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**Analysis of Factors that Impact on the Consumer Risk
Perception of Dairy Product Safety in China**

**A thesis presented in partial fulfilment of the requirements of the
degree of Masters in Agricommerce**

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ABSTRACT

Food safety is an international challenge that is felt strongly in China. A series of foodborne diseases and food fraud scandals around world have pushed concerns over food safety even further. With its rapid social and economic transformation in past 60 years, China is shifting its priority from food security to food safety. Melamine contaminated baby formula and many other food safety incidents in China have shaken Chinese consumer confidence in the food industry and even in regulatory institutions. China is one of the fastest growing markets for dairy products in the world. To understand how Chinese consumers form their perception of the safety of dairy products is critical for policy makers, regulatory institutions and the dairy industry to communicate food safety information with the consumer and establish food safety management with transparency and consistency.

The aim of this study was to explore and evaluate factors that influence the consumers' risk perception of dairy product safety in Lanzhou, northwest of China. The literature review helped to identify a set of factors that impact on the consumers' perception of food safety. A model of consumer risk perception in dairy food safety was developed to gain insight into the underlying drivers of the consumer demand for food safety. The study helped gain an understanding of how consumer social demographic information, reliance on extrinsic and intrinsic attributes, trust in actors and regulators in the dairy industry, personal experience and media use that impact on the risk perceptions of consumers.

A self-completion survey was used to collect the data and provide a big picture of consumer risk perception in food safety in China. Factor analysis was used to refine the dependent variables to produce a data set with less dimensions and more significant correlation, and binary logistic regression analysis identified the three significant factors that influenced the

consumers' opinion relating to food safety. These were: family structure, reliance on third party food safety assurance and reliance intrinsic attributes, listed in order of their importance.

The results of this study contribute the perception of risk relating to dairy products in China. The results will assist risk management and risk communication for policy makers and the food industry to develop their strategies towards improving consumer confidence in food safety.

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ABBREVIATIONS

MOH	Ministry of Health
MOA	Ministry of Agriculture
AQSIQ	Administration of Quality Supervision, Inspection and Quarantine Department
IAC	Industry and Commerce Department
SFDA	State Food and Drug Administration Department
HACCP	Hazard Analysis and Critical Control Point
ISO	International Organisation for Standardization
QS	Quality Scheme

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CHAPTER 1 Introduction

Food safety has become increasingly important with the development of the global agri-food system and international trade. Outbreaks of a series of foodborne diseases and food fraud scandals have eroded consumer confidence worldwide and have raised concerns from governments, the public and stakeholders in the food industry. Food safety issues are not only public health hazards, but also have a negative influence on international trade and the global economy.

1.1 Global food safety challenges

Some recent examples of food safety incidents and food fraud include the outbreak of the *Escherichia coli* O157:H7 in August 2013 in Arizona, USA, which sickened 79 people and hospitalised 23 people and being the largest *E. coli* outbreak in the United States (Foodborne Illness Outbreak Database, 2013). Beef burgers contaminated with horse meat were found in Britain and Ireland in January 2013 (O'Mahony, 2013). Fonterra's precautionary recall of whey protein in 2013 cost multimillions of dollars (Hussain & Dawson, 2013). In 2012, a *Salmonella* outbreak in salmon products caused sickness in 950 people in the Netherlands and 100 in the United States (Foodborne Illness Outbreak Database, 2013). The well-known melamine incident in China in 2008 affected 300,000 babies with 51,900 hospitalised and 6 deaths as a result of consuming melamine contaminated baby formula (Xiu & Klein, 2010). From 1993 to 2010, more than 184,500 cases of BSE (bovine spongiform encephalopathy) had been confirmed in the United Kingdom alone (Centers for Disease Control and Prevention, 2010). These foodborne illnesses and food fraud scandals around world remind us that there is much to be done to protect the global food system.