.0119	0.2437	0.0159	0.0667	0.7811	0.7272	0.0001	0.0026	0.0208	<.0001		0.0149	0.6268	<.0001	0.3227	0.5983	0.0015
Consumer's occupation	-0.10571	0.06297	0.01337	-0.39986	0.14735	-0.03831	0.1133	0.24846	-0.10159	-0.12374	0.03527	-0.20026	-0.09104	0.16344	1	-0.05265	0.16862	0.04876	0.12085	0.01	-0.18829	0.09665
	0.1363	0.3757	0.851	0.1595	0.0373	0.5902	0.1102	0.0004	0.1523	0.0809	0.62	0.0045	0.1998	0.0208	0.4591		0.017	0.4929	0.0883	0.8882	0.0076	0.1733
Consumer's experience in consuming Kediri tofu	-0.05992	-0.21922	-0.07219	0.19894	-0.11483	-0.32439 <sup>(*)</sup>	-0.14621	-0.03543	0.05135	0.11332	-0.06085	0.28368	0.11549	-0.39902	-0.05265	1	-0.11411	0.01879	-0.17532	0.03786	-0.07444	-0.20679
	0.3993	0.0018	0.3097	0.0047	0.1054	<.0001	0.0388	0.6185	0.4702	0.1101	0.392	<.0001	0.1034	<.0001	0.4591		0.1076	0.7917	0.013	0.5946	0.2948	0.0033
The number females in the household	0.05298	0.18734	-0.12863	-0.10607	0.09471	0.00472	0.06597	-0.03939	0.06103	-0.15299	-0.05954	-0.15558	-0.00924	0.17195	0.16862	-0.11411	1	0.27852	0.08856	0.03849	0.06439	0.06864
	0.4562	0.0079	0.0695	0.1349	0.1822	0.9471	0.3534	0.5798	0.3906	0.0306	0.4024	0.0278	0.8967	0.0149	0.017	0.1076		<.0001	0.2124	0.5884	0.365	0.3341
The number males in the household	-0.05133	0.02458	0.01433	0.00965	-0.03735	-0.00954	-0.02781	-0.1429	0.13914	-0.04225	0.03996	-0.07445	-0.11875	-0.03459	0.04876	0.01879	0.27852	1	-0.02093	-0.02262	-0.01426	0.0407
	0.4704	0.7297	0.8404	0.8921	0.5995	0.8933	0.6959	0.0435	0.0494	0.5525	0.5743	0.2948	0.094	0.6268	0.4929	0.7917	<.0001		0.7686	0.7505	0.8412	0.5672
Household's income	-0.05675	0.09328	-0.05858	-0.26653	0.04708	0.0826	0.145	0.22731	-0.06234	0.10638	0.10273	-0.01935	-0.03831	0.3042	0.12085	-0.17532	0.08856	-0.02093	1	0.18737	-0.05846	0.25901
	0.4248	0.1889	0.4099	0.0001	0.508	0.2449	0.0405	0.0012	0.3805	0.1338	0.1477	0.7856	0.5902	<.0001	0.0883	0.013	0.2124	0.7686		0.0079	0.4109	0.0002
The use of Kediri tofu	-0.20667	0.08967	-0.01894	0.02094	-0.05576	-0.19358	0.1052	0.17303	0.13398	-0.07514	0.08104	0.08359	-0.05098	0.07029	0.01	0.03786	0.03849	-0.02262	0.18737	1	-0.16051	0.05338
	0.0033	0.2067	0.7901	0.7686	0.4329	0.006	0.1382	0.0143	0.0586	0.2903	0.2539	0.2393	0.4734	0.3227	0.8882	0.5946	0.5884	0.7505	0.0079		0.0232	0.4529
Loyalty to one purchasing place	0.38532	0.03488	0.10378	-0.09466	0.07195	0.15173	-0.03844	-0.34247	-0.19629	0.12236	0.00732	0.09332	0.14116	-0.03747	-0.18829	-0.07444	0.06439	-0.01426	-0.05846	-0.16051	1	0.13066
	<.0001	0.6239	0.1436	0.1824	0.3113	0.032	0.5889	<.0001	0.0053	0.0843	0.9181	0.1888	0.0462	0.5983	0.0076	0.2948	0.365	0.8412	0.4109	0.0232		0.0652
Purchasing place of Kediri tofu	0.11646	0.17452	0.10882	-0.17524	0.1178	0.33073	0.02713	0.07555	-0.20257	0.12477	0.01514	0.07545	0.12653	0.22349	0.09665	-0.20679	0.06864	0.0407	0.25901	0.05338	0.13066	1
	0.1005	0.0135	0.1251	0.0131	0.0967	<.0001	0.7029	0.2877	0.004	0.0783	0.8315	0.2883	0.0742	0.0015	0.1733	0.0033	0.3341	0.5672	0.0002	0.4529	0.0652	

Note:  
<sup>(\*)</sup> Low multicollinearity with correlations between rural consumer perceptions ('promotional tools and distance') and his/her experiences in consuming Kediri tofu.

### Appendix-5.3 Results of regression analysis of explanatory variables for urban and rural consumers purchasing Kediri tofu

Variables	Urban	Rural
	Consumer's marital status	Consumer's experience in consuming Kediri tofu
	Estimate	Estimate
Intercept	0.46	0.74
'Freshness and halal food related to attitudes, and social norms'	-0.01	
'Freshness and halal food related to attitudes'		0.00
'Sensory attributes related to attitudes'	-0.01	
'Taste and texture related to attitudes'		-0.03
'Appearance and price related to attitudes'	0.01	
'Appearance and aroma related to attitudes'		-0.02
'Price related to attitudes'		0.05**
Social norms'		0.05
'Promotional tools and originality'	0.01	
'Promotional tools and distance'		-0.10*****
'Hygiene and convenience'	0.00	
'Hygiene, convenience, and originality'		-0.02
'Environment and price consciousness'	-0.02	
'Environment, competition, and food quality knowledge'		0.03
'Social status, value of time, and competition'	-0.02	
'Social status, value of time, and price'		-0.01
'Halal food and food quality knowledge'	0.02	
'Halal food and nutrition knowledge'		0.05*
Consumer's gender	0.116**	-0.10**
Consumer's education	-0.11**	-0.19*****
Consumer's age	0.38*****	0.27*****
Consumer's marital status		0.00
Consumer's occupation	0.00	0.05
Consumer's experience in consuming Kediri tofu	0.00	
Household's income	-0.04	-0.03
The number of females in the household	0.04**	0.00
The number of males in the household	-0.04***	0.02
The use of Kediri's tofu	-0.08	0.01
Loyalty in one purchasing place	0.02	-0.02
Purchasing place of Kediri tofu	0.09	-0.06
R <sup>2</sup> (R-Squared)	0.32	0.35
F-Value	3.99	4.56
N	200.00	200.00

Note:

\*\*\*\*\*p<0.0001; \*\*\*\*p<0.0005; \*\*\*p<0.001; \*\*p<0.005; \*p<0.05; \*\*p<0.1; \* p<0.15.

## Appendix 6 Correlation analysis of explanatory variables for processing strategies used by tofu processors

Variables	'Soybean and other ingredients'	'Soybean price consciousness'	Food processor's age	Food processor's education	Food processor's experience in operating enterprise	The number of females in the household	The number of males in the household	Number of female workers	Number of male workers	Place for purchasing soybean	Working capital
	1	0	-0.05736	0.10949	0.15601	0.23158	0.00491	0.24214	0.1347	-0.4681	0.54566
'Soybean and other ingredients'		1	0.5999	0.3156	0.1514	0.0319	0.9642	0.0247	0.2163	<.0001	<.0001
'Soybean price consciousness'	0	1	-0.24896	0.25746	0.03433	-0.08261	-0.05755	0.03561	0.07357	-0.06946	0.08311
	1		0.0208	0.0167	0.7537	0.4496	0.5986	0.7448	0.5008	0.5251	0.4468
Food processor's age	-0.05736	-0.24896	1	0.08849	-0.38928	-0.07709	-0.18453	-0.09291	-0.06322	0.04795	-0.10769
	0.5999	0.0208		0.4178	0.0002	0.4805	0.089	0.3948	0.5631	0.6611	0.3237
Food processor's education	0.10949	0.25746 <sup>(*)</sup>	0.08849	1	-0.12069	0.15172	0.05376	0.19148	0.05483	-0.09825	0.10775
	0.3156	0.0167	0.4178		0.2683	0.1632	0.623	0.0774	0.6161	0.3681	0.3234
Food processor's experience in operating enterprise	0.15601	0.03433	-0.38928	-0.12069	1	0.22184	0.31011	0.25355	0.21792	-0.13234	0.19096
	0.1514	0.7537	0.0002	0.2683		0.0401	0.0037	0.0185	0.0438	0.2245	0.0782
The number of females in the household	0.23158	-0.08261	-0.07709	0.15172	0.22184	1	0.16418	0.0812	0.11528	-0.1056	0.16793
	0.0319	0.4496	0.4805	0.1632	0.0401		0.1309	0.4573	0.2905	0.3332	0.1222
The number of males in the household	0.00491	-0.05755	-0.18453	0.05376	0.31011	0.16418	1	-0.00058	-0.08981	-0.09522	0.06139
	0.9642	0.5986	0.089	0.623	0.0037	0.1309		0.9958	0.4109	0.3832	0.5744
Number of female workers	0.24214	0.03561	-0.09291	0.19148	0.25355	0.0812	-0.00058	1	0.44848	-0.32328	0.43623
	0.0247	0.7448	0.3948	0.0774	0.0185	0.4573	0.9958		<.0001	0.0024	<.0001
Number of male workers	0.1347	0.07357	-0.06322	0.05483	0.21792	0.11528	-0.08981	0.44848	1	-0.4593	0.50282
	0.2163	0.5008	0.5631	0.6161	0.0438	0.2905	0.4109	<.0001		<.0001	<.0001
Place for purchasing soybean	-0.4681	-0.06946	0.04795	-0.09825	-0.13234	-0.1056	-0.09522	-0.32328	-0.4593	1	-0.71556
	<.0001	0.5251	0.6611	0.3681	0.2245	0.3332	0.3832	0.0024	<.0001		<.0001
Working capital	0.54566	0.08311	-0.10769	0.10775	0.19096	0.16793	0.06139	0.43623	0.50282	-0.71556	1
	<.0001	0.4468	0.3237	0.3234	0.0782	0.1222	0.5744	<.0001	<.0001	<.0001	

Note:

(\*) Low multicollinearity with correlations between food processor perceptions ('soybean price consciousness') and his/her education.

### Appendix 6.1 Correlation analysis of explanatory variables for processing strategies used by the 'small' group of tofu processors

Variables	'Other ingredients consciousness'	'Soybean availability and time of purchase'	'Soybean price consciousness'	Food processor's age	Food processor's education	Food processor's experience in operating enterprise	The number of females in household	The number of males in household	Number of female workers	Number of male workers	Place for purchasing soybean	Working capital
'Other ingredients consciousness'	1	0	0	0.04044	0.07466	0.16858	0.16919	0.12963	0.45123	0.47415	-0.25137	0.60569
		1	1	0.8149	0.6652	0.3257	0.3239	0.4511	0.0057	0.0035	0.1392	<.0001
'Soybean availability and time of purchase'	0	1	0	-0.05406	0.21859	0.02073	0.12407	-0.245	0.22017	0.33354	-0.20108	0.25342
			1	0.7542	0.2003	0.9045	0.4709	0.1498	0.1969	0.0468	0.2396	0.1359
'Soybean price consciousness'	0	0	1	-0.40753 <sup>(*)</sup>	0.28702	0.23917	0.17336	0.14159	0.42558	0.24461	-0.33468	0.4308
	1	1		0.0136	0.0897	0.1601	0.3119	0.4101	0.0097	0.1505	0.046	0.0087
Food processor's age	0.04044	-0.05406	-0.40753	1	-0.08771	-0.27217	-0.13382	-0.17705	-0.35706	-0.06682	0.0625	-0.31623
	0.8149	0.7542	0.0136		0.611	0.1083	0.4365	0.3016	0.0325	0.6986	0.7173	0.0603
Food processor's education	0.07466	0.21859	0.28702	-0.08771	1	-0.07161	0.21419	0.14597	0.10178	0.1172	-0.21926	0.27735
	0.6652	0.2003	0.0897	0.611		0.6781	0.2097	0.3956	0.5548	0.496	0.1988	0.1015
Food processor's experience in operating enterprise	0.16858	0.02073	0.23917	-0.27217	-0.07161	1	0.31413	0.30358	0.32798	0.21822	0	0.2582
	0.3257	0.9045	0.1601	0.1083	0.6781		0.0621	0.0719	0.0508	0.201	1	0.1284
The number of females in the household	0.16919	0.12407	0.17336	-0.13382	0.21419	0.31413	1	0.34177	0.12393	0.09835	0.01673	0.201
	0.3239	0.4709	0.3119	0.4365	0.2097	0.0621		0.0413	0.4714	0.5682	0.9229	0.2398
The number of males in the household	0.12963	-0.245	0.14159	-0.17705	0.14597	0.30358	0.34177	1	0.07744	-0.1041	-0.04426	0.05599
	0.4511	0.1498	0.4101	0.3016	0.3956	0.0719	0.0413		0.6535	0.5457	0.7977	0.7457
Number of female workers	0.45123	0.22017	0.42558	-0.35706	0.10178	0.32798	0.12393	0.07744	1	0.44135	-0.32358	0.7057
	0.0057	0.1969	0.0097	0.0325	0.5548	0.0508	0.4714	0.6535		0.007	0.0542	<.0001
Number of male workers	0.47415	0.33354	0.24461	-0.06682	0.1172	0.21822	0.09835	-0.1041	0.44135	1	-0.4343	0.76064
	0.0035	0.0468	0.1505	0.6986	0.496	0.201	0.5682	0.5457	0.007		0.0081	<.0001
Place for purchasing soybean	-0.25137	-0.20108	-0.33468	0.0625	-0.21926	0	0.01673	-0.04426	-0.32358	-0.4343	1	-0.5534
	0.1392	0.2396	0.046	0.7173	0.1988	1	0.9229	0.7977	0.0542	0.0081		0.0005
Working capital	0.60569	0.25342	0.4308	-0.31623	0.27735	0.2582	0.201	0.05599	0.7057	0.76064	-0.5534	1
	<.0001	0.1359	0.0087	0.0603	0.1015	0.1284	0.2398	0.7457	<.0001	<.0001	0.0005	

Note:

(\*) Moderate multicollinearity with correlations between food processor perceptions ('soybean price consciousness') and his/her age (the 'small' group).



### Appendix-6.2 Correlation analysis of explanatory variables of processing strategies used by the 'medium to large' group of tofu processors

Variables	'Other ingredients consciousness'	'Soybean perceptions'	Food processor's age	Food processor's education	Food processor's experience in operating enterprise	The number of females in the household	The number of males in the household	Number of female workers	Number of male workers	Place in purchasing soybean	Working capital
'Other ingredients consciousness'	1	0	-0.00573	-0.07516	0.14952	0.37108	0.06051	0.12067	-0.163	-0.41493	0.35141
		1	0.9685	0.6039	0.3	0.008	0.6764	0.4039	0.2581	0.0027	0.0123
'Soybean perceptions'	0	1	-0.24392	0.18506	0.0645	-0.10758	0.01486	0.04293	-0.0188	-0.21998	0.26665
	1		0.0878	0.1982	0.6563	0.4571	0.9184	0.7672	0.8969	0.1248	0.0612
Food processor's age	-0.00573	-0.24392	1	0.21684	-0.47944	-0.0341	-0.19345	-0.06156	-0.1008	0.09958	-0.08156
	0.9685	0.0878		0.1304	0.0004	0.8142	0.1783	0.671	0.4861	0.4914	0.5734
Food processor's education	-0.07516	0.18506	0.21684	1	-0.1655	0.09322	-0.02957	0.22745	0.00316	-0.00402	-0.04895
	0.6039	0.1982	0.1304		0.2507	0.5196	0.8385	0.1122	0.9826	0.9779	0.7357
Food processor's experience in operating enterprise	0.14952	0.0645	-0.47944 <sup>(*)</sup>	-0.1655	1	0.14079	0.31537	0.26687	0.24044	-0.20519	0.18415
	0.3	0.6563	0.0004	0.2507		0.3295	0.0257	0.061	0.0926	0.1529	0.2005
The number of females in the household	0.37108	-0.10758	-0.0341	0.09322	0.14079	1	-0.00402	0.07625	0.13384	-0.18389	0.18835
	0.008	0.4571	0.8142	0.5196	0.3295		0.9779	0.5987	0.3541	0.2011	0.1902
The number of males in the household	0.06051	0.01486	-0.19345	-0.02957	0.31537	-0.00402	1	-0.03167	-0.11592	-0.13608	0.06899
	0.6764	0.9184	0.1783	0.8385	0.0257	0.9779		0.8272	0.4227	0.346	0.634
Number of female workers	0.12067	0.04293	-0.06156	0.22745	0.26687	0.07625	-0.03167	1	0.37701	-0.19595	0.28658
	0.4039	0.7672	0.671	0.1122	0.061	0.5987	0.8272		0.007	0.1726	0.0436
Number of male workers	-0.163	-0.0188	-0.1008	0.00316	0.24044	0.13384	-0.11592	0.37701	1	-0.30853	0.26681
	0.2581	0.8969	0.4861	0.9826	0.0926	0.3541	0.4227	0.007		0.0293	0.0611
Place for purchasing soybean	-0.41493	-0.21998	0.09958	-0.00402	-0.20519	-0.18389	-0.13608	-0.19595	-0.30853	1	-0.60753
	0.0027	0.1248	0.4914	0.9779	0.1529	0.2011	0.346	0.1726	0.0293		<.0001
Working capital	0.35141	0.26665	-0.08156	-0.04895	0.18415	0.18835	0.06899	0.28658	0.26681	-0.60753	1
	0.0123	0.0612	0.5734	0.7357	0.2005	0.1902	0.634	0.0436	0.0611	<.0001	

Note:

(\*) Moderate multicollinearity with correlations between food processor's age and his/her education (the 'medium to large' group).

### Appendix-7 Correlation analysis of explanatory variables for marketing strategies used by tofu processors

Variables	'Consumer characteristics and product substitutions'	'Consumer attributes'	'Formal institutions consciousness'	Food processor's age	Food processor's education	Food processor's experience in operating enterprise	The number of females in the household	The number of males in the household	Number of female workers	Number of male workers	The amount of hours for selling tofu per day	Place in selling tofu	Working capital
'Consumer characteristics and product substitutions'	1	0	0	0.01067	0.00297	0.19899	0.17697	-0.00649	0.34836	0.17395	-0.04178	0.10134	0.28707
		1	1	0.9223	0.9783	0.0662	0.1031	0.9527	0.001	0.1092	0.7025	0.3532	0.0074
'Consumer attributes'	0	1	0	-0.11521	-0.08993	0.02696	0.08397	0.12643	-0.04922	-0.25516	0.07443	-0.1162	0.04104
	1		1	0.2908	0.4102	0.8054	0.4421	0.2461	0.6527	0.0177	0.4958	0.2867	0.7075
'Formal institutions consciousness'	0	0	1	-0.28756 <sup>(*)</sup>	0.38111	0.22959	0.22614	0.12305	0.21682	0.15271	-0.22039	-0.14886	0.12628
	1	1		0.0073	0.0003	0.0335	0.0363	0.259	0.0449	0.1604	0.0414	0.1713	0.2466
Food processor's age	0.01067	-0.11521	-0.28756	1	0.08849	-0.38928	-0.07709	-0.18453	-0.09291	-0.06322	0.09217	-0.09041	-0.10769
	0.9223	0.2908	0.0073		0.4178	0.0002	0.4805	0.089	0.3948	0.5631	0.3986	0.4078	0.3237
Food processor's education	0.00297	-0.08993	0.38111	0.08849	1	-0.12069	0.15172	0.05376	0.19148	0.05483	-0.30244	-0.14038	0.10775
	0.9783	0.4102	0.0003	0.4178		0.2683	0.1632	0.623	0.0774	0.6161	0.0047	0.1973	0.3234
Food processor's experience in operating enterprise	0.19899	0.02696	0.22959	-0.38928	-0.12069	1	0.22184	0.31011	0.25355	0.21792	-0.28741	-0.10206	0.19096
	0.0662	0.8054	0.0335	0.0002	0.2683		0.0401	0.0037	0.0185	0.0438	0.0073	0.3497	0.0782
The number of females in the household	0.17697	0.08397	0.22614	-0.07709	0.15172	0.22184	1	0.16418	0.0812	0.11528	-0.13232	-0.09479	0.16793
	0.1031	0.4421	0.0363	0.4805	0.1632	0.0401		0.1309	0.4573	0.2905	0.2246	0.3853	0.1222
The number of males in the household	-0.00649	0.12643	0.12305	-0.18453	0.05376	0.31011	0.16418	1	-0.00058	-0.08981	-0.12923	-0.00872	0.06139
	0.9527	0.2461	0.259	0.089	0.623	0.0037	0.1309		0.9958	0.4109	0.2357	0.9365	0.5744
Number of female workers	0.34836	-0.04922	0.21682	-0.09291	0.19148	0.25355	0.0812	-0.00058	1	0.44848	-0.51209	-0.28579	0.43623
	0.001	0.6527	0.0449	0.3948	0.0774	0.0185	0.4573	0.9958		<.0001	<.0001	0.0076	<.0001
Number of male workers	0.17395	-0.25516	0.15271	-0.06322	0.05483	0.21792	0.11528	-0.08981	0.44848	1	-0.33133	-0.19479	0.50282
	0.1092	0.0177	0.1604	0.5631	0.6161	0.0438	0.2905	0.4109	<.0001		0.0018	0.0723	<.0001
The amount of hours for selling tofu per day	-0.04178	0.07443	-0.22039	0.09217	-0.30244	-0.28741	-0.13232	-0.12923	-0.51209	-0.33133	1	0.49513	-0.64979
	0.7025	0.4958	0.0414	0.3986	0.0047	0.0073	0.2246	0.2357	<.0001	0.0018		<.0001	<.0001
Place for selling tofu	0.10134	-0.1162	-0.14886	-0.09041	-0.14038	-0.10206	-0.09479	-0.00872	-0.28579	-0.19479	0.49513	1	-0.45789
	0.3532	0.2867	0.1713	0.4078	0.1973	0.3497	0.3853	0.9365	0.0076	0.0723	<.0001		<.0001
Working capital	0.28707	0.04104	0.12628	-0.10769	0.10775	0.19096	0.16793	0.06139	0.43623	0.50282	-0.64979	-0.45789	1
	0.0074	0.7075	0.2466	0.3237	0.3234	0.0782	0.1222	0.5744	<.0001	<.0001	<.0001	<.0001	

Note:

(\*) Low multicollinearity with correlations between food processor perceptions ('formal institutions consciousness') and his/her age.



### Appendix-7.1 Correlation analysis of explanatory variables of marketing strategies used by the 'small' group of tofu processors

Variables	'Consumer characteristics and product substitutions'	'Consumer attributes'	Presence of formal institutions	Food processor's age	Food processor's education	Food processor's experience in operating enterprise	The number of females in the household	The number of males in the household	Number of female workers	Number of male workers	The amount of hours selling tofu per day	Place for selling tofu	Working capital
'Consumer characteristics and product substitutions'	1	0	-0.06358	0.06427	0.09249	0.08333	0.22818	0.08605	-0.03632	0.07889	0.18393	0.44973	0.00575
		1	0.7126	0.7096	0.5916	0.629	0.1807	0.6178	0.8334	0.6474	0.2829	0.0059	0.9734
'Consumer attributes'	0	1	-0.58399 <sup>(*)</sup>	0.22811	-0.28801	-0.21399	-0.07174	0.15223	-0.25153	-0.15092	0.28926	0.14597	-0.19311
			0.0002	0.1809	0.0885	0.2101	0.6776	0.3755	0.1389	0.3796	0.0871	0.3956	0.2591
Presence of formal institutions	-0.06358	-0.58399	1	-0.27541	0.40719	0.09637	0.19875	-0.04319	0.3196	0.14721	-0.27372	-0.21981	0.27372
	0.7126	0.0002		0.104	0.0137	0.5761	0.2452	0.8025	0.0574	0.3916	0.1062	0.1977	0.1062
Food processor's age	0.06427	0.22811	-0.27541	1	-0.08771	-0.27217	-0.13382	-0.17705	-0.35706	-0.06682	0.31623	0.03934	-0.31623
	0.7096	0.1809	0.104		0.611	0.1083	0.4365	0.3016	0.0325	0.6986	0.0603	0.8198	0.0603
Food processor's education	0.09249	-0.28801	0.40719	-0.08771	1	-0.07161	0.21419	0.14597	0.10178	0.1172	-0.27735	-0.15873	0.27735
	0.5916	0.0885	0.0137	0.611		0.6781	0.2097	0.3956	0.5548	0.496	0.1015	0.3551	0.1015
Food processor's experience in operating enterprise	0.08333	-0.21399	0.09637	-0.27217	-0.07161	1	0.31413	0.30358	0.32798	0.21822	-0.2582	-0.09637	0.2582
	0.629	0.2101	0.5761	0.1083	0.6781		0.0621	0.0719	0.0508	0.201	0.1284	0.5761	0.1284
The number of females in the household	0.22818	-0.07174	0.19875	-0.13382	0.21419	0.31413	1	0.34177	0.12393	0.09835	-0.07405	0.03817	0.201
	0.1807	0.6776	0.2452	0.4365	0.2097	0.0621		0.0413	0.4714	0.5682	0.6678	0.8251	0.2398
The number of males in the household	0.08605	0.15223	-0.04319	-0.17705	0.14597	0.30358	0.34177	1	0.07744	-0.1041	0.07838	0.09335	0.05599
	0.6178	0.3755	0.8025	0.3016	0.3956	0.0719	0.0413		0.6535	0.5457	0.6495	0.5882	0.7457
Number of female workers	-0.03632	-0.25153	0.3196	-0.35706	0.10178	0.32798	0.12393	0.07744	1	0.44135	-0.62101	-0.3196	0.7057
	0.8334	0.1389	0.0574	0.0325	0.5548	0.0508	0.4714	0.6535		0.007	<.0001	0.0574	<.0001
Number of male workers	0.07889	-0.15092	0.14721	-0.06682	0.1172	0.21822	0.09835	-0.1041	0.44135	1	-0.67612	-0.2734	0.76064
	0.6474	0.3796	0.3916	0.6986	0.496	0.201	0.5682	0.5457	0.007		<.0001	0.1067	<.0001
The amount of hour for selling tofu per day	0.18393	0.28926	-0.27372	0.31623	-0.27735	-0.2582	-0.07405	0.07838	-0.62101	-0.67612	1	0.42302	-0.8
	0.2829	0.0871	0.1062	0.0603	0.1015	0.1284	0.6678	0.6495	<.0001	<.0001		0.0102	<.0001
Place for selling tofu	0.44973	0.14597	-0.21981	0.03934	-0.15873	-0.09637	0.03817	0.09335	-0.3196	-0.2734	0.42302	1	-0.42302
	0.0059	0.3956	0.1977	0.8198	0.3551	0.5761	0.8251	0.5882	0.0574	0.1067	0.0102		0.0102
Working capital	0.00575	-0.19311	0.27372	-0.31623	0.27735	0.2582	0.201	0.05599	0.7057	0.76064	-0.8	-0.42302	1
	0.9734	0.2591	0.1062	0.0603	0.1015	0.1284	0.2398	0.7457	<.0001	<.0001	<.0001	0.0102	

Note:

<sup>(\*)</sup> Moderate multicollinearity with correlations between food processor perceptions ('consumer characteristics and product substitutions') and the presence of formal institutions (the 'small' group).

**Appendix-7.2 Correlation analysis of explanatory variables of marketing strategies used by the 'medium to large' group of tofu processors**

Variables	'Uncertainty perceptions'	'Consumer attributes'	Food processor's age	Food processor's education	Food processor's experience in operating enterprise	The number of females in the household	The number of males in the household	Number of female workers	Number of male workers	The amount of hours for selling tofu per day	Place for selling tofu	Working capital
'Uncertainty perceptions'	1	0	-0.10256	0.09704	0.33655 <sup>(*)</sup>	0.22485	0.05026	0.45598	0.23178	-0.11463	-0.00086	0.26765
		1	0.4785	0.5026	0.0169	0.1164	0.7289	0.0009	0.1053	0.428	0.9953	0.0602
'Consumer attributes'	0	1	-0.18149	-0.19774	0.07941	0.08386	-0.03943	-0.10857	-0.45093	0.14382	-0.19822	0.076
	1		0.2072	0.1687	0.5836	0.5626	0.7857	0.4529	0.001	0.3191	0.1676	0.5999
Food processor's age	-0.10256	-0.18149	1	0.21684	-0.47944	-0.0341	-0.19345	-0.06156	-0.1008	0.0099	-0.18542	-0.08156
	0.4785	0.2072		0.1304	0.0004	0.8142	0.1783	0.671	0.4861	0.9456	0.1973	0.5734
Food processor's education	0.09704	-0.19774	0.21684	1	-0.1655	0.09322	-0.02957	0.22745	0.00316	-0.31697	-0.09656	-0.04895
	0.5026	0.1687	0.1304		0.2507	0.5196	0.8385	0.1122	0.9826	0.0249	0.5047	0.7357
Food processor's experience in operating enterprise	0.33655	0.07941	-0.47944	-0.1655	1	0.14079	0.31537	0.26687	0.24044	-0.31697	-0.09656	0.18415
	0.0169	0.5836	0.0004	0.2507		0.3295	0.0257	0.061	0.0926	0.0249	0.5047	0.2005
The number of females in the household	0.22485	0.08386	-0.0341	0.09322	0.14079	1	-0.00402	0.07625	0.13384	-0.17195	-0.22658	0.18835
	0.1164	0.5626	0.8142	0.5196	0.3295		0.9779	0.5987	0.3541	0.2325	0.1136	0.1902
The number of males in the household	0.05026	-0.03943	-0.19345	-0.02957	0.31537	-0.00402	1	-0.03167	-0.11592	-0.26149	-0.10206	0.06899
	0.7289	0.7857	0.1783	0.8385	0.0257	0.9779		0.8272	0.4227	0.0666	0.4806	0.634
Number of female workers	0.45598	-0.10857	-0.06156	0.22745	0.26687	0.07625	-0.03167	1	0.37701	-0.45171	-0.23269	0.28658
	0.0009	0.4529	0.671	0.1122	0.061	0.5987	0.8272		0.007	0.001	0.1039	0.0436
Number of male workers	0.23178	-0.45093	-0.1008	0.00316	0.24044	0.13384	-0.11592	0.37701	1	-0.12941	-0.03276	0.26681
	0.1053	0.001	0.4861	0.9826	0.0926	0.3541	0.4227	0.007		0.3704	0.8213	0.0611
The amount of hours for selling tofu per day	-0.11463	0.14382	0.0099	-0.31697	-0.31697	-0.17195	-0.26149	-0.45171	-0.12941	1	0.48038	-0.51025
	0.428	0.3191	0.9456	0.0249	0.0249	0.2325	0.0666	0.001	0.3704		0.0004	0.0002
Place in selling tofu	-0.00086	-0.19822	-0.18542	-0.09656	-0.09656	-0.22658	-0.10206	-0.23269	-0.03276	0.48038	1	-0.33796
	0.9953	0.1676	0.1973	0.5047	0.5047	0.1136	0.4806	0.1039	0.8213	0.0004		0.0164
Working capital	0.26765	0.076	-0.08156	-0.04895	0.18415	0.18835	0.06899	0.28658	0.26681	-0.51025	-0.33796	1
	0.0602	0.5999	0.5734	0.7357	0.2005	0.1902	0.634	0.0436	0.0611	0.0002	0.0164	

Note:

(\*) Low multicollinearity with correlations between food processor perceptions ('uncertainty perceptions') and his/her experience in operating enterprise (the 'medium to large' group).

**Appendix-8 Percentage of processing and marketing strategies used by tofu processors**

Variable	General (%)		'Small' group(%) <sup>(a)</sup>		'Medium to large' group(%) <sup>(b)</sup>	
	Yes	No	Yes	No	Yes	No
<b>A. Processing strategies</b>						
- Use of good quality soybean	100	0	100	0	100	0
- Use of local and imported soybean types <sup>(c)</sup>	74.42	25.58	77.78	22.22	72	28
- Use of good quality other ingredients	84.88	15.12	72.22	27.78	94	6
- Use of machine technique for soybean grinding	100	0	100	0	100	0
- Use of hearth for cooking soybean porridge <sup>(d)</sup>	81.4	18.6	94.44	5.56	72	28
- Use of manual technique for stirring soybean porridge <sup>(e)</sup>	83.72	16.28	97.22	2.78	74	26
- Use of manual technique for forming tofu <sup>(f)</sup>	79.07	20.93	94.44	5.56	68	32
- Use manual technique for packaging tofu <sup>(g)</sup>	84.88	15.12	100	0	74	26
<b>B. Marketing strategies</b>						
- Offering of a fresh tofu	84.88	15.12	77.78	22.22	90	10
- Offering of a variety of tofu choice	55.81	44.19	41.67	58.33	66	34
- Offering of a good quality tofu	100	0	100	0	100	0
- Offering of unique taste	95.35	4.65	91.67	8.33	98	2
- Offering of a low price	66.28	33.72	58.33	41.67	72	28
- Offering of a high price	5.81	94.19	0	100	10	90
- Use of packaging	27.91	72.09	5.56	94.44	44	56
- Using the branch name	27.91	72.09	19.44	80.56	34	66
- Using a 'halal food' label	15.12	84.88	0	100	26	74
- Using advertisements	22.09	77.91	16.67	83.33	26	74
- Using word of mouth	39.53	60.47	27.78	72.22	48	52
- Offering of a clean place	89.53	10.47	83.33	16.67	94	6
- Offering of a convenient place	72.09	27.91	61.11	38.89	80	20
- Offering of a good service	91.86	8.14	83.33	16.67	98	2
- Offering of the longest duration time daily for selling tofu	36.05	63.95	19.44	80.56	48	52
- Offering of a self-service	9.3	90.7	13.89	86.11	6	94

Note:

<sup>(a)</sup> Kediri tofu processors using less than 50 Kg of soybean per day

<sup>(b)</sup> Kediri tofu processors using 50 Kg or more of soybean per day

<sup>(c)</sup> 'No' means using local soybean type.

<sup>(d)</sup> 'No' means using combination hearth and kerosene stove or gas stove.

<sup>(e)</sup> 'No' means using machine or combination between manual and machine techniques for stirring tofu porridge.

<sup>(f)</sup> 'No' means using machine or combination between manual and machine techniques for forming tofu.

<sup>(g)</sup> 'No' means using machine technique for packaging Kediri tofu.

**Appendix-9 Factor loading patterns of processing strategies used by general and the 'small' group of tofu processors (varimax rotation)**

Processing strategies	General	'Small' group
	Factor loadings	Factor loadings
	Factor1	Factor2
<b>Index one: 'Combined soybean and manual technique strategies'</b>		
-Use of local and imported soybean types	<b>0.81</b>	<b>0.80</b>
-Use of manual technique in forming tofu	<b>-0.81</b>	<b>-0.80</b>
<b>Variance explained (%)</b>	65.08	63.26

## Appendix-10

Survey Form 1

### CONSUMER BEHAVIOUR TOWARDS MALANG MEATBALLS

Dear respondents,

The questionnaire is the research about 'consumer behaviour towards Malang meatballs' as a part of my thesis. I would like to interview you to answer the questionnaire.

During the process of interview, you have the following rights to:

- decline to participate;
- refuse to answer any particular questions;
- withdraw from the study at any time;
- ask any questions about the study at any time during participation.

You could use these rights without having any consequences on your live and business activities.

I, therefore, need your support to answer the questionnaire.

Your participation is greatly appreciated.

Hari Dwi Utami

## CONSUMER BEHAVIOUR TOWARDS MALANG MEATBALLS

*Please leave  
this section  
blank*

**1. Do you know Malang meatballs as a specific food of Malang?**

1. Yes       2. No sure       3. No

 i

**2. Are you feeling proud with regard to the existing Malang meatballs in your region?**

1. Not       2. Little       3. Somewhat  
 4. Rather       5. Very

 2

**3. How do you perform number 2?**

1. Buying Malang meatballs  
 2. Consuming Malang meatballs  
 3. Other .....

 3

 4

 5

**4. What's the reason for answering on number 3? Because.....**

1. Malang meatballs are specific in my region.  
 2. Malang meatballs are sold many in my region.  
 3. Malang meatballs have the unique taste.  
 4. Other .....

 6

 7

 8

 9

**5. Do you consider Malang meatballs as your favourite food?**

1. Yes       2. Not sure       3. No

 10

**6. What is the specific of Malang meatballs that make you interested to? (such as taste, price, availability, etc.) .....**

 11

**7. If the following products have the similar price, please rank your choice of product you would consider to buy?**

1. Malang meatballs       2. 'Soto'       3. 'Bakmi Goreng'  
 4. 'Tahu campur'

 12

7a. Could you give the reasons for the choice in question 7? .....

Please leave  
this section  
blank

8. If the following products have the similar price, please rank your choice of meatballs you would consider to buy?

1. Meatballs from Malang  
 2. Meatballs from outside Malang (please specified) .....

8a. Could you give the reason for the choice in question 8? .....

9. How often do you buy Malang meatballs?

1. Every day       4. 1-2 times a week       7. < 2 times a year  
 2. 5-6 times a week       5. 2-3 times a month       8. Never  
 3. 3-4 times a week       6. <2 times a month       9. other.....

10. Could you give the reason for the choice in question 2?

Malang meatballs are

- |                 | Not                                   | Little                     | Somewhat                   | Rather                                | Very                                  |               |
|-----------------|---------------------------------------|----------------------------|----------------------------|---------------------------------------|---------------------------------------|---------------|
| a. Price        | <input checked="" type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4            | <input type="checkbox"/> 5            | expensive.    |
| b. Appearance   | <input checked="" type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4            | <input type="checkbox"/> 5            | interesting.  |
| c. Unique taste | <input checked="" type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input checked="" type="checkbox"/> 4 | <input type="checkbox"/> 5            | 'umami'.      |
| d. Aroma        | <input type="checkbox"/> 1            | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4            | <input type="checkbox"/> 5            | meaty.        |
| e. Texture      | <input type="checkbox"/> 1            | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4            | <input checked="" type="checkbox"/> 5 | firm.         |
| f. Healthy      | <input type="checkbox"/> 1            | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input checked="" type="checkbox"/> 4 | <input type="checkbox"/> 5            | freshness.    |
| g. Safety       | <input type="checkbox"/> 1            | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4            | <input type="checkbox"/> 5            | 'halal food'. |

11. When do you more often eat Malang meatballs (please choose one)?

1. Breakfast       2. Between breakfast and lunch       3. Lunch  
 4. Between lunch and dinner       5. Dinner       6. After dinner  
 7. Other .....

Please leave  
this section  
blank**12. Could you give the reason for the choice of time in question 11?****Because Malang meatballs are**

- |                 | Not                                   | Little                                | Somewhat                              | Rather                     | Very                                  |            |                             |
|-----------------|---------------------------------------|---------------------------------------|---------------------------------------|----------------------------|---------------------------------------|------------|-----------------------------|
| a. Price        | <input type="checkbox"/> 1            | <input type="checkbox"/> 2            | <input type="checkbox"/> 3            | <input type="checkbox"/> 4 | <input checked="" type="checkbox"/> 5 | important. | <input type="checkbox"/> 25 |
| b. Appearance   | <input checked="" type="checkbox"/> 1 | <input checked="" type="checkbox"/> 2 | <input checked="" type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5            | important. | <input type="checkbox"/> 26 |
| c. Unique taste | <input type="checkbox"/> 1            | <input checked="" type="checkbox"/> 2 | <input type="checkbox"/> 3            | <input type="checkbox"/> 4 | <input type="checkbox"/> 5            | important. | <input type="checkbox"/> 27 |
| d. Aroma        | <input type="checkbox"/> 1            | <input type="checkbox"/> 2            | <input type="checkbox"/> 3            | <input type="checkbox"/> 4 | <input checked="" type="checkbox"/> 5 | important  | <input type="checkbox"/> 28 |
| e. Texture      | <input type="checkbox"/> 1            | <input type="checkbox"/> 2            | <input type="checkbox"/> 3            | <input type="checkbox"/> 4 | <input type="checkbox"/> 5            | important. | <input type="checkbox"/> 29 |
| f. Healthy      | <input type="checkbox"/> 1            | <input type="checkbox"/> 2            | <input type="checkbox"/> 3            | <input type="checkbox"/> 4 | <input type="checkbox"/> 5            | important. | <input type="checkbox"/> 30 |
| g. 'Halal food' | <input checked="" type="checkbox"/> 1 | <input type="checkbox"/> 2            | <input type="checkbox"/> 3            | <input type="checkbox"/> 4 | <input type="checkbox"/> 5            | important. | <input type="checkbox"/> 31 |

**13. Please tick the people who influence you to buy Malang meatballs:**

1. Family     2. Friend     3. other (please specify).....  32

**14. Please rank the influence of those people for question 13 in your purchasing****Malang meatballs:**

1. Very unlikely     2. Unlikely     3. Neutral     4. Likely     5. Very likely  33

**15. Do you think that you that you will follow those people in question 13 to buy Malang meatballs?**

1. Not at all     2. A little     3. Somewhat     4. Rather     5. Very much  34

**16. Do you think you will repeat purchasing Malang meatballs in future?**

1. Definitely will not     2. Probably will not     3. Not sure  35
4. Probably will     5. Definitely will



**17. Do you feel satisfy in consuming Malang meatballs?**

1. Very dissatisfied     2. Dissatisfied     3. Neutral  
 4. Satisfied     5. Very satisfied.

Please leave  
this section  
blank

**18. How do the following criteria influence on purchasing/consuming****Malang meatballs?**

(please rank : 1. Not; 2. Little; 3. Somewhat; 4. Rather; 5. Very influence)

- |   |                          |                      |
|---|--------------------------|----------------------|
| a. Temperature surrounding (i.e. cold temperature)            | <input type="checkbox"/> | <input type="text"/> |
| b. The existence of fast food (i.e. McDonald, Kentucky, etc.) | <input type="checkbox"/> | <input type="text"/> |
| c. Distance in obtaining Malang meatballs                     | <input type="checkbox"/> | <input type="text"/> |
| d. Income you have  | <input type="checkbox"/> | <input type="text"/> |
| e. Knowledge of nutrition                                     | <input type="checkbox"/> | <input type="text"/> |
| f. Occupation you have  | <input type="checkbox"/> | <input type="text"/> |
| g. Time you have for buying/consuming                         | <input type="checkbox"/> | <input type="text"/> |
| h. Knowledge of 'halal food'                                  | <input type="checkbox"/> | <input type="text"/> |
| i. Knowledge of food quality                                  | <input type="checkbox"/> | <input type="text"/> |

**19. Where do you buy Malang meatballs?**

1. Restaurants     2. Supermarkets     3. Meatball stalls  
 4. Street food     5. Vendors     6. Other....

Could you give the reasons for number 19? .....

**20. Where do you intend to buy Malang meatballs?**

1. One place     2. Changed place     3. Both

Could you give the reasons for number 20? .....

**21. When you buy Malang meatballs, do you look location?**

- 1.No       2. Yes       3. Uncertain

**Could you give the reasons for number 21? .....**

*Please leave  
this section  
blank*

50

51

**22. When you buy Malang meatballs, do you look price?**

- 1.No       2. Yes       3. Uncertain

**Could you give the reasons for number 22? .....**

52

53

**23. Malang meatballs is usually used as**

- 1.Snack       2. Side of dishes       3.Both 1 and 2       4.Other...

54

**24. Do the following criteria important in your consideration when purchasing/consuming Malang meatballs ?**

**(please rank : 1. Not; 2. Little; 3. Somewhat; 4. Rather; 5. Very important)**

a. Availability of Malang meatballs

55

b. Change in Malang meatballs price

56

c. Originality of Malang meatballs

57

d. A variety of Malang meatballs choice

58

e. A good quality of Malang meatballs

59

f. A low price of Malang meatballs

60

g. A high price of Malang meatballs

61

h. The packaging of Malang meatballs

62

i. The branch name of Malang meatballs

63

j. The existence of a 'halal food' label.

64

k. Using advertisements

65

l. A clean purchasing place

66

m. A convenient purchasing place

67



Please leave  
this section  
blank

- c. Gender:  1. Male  2. Female
- d. Education:  1. Illiterate  2. Primary  3. Secondary  
 4. Tertiary School  5. University/Academic
- e. Religion: :  1. Islam  2. Christian  3. Catholic  
 4. Hindu  5. Buddhist  6. other .....
- f. Lifecycle:  1. Single  2. Married  3. Divorce  
 4. Widow  5 Others...
- g. The experience to in purchasing Malang meatballs:  1. less than 1 year  
 2. 2-<5 years  3. 5-<10 years  4. 10 years and above

 82

 83

 84

 85

### 30. Could you give information about your households?

a. Households income per month:

1. Less than Rp. 200.000,-  2. Rp. 200.000,- < 500.000,-  
 3. Rp. 500.000- <1.000.000  4. Rp. 1000000- <1500,000,-  
 5. Rp.1500,000,-and above

 86

b. Household members: ..... persons

 87

**They are :**

**a. 15 years old and above :** number ..... persons

female ..... persons

male ..... persons

 88

 89

 90

**b. Less than 15 years old:** number ..... persons

girls ..... persons

boys..... persons

 91

 92

 93

**Thank you very much for your participation!!!**

## Appendix-11

Survey Form 2

### FOOD PROCESSOR RESPONSE TOWARDS MALANG MEATBALLS

Dear respondents,

This questionnaire is a part of my research on food processor response towards Malang meatballs for my thesis. I will interview you to answer the questionnaire. During the process of interviews, you have the following rights to:

- to decline to participate;
- to refuse to answer any particular questions;
- to withdraw from the study at any time;
- to ask any questions about the study at any time during participation.

You could refuse to answer any particular questions which are inappropriate or even to decline your participation at any time without having any consequences on your lives and business activities.

I, therefore, need your support to answer this questionnaire.

Your participation is greatly appreciated.

Hari Dwi Utami

## FOOD PROCESSOR RESPONSE TOWARDS MALANG MEATBALLS

Please leave  
this section  
blank

**1. Could you explain the following questions about your enterprise?**

a. How many people do you employ worker?: ..... persons

They are:

a.1 Family worker: number ..... persons

female ..... persons

male ..... persons

a.2 Hired worker: number ..... persons

female ..... persons

male ..... persons

1

2

3

4

5

6

7

b. Where do you buy meat ?  1. Market                       2. Meat stalls

3. Butchers                       4. Others.....

8

c. Where do you sell Malang meatballs?

1. At mobile traders                       6. Others....

9

2. At street food (semi-mobile traders)

10

3. At food stalls

11

4. At supermarkets

12

5. At restaurants

13

14

d. Working capital for daily operation is:  1. Less than Rp. 200.000,-

2. Rp. 200.000,-<500.000,-                       3. Rp. 500.000- <1.000.000

4. 100000- <1500,000,-                       5. Rp.1500,000,- and above

15

Where is this working capital coming from? .....

16

- e. How many hours do you sell Malang meatballs everyday? ..... hours
- f. How many Kg do you used beef (meat) regularly?..... Kg/day
- g. How much do you pay for these meat ? Rp...../day
- h. How much do you pay for other ingredients ? Rp...../day
- i. How many meatballs do you produce regularly?..... piece/day.
- j. How many types Malang meatballs do you sell? ..... types

Please leave  
this section  
blank

17

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19

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21

22

The types are:

1. ....

Number: ..... pieces

Price : Rp. .... /piece/unit

2. ....

Number: ..... pieces

Price : Rp. .... /piece/unit

3. ....

Number: ..... pieces

Price : Rp. .... /piece/unit

4. ....

Number: ..... pieces

Price : Rp. .... /piece/unit

5. ....

Number: ..... pieces

Price : Rp. .... /piece/unit

\*) 1 unit = .....

23

24

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38

39

- h. How much money do you get from one day sell Malang meatballs? Rp.... /day



Please leave this section blank

**2. What is strategy you using in processing/producing Malang meatballs, so make consumer prefer your product?**

- a. Meat is Using:  1. Good quality  2. Other....  40
- b. Meat is selected from:  1. Import cattle  2. Local cattle  41
  - 3. Both 1 and 2  4. Other....
- c. Non-meat is using:  1. Good quality  2. Other....  42
- d. Meat cutting is using:  1. Manual  2. Machine  43
  - 3. Both 1 and 2  4. Other....
- e. Mixing meat and spicy is using:  1. Manual  2. Machine  44
  - 3. Both 1 and 2  4. Other....
- The process is carried out at:  1. Market  2. Home  3. Other....  45
- f. Meat grinding is using:  1. Manual  2. Machine  46
  - 3. Both 1 and 2  4. Other....
- The process is carried out at:  1. Market  2. Home  3. Other....  47
- g. Meatballs is cooked at:  1. Hearth  2. Kerosene stove  3. Gas stove  48
  - 4. Both 1 and 2  5. Other....
- h. Meatball's forming is using:  1. Manual  2. Machine  49
  - 3. Both 1 and 2  4. Other....
- i. Meatball's cooling is using:  1. Manual  2. Machine  50
  - 3. Both 1 and 2  4. Other....
- j. Meatball's packaging is using:  1. Manual  2. Machine  51
  - 3. Both 1 and 2  4. Other....
- k. Other strategy to produce meatballs is.....  52

**3. What is strategy you using to make consumer loyal in purchasing Malang meatballs?**

- 1. Selling fresh Malang meatballs  53
- 2. Selling the variety choice of Malang meatballs  54
- 3. Selling a good quality of Malang meatballs  55

Please leave  
this section  
blank

- |                          |   |                          |    |
|--------------------------|---|--------------------------|----|
| <input type="checkbox"/> | 4. Selling a unique taste of Malang meatballs                                     | <input type="checkbox"/> | 56 |
| <input type="checkbox"/> | 5. Selling Malang meatballs with cheaper price                                    | <input type="checkbox"/> | 57 |
| <input type="checkbox"/> | 6. Selling Malang meatballs with expensive price                                  | <input type="checkbox"/> | 58 |
| <input type="checkbox"/> | 7. Using packaging in Malang meatballs  | <input type="checkbox"/> | 59 |
| <input type="checkbox"/> | 8. Using brand name in selling Malang meatballs                                   | <input type="checkbox"/> | 60 |
| <input type="checkbox"/> | 9. Using the 'halal food' label in selling Malang meatballs                       | <input type="checkbox"/> | 61 |
| <input type="checkbox"/> | 10. Using advertising in selling Malang meatballs                                 | <input type="checkbox"/> | 62 |
| <input type="checkbox"/> | 11. Using word of mouth in selling Malang meatballs                               | <input type="checkbox"/> | 63 |
| <input type="checkbox"/> | 12. Offering a clean place in selling Malang meatballs.                           | <input type="checkbox"/> | 64 |
| <input type="checkbox"/> | 13. Offering a convenient place in selling Malang meatballs.                      | <input type="checkbox"/> | 65 |
| <input type="checkbox"/> | 14. Making a closed relationship to consumer (good service).                      | <input type="checkbox"/> | 66 |
| <input type="checkbox"/> | 15. Offering a longest time in daily selling Malang meatballs.                    | <input type="checkbox"/> | 67 |
| <input type="checkbox"/> | 16. Offering self service in selling Malang meatballs.                            | <input type="checkbox"/> | 68 |
| <input type="checkbox"/> | 17. Other strategy that related to marketing their products (please specify)..... | <input type="checkbox"/> | 69 |

**4. Regarding to two question (question 2 and 3) above, could you select the importance of the following criteria:**

- |                            | Not                        | Little                                | Somewhat                   | Rather                     | Very important             |                          |
|----------------------------|----------------------------|---------------------------------------|----------------------------|----------------------------|----------------------------|--------------------------|
| a. Quality of meat         | <input type="checkbox"/> 1 | <input type="checkbox"/> 2            | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> |
| b. Meat availability       | <input type="checkbox"/> 1 | <input type="checkbox"/> 2            | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> |
| c. Meat price              | <input type="checkbox"/> 1 | <input type="checkbox"/> 2            | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> |
| d. Time in purchasing meat | <input type="checkbox"/> 1 | <input checked="" type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> |
| e. Quality of non-meat     | <input type="checkbox"/> 1 | <input checked="" type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> |

- f. Non –meat availability  1  2  3  4  5
- g. Non-meat price  1  2  3  4  5
- h. Consumer preference  1  2  3  4  5
- i. Consumer's age  1  2  3  4  5
- j. Consumer's income  1  2  3  4  5
- k. Consumer's lifestyle  1  2  3  4  5
- l. Consumer's habits  1  2  3  4  5
- m. Consumer's religion  1  2  3  4  5
- n. Consumer's loyalty  1  2  3  4  5
- o. The available of product  
substitutions  1  2  3  4  5
- p. The location of selling  
Malang meatballs  1  2  3  4  5
- q. The available of formal  
institutions  1  2  3  4  5

Please leave this section blank

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5. Have you attended course about meatballs?  1. Yes  2. No

- a. Course name: .....
- b. Place : .....
- c. Date/Year : .....
- d. Length : ...../days/weeks/months
- e. Organised by : .....

**6. How many retailers/branch do you have? .....**

a. At Malang .....

b. Outside Malang .....

*Please leave  
this section  
blank*

93

94

95

**7. Could you give me the information of the following questions?**

a. Age:  1. Less than 30 years  2. 30 to <40 years  3. 40-<50 years

96

4. 50-<60 years  5. 60 years and above

b. Level education:  1. Illiterate  2. Primary  3. Secondary

97

4. tertiary school  5. University or academic.

c. The experience as meatballs' processor:  1. Less than 5 years

98

2. 5- <10 years  3. 10-<15 years  4. 15 -<20 years

5. 20 years and above

99

d. Gender:  1. Male  2. Female

e. Religion:  1. Islam  2. Christian  3. Catholic

100

4. Hindu  5. Buddhist  6. other .....

f. Lifecycle:  1. Single  2. Married  3. Divorce

101

4. Widow

g. Household members: ..... persons

102

**They are :**

**a. 15 years old and above :** number ..... persons

103

female ..... persons

104

male ..... persons

105

**b. Less than 15 years old:** number ..... persons

105

girls ..... persons

106

boys ..... persons

107

**Thank you very much for your participation!!!**

## Appendix-12

Survey Form 3

### CONSUMER BEHAVIOUR TOWARDS KEDIRI TOFU

Dear respondents,

This questionnaire is a part of my research on consumer behaviour towards Kediri tofu for my thesis. I will interview you to answer the questionnaire.

During the process of interviews, you have the following rights to:

- to decline to participate;
- to refuse to answer any particular questions;
- to withdraw from the study at any time;
- to ask any questions about the study at any time during participation.

You could refuse to answer any particular question which are inappropriate or even to decline your participation at any time without having any consequences on your lives and business activities.

I, therefore, need your support to answer this questionnaire.

Your participation is greatly appreciated.

Hari Dwi Utami

## CONSUMER BEHAVIOUR TOWARDS KEDIRI TOFU

*Please leave  
this section  
blank*

1. Do you know Kediri tofu as a specific food of Kediri?

1. Yes

2. Not sure

3. No

2. Are you feeling proud in regard to the existing Kediri tofu in

your region?

1. Not

2. Little

3. Somewhat

4. Rather

5. Very

3. How do you perform number 2?

1. Buying Kediri tofu

2. Consuming Kediri tofu

3. Other .....

4. What's the reason for answering on number 3? Because.....

1. Kediri tofu are specific in my region

2. Kediri tofu are sold many in my region

3. Kediri tofu have a unique taste

4. Other .....

5. Do you consider Kediri tofu as your favourite food?

1. Yes

2. Not sure

3. No

6. What is the specific of Kediri tofu that make you interested to?

(such as taste, price, availability, etc.) .....

7. If the following products have a same price, please rank your choice  
of tofu you will consider to buy?

1. Kediri tofu

2. "Gethuk Pisang"

3. "Kripik Bekicot"

4. "Tempe"

*Please leave this section blank*

**7a. Could you give the reason for the choice in question 7? .....**

13

**8. If the following products have a same price, please rank your choice of tofu you will consider to buy?**

14

1. Kediri tofu     2. Regular tofu     3. Fried tofu"     4. Others.

**8a. Could you give the reason for the choice in question 8? .....**

15

**9. How often do you buy Kediri tofu?**

1. Every day     4. 1-2 times a week     7. < 2 times a year  
 2. 5-6 times a week     5. 2-3 times a month     8. Never  
 3. 3-4 times a week     6. <2 times a month     9. other.....

16

**10. Could you give the reason for the choice in question 2?**

**Kediri tofu are**

	Not	Little	Somewhat	Rather	Very		
a. Price	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5	expensive.	<input type="text"/> 17
b. Appearance	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	interesting.	<input type="text"/> 18
c. Unique taste	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	savoury.	<input type="text"/> 19
d. Aroma	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	delicious.	<input type="text"/> 20
e. Texture	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	firm.	<input type="text"/> 21
f. Healthy	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	freshness.	<input type="text"/> 22
g. Safety	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	'halal food'.	<input type="text"/> 23

**11. When do you more often eat Kediri tofu (please choose one)?**

1. Breakfast     2. Between breakfast and lunch     3. Lunch  
 4. Between lunch and dinner     5. Dinner     6. After dinner  
 7. Other .....

24



**12. Could you give the reason for those choice of time in question 11?****Because Kediri tofu is**

- |                 | Not                        | Little                     | Somewhat                   | Rather                     | Very                                  |            |                             |
|-----------------|----------------------------|----------------------------|----------------------------|----------------------------|---------------------------------------|------------|-----------------------------|
| a. Price        | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5            | important. | <input type="checkbox"/> 25 |
| b. Appearance   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5            | important. | <input type="checkbox"/> 26 |
| c. Unique taste | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5            | important. | <input type="checkbox"/> 27 |
| d. Aroma        | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5            | important  | <input type="checkbox"/> 28 |
| e. Texture      | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input checked="" type="checkbox"/> 5 | important. | <input type="checkbox"/> 29 |
| f. Healthy      | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5            | important. | <input type="checkbox"/> 30 |
| g. 'Halal food' | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5            | important. | <input type="checkbox"/> 31 |

Please leave  
this section  
blank**13. Please tick the people who influence you to buy Kediri tofu:**

1. Family     2. Friend     3. other (please specify).....

 32**14. Please rank the influence of those people for question 8 in your purchasing****Kediri tofu:**

1. very unlikely     2. Unlikely     3. Neutral     4. Likely     5. very likely

 33**15. Do you think that you that you will follow those people in question 8 to buy Kediri tofu?**

1. Not at all     2. A little     3. Somewhat     4. Rather     5. Very much

 34**16. Do you think you will repeat purchasing Kediri tofu in future?**

1. definitely will not     2. probably will not     3. not sure  
 4. probably will     5. definitely will

 35

Please leave this section blank

17. Do you feel satisfy with Kediri tofu?

- 1. Very dissatisfied     2. Dissatisfied     3. Neutral
- 4. Satisfied     5. Very satisfied.

36

18. How do the criteria below influence on purchasing/consuming

Kediri tofu?

(please rank : 1. Not; 2. Little; 3. Somewhat; 4. Rather; 5. Very influence)

- a. Temperature surrounding (such as cold temperature)   37
- b. The existence of fast food (such as McDonald, Kentucky, etc.)   38
- c. Distance to Kediri tofu sold   39
- d. Income you have   40
- e. Knowledge of nutrition   41
- f. Occupation you have   42
- g. Time you have for buying/consuming   43
- h. Knowledge of 'halal food'   44
- i. Knowledge of food quality   45

19. Where do you buy Kediri tofu?

- 1. Restaurants     2. Supermarkets     3. Food stalls
- 4. Street food     5. Vendors     6. Other....

46

Could you give the reasons for number 19? .....

47

20. Where do you intend to buy Kediri tofu?

- 1. One place     2. Changed place     3. Both

48

Could you give the reasons for number 20? .....

49

**21. When you buy Kediri tofu, do you look location?**

- 1.No       2. Yes       3. Uncertain

**Could you give the reasons for number 21? .....**

**22. When you buy Kediri tofu, do you look price?**

- 1.No       2. Yes       3. Uncertain

**Could you give the reasons for number 22? .....**

**23. Kediri tofu is usually used as**

- 1.Snack       2. Side of dishes       3.Both 1 and 2       4.Other...

**24. Do the criteria below important in your consideration when purchasing/consuming Kediri tofu ?**

**(please rank : 1. Not; 2. Little; 3. Somewhat; 4. Rather; 5. Very important)**

- |  |                          |                      |
|--|--------------------------|----------------------|
| a. Availability of Kediri tofu                 | <input type="checkbox"/> | <input type="text"/> |
| b. The change of Kediri tofu price             | <input type="checkbox"/> | <input type="text"/> |
| c. The originality of Kediri tofu              | <input type="checkbox"/> | <input type="text"/> |
| d. The variety of Kediri tofu choice           | <input type="checkbox"/> | <input type="text"/> |
| e. The good quality of Kediri tofu             | <input type="checkbox"/> | <input type="text"/> |
| f. The low price of Kediri tofu                | <input type="checkbox"/> | <input type="text"/> |
| g. The high price of Kediri tofu               | <input type="checkbox"/> | <input type="text"/> |
| h. The packaging of Kediri tofu                | <input type="checkbox"/> | <input type="text"/> |
| i. The use of the branch's name of Kediri tofu | <input type="checkbox"/> | <input type="text"/> |
| j. The use of 'halal food' label               | <input type="checkbox"/> | <input type="text"/> |
| k. The use of advertising                      | <input type="checkbox"/> | <input type="text"/> |
| l. A clean place                               | <input type="checkbox"/> | <input type="text"/> |

*Please leave this section blank*

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Please leave this section blank

- m. A convenient place
- n. A good service
- o. The self service offered by sellers
- p. Other .....

67

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71

**25. Do you choose the 'halal food' of Kediri tofu?**

1. Yes                       2. Uncertain                       3. No

**Could you give the reasons of number 25 and how do you recognise that Kediri tofu you buy is the 'halal food'? .....**

72

**26. Do you choose the fresh of Kediri tofu?**

1. Yes                       2. Uncertain                       3. No

**Could you give the reasons of number 26 and how do you recognise that Kediri tofu you buy is fresh? .....**

73

74

**27. Do you choose the good quality of Kediri tofu?**

1. Yes                       2. Uncertain                       3. No

**Could you give the reason of number 27 and how do you recognise that Kediri tofu you buy is a good quality? .....**

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**28. Do you know that Kediri tofu has nutrient content?**

1. Yes                       2. No

**Could you give the reason for number 28? .....**

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**29. Could you give a detail information about yourself ?**

- a. Age:  1.< 20 years                       2. 20- <30 years                       3. 30-<40 years
4. 40- <50 years                       5. 50 years and above

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- b. Occupation:  1. Government officer  2. Private company  3. Student  
 4. Informal worker  5. Other (please specify).....
- c. Gender:  1. Male  2. Female
- d. Education:  1. Illiterate  2. Primary  3. Secondary  
 4. Tertiary School  5. University/Academic
- e. Religion: :  1. Islam  2. Christian  3. Catholic  
 4. Hindu  5. Buddhist  6. other .....
- f. Lifecycle:  1. Single  2. Married  3. Divorce  
 4. Widow  5. Other.....
- g. The experience to in purchasing Kediri tofu:  1. less than 1 year  
 2. 2-<5 years  3. 5-<10 years  4. 10 years and above

Please leave th  
section blank

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**30. Could you give information about your households?**

- a. Households income per month is:
1. Less than Rp. 200.000,-  2. Rp. 200.000,-- <500.000,-  
 3. Rp. 500.000- <1.000.000  4. Rp. 1000000- <1500,000,-  
 5. Rp.1500,000,-and above

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- b. Household members: ..... persons

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**They are :**

- a. 15 years old and above :** number ..... persons  
 female ..... persons  
 male ..... persons
- b. Less than 15 years old:** number ..... persons  
 Girls ..... persons  
 Boys ..... persons

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**Thank you very much for your participation!!!**

**FOOD PROCESSOR RESPONSE  
TOWARDS KEDIRI TOFU**

Dear respondents,

This questionnaire is a part of my research on food processor response the demand for Kediri tofu for my thesis. I will interview you to answer the questionnaire. During the process of interviews, you have the following rights to:

- to decline to participate;
- to refuse to answer any particular questions;
- to withdraw from the study at any time;
- to ask any questions about the study at any time during participation.

You could refuse to answer any particular questions which are inappropriate or even to decline your participation at any time without having any consequences on your lives and business activities.

I, therefore, need your support to answer this questionnaire.

Your participation is greatly appreciated.

Hari Dwi Utami

## FOOD PROCESSOR RESPONSE TOWARDS KEDIRI TOFU

### 1. Could you explain the following questions about your enterprise?

a. How many people do you employ worker ? ..... persons

They are:

a.1 Family worker: number ..... persons

female ..... persons

male ..... persons

a.2 Hired worker: number ..... persons

female ..... persons

male ..... persons

b. Where do you buy soybean ?  1. Market  2. Soybean stalls  
 3. Farmer  4. Others.....

c. Where do you sell Kediri tofu?

1. At mobile traders

6. Others....

2. At street food (semi-mobile traders)

3. At food stalls

4. in supermarkets

5. in restaurants

d. Working capital for daily operation is:

2. Rp. 200.000,-<500.000,-

1. Less than Rp. 200.000,-

3. Rp. 500.000- <1.000.000

4. 100000- <1500.000,-

5. Rp.1500.000,- and above

Where is your fund coming from? .....

Please leave  
this section  
blank



- e. How many hours do you sell Kediri tofu everyday? ..... hours
- f. How many Kg do you used soybean regularly?.....Kg/day
- g. How much do you pay for these soybean ? Rp...../day
- h. How much do you pay for other ingredients ? Rp...../day
- i. How many tofu do you produce regularly?..... piece/day.
- j. How many types Kediri tofu do you sell? ..... types

Please leave  
this section  
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The types are:

1. ....

Number: ..... pieces

Price : Rp. .... /piece/unit

2. ....

Number: ..... pieces

Price : Rp. .... /piece/unit

3. ....

Number: ..... pieces

Price : Rp. .... /piece/unit

4. ....

Number: ..... pieces

Price : Rp. .... /piece/unit

5. ....

Number: ..... pieces

Price : Rp. .... /piece/unit

\*) 1 unit = .....

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- h. How much money do you get from one day sell Kediri tofu? Rp..../day

Please leave this section blank

**2. What is strategy you using in processing/producing Kediri tofu, so make consumer prefer your product?**

- a. Soybean used is  1. Good quality  2. Other....
- b. Soybean is selected from  1. Imported soybean  2. Local soybean  
 3. Both 1 and 2  4. Other....
- c. Non-soybean used is  1. Good quality  2. Other....
- d. The grounding of soybean is using:  1. Manual  2. Machine  
 3. Both 1 and 2  4. Other....
- e. Soy porridge is cooked at:  1. Hearth  2. Kerosene stove  3. Gas stove  
 4. Both 1 and 2  5. Other....
- f. The stirring of soybean porridge is using:  1. Manual  2. Machine  
 3. Both 1 and 2  4. Other....
- g. Tofu forming is using :  1. Manual  2. Machine  
 3. Both 1 and 2  4. Other....
- h. Tofu packaging is using:  1. Manual  2. Machine  
 3. Both 1 and 2  4. Other....
- k. Other strategy to produce tofu is.....

**3. What is strategy you using to make consumer loyal in purchasing Kediri tofu?**

- 1. Selling the fresh of Kediri tofu
- 2. Selling the variety of Kediri tofu choice
- 3. Selling the good quality of Kediri tofu
- 4. Selling the unique taste of Kediri tofu
- 5. Selling the low price of Kediri tofu
- 6. Selling the high price of Kediri tofu
- 7. Using packaging in selling Kediri tofu
- 8. Using the branch's name of Kediri tofu

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- Please leave this section blank*
- 9. Using the 'halal food' label  57
  - 10. Using advertising in selling Kediri tofu  58
  - 11. Using word of mouth in selling Kediri tofu  59
  - 12. Offering clean place in selling Kediri tofu.  60
  - 13. Offering convenience place in selling Kediri tofu.  61
  - 14. Making a closed relationship to consumer (good service).  62
  - 15. Offering a longest time in daily selling Kediri tofu.  63
  - 16. Offering self service in selling Kediri tofu.  64
  - 17. Other strategy that related to marketing this product (please specified)...  65

**4. Regarding to two question (question 2 and 3) above, could you select the importance of the following criteria:**

	Not	Little	Somewhat	Rather	Very important.	
a. Quality of soybean	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 66
b. Soybean availability	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 67
c. Soybean price	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 68
d. Time purchasing soybean	<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 69
e. Quality of non-soybean	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 70
f. Non –soybean availability	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 71
g. Non-soybean price	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 72
h. Consumer preference	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 73
i. Consumer's age	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 74
j. Consumer's income	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 75
k. Consumer's lifestyle	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 76

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- l. Consumer's habits  1  2  3  4  5
- m. Consumer's religion  1  2  3  4  5
- n. Consumer's loyalty  1  2  3  4  5
- o. The available of product substitutions  1  2  3  4  5
- p. The location of selling Kediri tofu  1  2  3  4  5
- q. The available of formal institutions  1  2  3  4  5

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**5. Have you attended course about tofu?**  1. Yes  2. No

- a. Course name: .....
- b. Place : .....
- c. Date/Year : .....
- d. Length : ...../days/weeks/months
- e. Organised by : .....

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**6. How many retailers/branch do you have? .....**

- a. At Kediri .....
- b. Outside Kediri .....

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**7. Could you give me the information of the following questions?**

- a. Age:  1. Less than 30 years  2. 30 to <40 years  3. 40-<50 years  4. 50-<60 years  5. 60 years and above
- b. Level education:  1. illiterate  2. primary  3. secondary  4. tertiary school  5. university or academic.
- c. The experience as Kediri tofu's processor:  1. Less than 5 years  2. 5- <10 years  3. 10-<15 years  4. 15 -<20 years  5. 20 years and above
- d. Gender:  1. Male  2. Female
- e. Religion: :  1. Islam  2. Christian  3. Catholic  4. Hindu  5. Buddhist  6. other .....
- f. Lifecycle:  1. Single  2. Married  3. Divorce  4. Widow
- g. Household members: ..... persons

*Please leave this section blank*

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**They are :**

**a. 15 years old and above :** number ..... persons

female ..... persons

male ..... persons

**b. Less than 15 years old:** number ..... persons

girls ..... persons

boys ..... persons

**Thank you very much for your participation!!!**