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DEVELOPMENT
OF A BAKERY SNACK FOR EXPORT
FROM NEW ZEALAND TO MALAYSIA

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presented in partial fulfilment of
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Doctor of Philosophy in Product Development

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ABSTRACT

The use of consumers in the product development system for developing a food product was investigated. The investigation studied the techniques suitable for use with consumers and how well the development system worked in a cross-cultural situation. A bakery snack was developed for export from New Zealand to Malaysia, targetted at two major ethnic groups, the Malays and Chinese.

Initial market research (including a consumer survey and a focus group) provided general information on the eating of snacks by the Malays and the Chinese. Multidimensional scaling also provided general information on their perceptions of bakery snacks and uncovered an area for further development work. The initial market research findings indicated that the Malays and Chinese were similar in their perceptions and preferences of bakery snacks. Their purchasing patterns of bakery products from bread and cake shops were somewhat different. Bread and cake were more popular among the Malays, while the Chinese bought more filled buns and currys puffs.

Consumers generated 100 new product ideas for bakery snacks using brainstorming and nominal group technique. Both techniques were found to be useful under different conditions. The product ideas were reduced to seven using a series of quantitative techniques. The final selection of a macaroni and minced meat pie for further development was made by Malay and Chinese consumer groups.

Formulation of the pie was studied, using sensory profiling with fixed "ideals", by a small panel in New Zealand. The panel consisted of Malaysian students who had been in New Zealand for one or two years. Data obtained from the sensory profiling were used to derive empirical equations relating sensory attributes and acceptability to ingredient levels, so that the formulation could be guided quickly and systematically. The final product was consumer tested in Malaysia using a central location test, focus groups and sensory profiling.

Consumer input was useful in every stage of the development of the product. Their input was particularly important during the initial market research, the formulation stage and product testing. It was concluded that consumers were best utilised in as many stages of the development of a consumer product as possible, using groups of 10-30 people. Most techniques were found suitable for cross-cultural research. Exceptions occurred where questionnaires were involved (i.e. the initial consumer survey and the central location test) where it was found that Malays were reluctant to answer questions. Results from the different techniques at the various stages of the project correlated well with few exceptions.

The pie developed was acceptable to Malaysians, both Malays and Chinese, but improvements are still necessary, particularly in the sensory properties before test marketing. The beef flavour was too strong and could possibly be reduced by decreasing the beef content and replacing it with textured vegetable proteins.

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