

**CONSUMERS' PERCEPTION AND ATTITUDE TOWARDS NUTRITION
LABELLING IN TEHRAN, IRAN**

GOLNAZ REZAI

**MASTER OF SCIENCE
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**CONSUMERS' PERCEPTION AND ATTITUDE TOWARDS NUTRITION
LABELLING IN TEHRAN, IRAN**

By

GOLNAZ REZAI

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfilment of the Requirements for the Degree of Master of Science**

February 2005

Dedication

To

**My Beloved Grand Mother, whom I
Lost during My Study, but She is
Always with Me.**

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

CONSUMERS' PERCEPTION AND ATTITUDE TOWARDS NUTRITION LABELLING IN TEHRAN, IRAN

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February 2005

Chairman: Associate Professor Zainal Abidin Mohamed, PhD

Faculty : Agriculture

The impending international challenges facing Iran will continue to be dominant and affect its economic prospect considerably. With an increasing trend towards globalization, Iran would be faced with sweeping technological changes in food manufacturing that requires the altering of methods and ways of conducting their businesses. The emergence of new competitors is fostering competition, opening new markets and expanding existing ones. It is prudent that authorities in Iran seriously consider having regulations for nutrition labelling in order to become competitive in the global market. Nutrition label is one aspect of food labelling. It is a food label providing nutrition information concerning nutrient and energy values per designated size portion. The principle reason for nutrition labelling is that the consumers have a right to know what is in the purchased foods so that consumers can make better decisions for their own well being and that of their children.

Although public concern and apprehension about nutritious diet have increased recently, much of the debate about healthy food has been at a scientific level where the technical words used are not easily understood by the general public. The objective of this research is to find the degree of awareness and utilization of nutrition labelling by consumers in order to determine the factors that influence consumers to read labels.

In the survey, 1200 respondents were interviewed to determine their awareness, perceptions and attitudes towards nutrition labelling. Descriptive analyses, Chi-square analysis, factor analysis and regression logistic method were applied in analysing the data. The descriptive analysis was used to discuss the socio-economics profile in terms of distribution and percentage. The awareness, attitude and perception analysis towards nutrition label used the same technique in term of percentage and mean. Cross tabulations were applied to identify the relationship between demographic factors and nutrition label in the different aspects. The factor analysis is a general scientific method for analyzing data. It utilizes a linear approach to the reduction and summarization of data and comprises a large set of techniques with similar purpose. The regression logistic model was applied to determine the correlation between reading nutrition label and being influenced by source of nutrition information.

In general, the findings show that the majority of the consumers have heard about nutrition labels and once a while they check or read the nutrition information, but only a ratio of the consumers have a right perception towards nutrition labels. However, most consumers buy food products which has nutrition label, but only a

small portion of them purchase food product based on information is written on the nutrition label. The survey reveals that majority of consumers believe that food product which carry nutrition label is healthier. The study also found that there are relationships between demographic factors and perception towards nutrition labelling on the food products in different aspects. Based on factor analysis, eight factors were identified that can influence the purchasing food products based on nutrition label. These factors were as follows; utilizing nutrition labelling, degree of awareness, trust ability, product price, health conscious, safe conscious, and government involvement and manufactured practiced.

The study concluded that the Iranian government should make use of education as a medium to introduce nutrition labelling policies and launch promotions on healthy aspects through mass media to improve the awareness of consumers. The government has to control and encourage the producers who look at nutrition label as solution to introducing standard manufactured foods or developing the product at international level. The producers and processors should be provided with enough knowledge on how to put right and correct nutrition labelling by following the rules and regulations of international norms. Consumers should also be aware and understand the importance of nutrition labelling and how this information can influence their future purchasing and untimely affect their health.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

**PERSEPSI DAN ATTITUD PENGGUNA TERHADAP PELABELAN
KHASIAT DI TEHRAN, IRAN**

Oleh

GOLNAZ REZAI

February 2005

Pengerusi: Profesor Madya Zainal Abidin Mohamed, PhD

Fakultie: Pertanian

Cabaran-cabaran di arena antarabangsa yang dihadapi oleh Iran akan terus dominan dan mempengaruhi prospek ekonomi Iran. Dengan tren terkini ke arah globalisasi, Iran akan menghadapi perubahan teknologi yang akan mengubah cara dan kaedah pengendalian perniagaan. Kemunculan pesaing-pesaing baru akan memperhebatkan persaingan, membuka pasaran-pasaran baru dan memperkembangkan pasaran-pasaran yang sedia ada. Adalah penting untuk pihak berkuasa Iran mempertimbangkan secara serius tentang peraturan berkenaan pelabelan khasiat untuk menjadi lebih kompetitif di pasaran global. Pelabelan khasiat adalah satu aspek pelabelan makanan. Pelabelan khasiat adalah pelabelan produk makanan yang menyatakan kandungan khasiat dan nilai tenaga untuk sesuatu saiz hidangan yang dinyatakan. Tujuan utama pelabelan khasiat adalah kerana pengguna mempunyai hak untuk mengetahui kandungan khasiat di dalam produk makanan yang dibeli agar mereka boleh membuat keputusan yang sewajarnya berkenaan kesihatan mereka dan keluarga mereka.

Walaupun sekarang ini kesedaran dan keprihatinan masyarakat umum berkenaan makanan berkhasiat adalah tinggi, perbincangan berkenaan makanan berkhasiat masih lagi diadakan di peringkat saintifik dan menggunakan terminologi teknikal yang sukar difahami oleh masyarakat umum. Objektif kajian ini adalah untuk mengetahui darjah kesedaran dan penggunaan pelabelan khasiat oleh pengguna. Kaji selidik yang dilakukan adalah untuk menentukan faktor-faktor yang mempengaruhi pengguna agar membaca label khasiat dan juga untuk membangunkan strategi pemasaran untuk pelabelan khasiat di Iran.

Kajian ini menggunakan analisis deskriptif, analisis Chi-Square, analisis faktor dan kaedah regresi logik untuk menganalisis data. Analisis deskriptif digunakan untuk membincangkan profil sosio-ekonomi responden dari segi pengagihan dan peratusan. Analisis tahap kesedaran, attitud dan persepsi terhadap pelabelan khasiat adalah menggunakan teknik yang sama dari segi pengiraan purata dan peratusan. Tabulasi rentas turut digunakan untuk mengenal pasti hubungkait di antara faktor-faktor demografi dengan pelabelan khasiat dari pelbagai aspek. Analisis faktor adalah kaedah saintifik untuk menganalisis data. Ianya menggunakan kaedah linear untuk mengurangkan dan meringkaskan data dan mengandungi satu set teknik-teknik yang banyak untuk tujuan yang sama. Model logistik juga digunakan untuk meramal korelasi di antara faktor-faktor demografi dengan pelabelan khasiat dan dipengaruhi oleh sumber maklumat.

Di dalam kajian ini, 1200 orang responden telah ditemuduga untuk menentukan tahap kesedaran, attitud dan persepsi mereka terhadap pelabelan khasiat. Secara umumnya, hasil kajian ini mendapati bahawa sebahagian besar dari pengguna tahu

akan pelabelan khasiat, dan sekali sekala mereka memeriksa dan membaca maklumat khasiat, tetapi hanya segelintir sahaja yang mempunyai attitud yang sepatutnya terhadap pelabelan khasiat. Walau bagaimanapun, kebanyakan dari pengguna membeli produk makanan yang mempunyai label khasiat tetapi hanya sebahagian kecil sahaja yang membeli produk makanan berdasarkan maklumat yang tertera di label khasiat. Kaji selidik ini juga mendapati bahawa sebahagian besar daripada pengguna percaya bahawa produk makanan yang mempunyai label khasiat adalah lebih sihat dan berkhasiat dan salah satu daripada sebab mengapa pengguna tidak membaca label khasiat adalah kerana mereka tidak mempunyai pengetahuan dan pemahaman mengenai terminologi saintifik. Selain daripada itu, kajian ini mendapati wujudnya hubungkait di antara faktor-faktor demografi dan pelabelan khasiat dari pelbagai aspek. Berdasarkan analisis faktor, lapan faktor telah dikenal pasti mempengaruhi pembelian barang makanan berdasarkan pelabelan khasiat. Faktor-faktor ini adalah penggunaan label khasiat, darjah kesedaran, kebolehpercayaan, harga barang, kesedaran terhadap kesihatan, kesedaran terhadap keselamatan, penglibatan pihak kerajaan dan amalan-amalan pengeluaran.

Sebagai rumusan, pihak kerajaan seharusnya menggunakan pendidikan sebagai medium untuk memperkenalkan dasar berkenaan pelabelan khasiat dan melancarkan promosi berkenaan aspek-aspek kesihatan melalui media massa untuk meningkatkan kesedaran pengguna. Pihak kerajaan juga seharusnya mengawal pengeluar produk makanan agar melihat pelabelan khasiat sebagai satu jalan untuk memperkenalkan piawai pengeluaran produk makanan atau untuk membangunkan produk makanan di arena antarabangsa. Para pengeluar dan pemproses produk makanan seharusnya diberi panduan tentang cara-cara yang betul dan sewajarnya untuk melabel khasiat

produk makanan mereka dengan mematuhi peraturan-peraturan antarabangsa. Para pengguna juga seharusnya mempunyai kesedaran tentang kepentingan pelabelan khasiat dan bagaimana maklumat khasiat dapat membantu mereka di dalam keputusan pembelian produk makanan yang sememangnya mempunyai kesan ke atas kesihatan mereka.

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I certify that an Examination Committee met on November 2004 to conduct the final examination of Golnaz Rezai on the Master of Science thesis entitled “Consumers’ Perception and Attitude Towards Nutrition Labelling in Tehran, Iran” in accordance with Universiti Pertanian Malaysia (Higher Degree) Act 1980 and Universiti Pertanian Malaysia (Higher Degree) Regulation 1981. The Committee recommends that the candidate be awarded the relevant degree. Members of the Examination Committee are as follows:

Mohd Ghazali Mohayidin, PhD

Professor
Faculty of Agriculture
Universiti Putra Malaysia
(Chairman)

Mohd Mansor Ismail, PhD

Associate Professor
Faculty of Agriculture
Universiti Putra Malaysia
(Member)

Norsida Man, PhD

Faculty of Agriculture
Universiti Putra Malaysia
(Member)

Abdul Hamid Jaafar, PhD

Associate Professor
Faculty of Economy
Universiti Kebangsaan Malaysia
(Independent Examiner)

GULAM RUSUL RAHMAT ALI, PhD

Professor/Deputy Dean
School of Graduate Studies
Universiti Putra Malaysia

Date:

This thesis submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee are as follows:

Zainal Abidin Mohamed, PhD

Associate Professor
Faculty of Agriculture
Universiti Putra Malaysia
(Chairman)

Mad Nasir Shamsuddin, PhD

Professor
Faculty of Agriculture
Universiti Putra Malaysia
(Member)

**Alias Ra
dam**

Faculty of Agriculture
Universiti Putra Malaysia
(Member)

AINI IDERIS, PhD

Professor/Dean
School of Graduate Studies
Universiti Putra Malaysia

Date:

DECLARATION

I hereby declare that this thesis is based on my original work except for quotations and citations, which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UPM or other institutions.

GOLNAZ REZAI

Date:

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LIST OF ABBREVIATIONS

CBI	Central Bank of Iran
FSANZ	Food Standards Australia New Zealand
FAC	Food Advisory Committee (United Kingdom)
FDA	Food & Drug Administration (United State)
FSIS	Food Safety & Inspection Service (United State)
FMI	Food Marketing Institute
GDP	Gross Domestic Product
ISIRI	Institute of Standard & Industrial research of Iran
MAFF	Ministry of Agriculture, Fisheries and Food (United Kingdom)
NLEA	Nutrition Labelling and Education Act
POP	Point-of- Purchase
RDA	Recommended Daily Amounts Allowance
RLs	Iran Rial
SCI	Statistical Centre of Iran
USA	United State of America
USDA	United State Department of Agriculture
USSR	Union of Soviet Socialist Republics
WHO	World Health Organization

BIODATA OF THE AUTHOR

The author, Golnaz Rezai, was born in Iran. She received her elementary, middle and high school in the U.S and Iran. She obtained her undergraduate degree in Agriculture Engineering in field of Food Science and Technology from Science and Research University (Tehran-Azad), Iran 2002. After completing the Master, she is planning to further study by doing PhD in Food Marketing.

CHAPTER 1

INTRODUCTION

1.1 Nutritional Aspects of Nutrition Labelling in Iran

1.1.1 Background of Iran

Iran with an area of 1,648,195 km² is in the South West of Asia, and is one of the middle-east countries which is located in the northern temperate zone, between latitudes 25 degree north and 39 degree south and 47' North and between longitudes 44 degree 02' east and 63 degree 20' East. Iran is bordered to the North by the Azerbaijan and Turkmenistan (all Republics of the former USSR) and the Caspian Sea; to the East by Afghanistan and Pakistan; to the South by the Gulf of Oman and the Persian Gulf; and to the West by Iraq and Turkey. Iran is about one-fifth the size of the USA and three times larger than France. In total, it has a border of 8,731 km of which 2,700 km borders the sea and 6,031 km is land borders (Figure 1.1). According to the Statistical Centre of Iran (SCI), the population in 1996 was 60,055,488. The distribution of population is uneven; where 61.31 percent of population reside in urban areas and 38.69 percent in rural areas. Tehran is the capital of Iran with the largest population of 11,931,656 (2001). Iranian government system is Islamic republic and its national day is 12th Farvardin (1st April). The currency of Iran is called RIAL of which 8,000 Rials is equal to one U.S. Dollar.

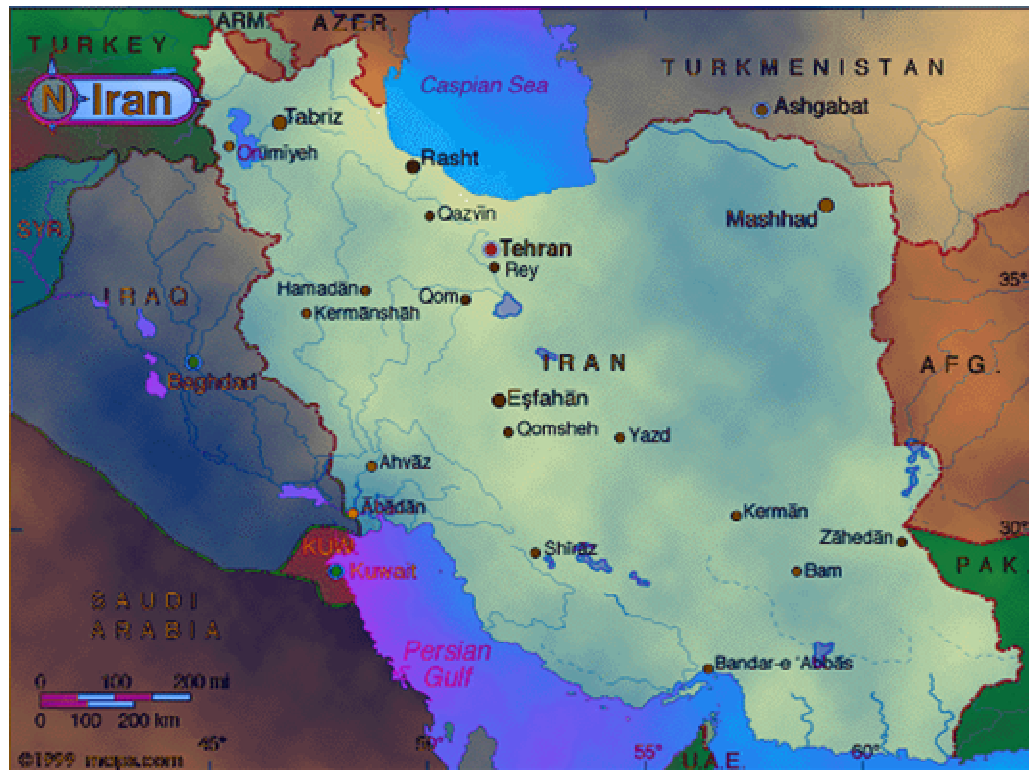


Figure 1.1: Map of Iran

1.1.2 Economy of Iran

Iran's economic situation and policy orientation over the last two decades have been profoundly affected by two major events: the 1979 revolution and the country's adoption of Islamic rules for economic and social policy management. The eight-year war with Iraq resulted in severe human and material losses, a critical dislocation of the economy and a protracted period of recovery and reconstruction. Other events that have also had major negative impact on the country's economy over the same period were the 1986 oil price depression, that resulted in a significant fall in the country's revenues at a time when the economy was already in recession, and the trade restrictions imposed by the United States. However, Iran has since then staged a significant economic recovery, as seen below (Figure 1.2). In addition, with the

presidential election and the Islamic Summit held in Teheran in 1997, there are growing signs that the country has entered an era of reduced economic and diplomatic isolation. Iran is now a lower middle-income country, with a Growth Domestic Product (GDP) of USD 82 billion and per capita GDP of USD 1300. Its population is about 61 million, having doubled in 20 years (average population growth was as high as 3.2 percent between 1977 and 1986; with active family planning efforts, it fell to its current level of about 1.6 percent).

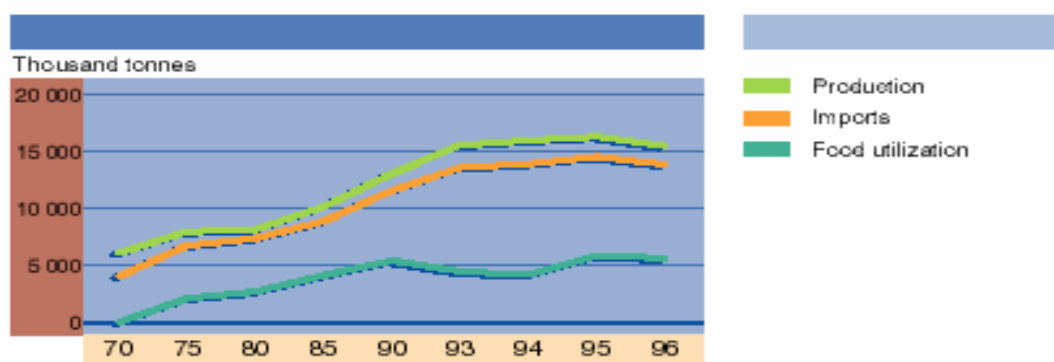


Figure 1.2 : Iran Domestic Supply and Utilization of Food and Agriculture Products.
Source: Central Bank of Iran (1998)

GDP growth was estimated at 4.2 percent in 1995/96, and 5.2 percent in 1996/97, the highest in five years, mainly owing to high crude oil prices in 1996/97. Oil production in 1996/97 was 3.7 million barrels per day, contributing 16 percent of the country's GDP and some 80 percent of export revenue. New offshore gas fields are being brought on-line and gas is increasing in importance. The government aims at reducing economic dependence on the hydrocarbons sector, and vulnerability to oil price movements, by promoting other sectors, in particular agriculture. Details of the sectoral contribution to GDP are shown in table 1.1(CBI 2000).

Table 1.1 GDP Value Added (billion Riales)

Composition by Sector	1997	1998	1999	2000
-----------------------	------	------	------	------

1	Agriculture, Hunting and Forestry	41178	50238	44650	43959
2	Fishing	1149	1043	1005	1181
3	Mining and Quarrying	36724	36985	33237	36345
4	Manufacturing	53254	52000	56391	57668
5	Electricity, Gas and Water Supply	5773	5317	5186	4485
6	Construction	15865	12968	14998	21508
7	Wholesale , Retail Trade ,Repaired Vehicles and Good	46553	50908	48384	52432
8	Hotels and Restaurants	2684	3130	2878	2774
9	Transport, Storage and Communications	18185	17952	19952	21871
10	Financial Intermediation	4019	6051	8080	8150
11	Real estate, Renting and Business Activities	41310	42498	45017	46911
12	Public administration, Defence and Social Securities	18257	16356	16903	18578
13	Education	12256	12554	12968	13672
14	Health and Social Work	8452	8627	9157	9377

Source: Central Bank of Iran (2001)

The Central Bank of Iran (CBI) reported that Iran's GDP amounted to Rls662.51 trillion (USD82.8 billion) in 2002. The GDP consists of 4 sectors, oil, agriculture, manufacturing and mining and services. The Oil sector contributed an amount of Rls100.26 trillion (USD12.53 billion), the Agriculture sector Rls89.12 trillion (USD11.14 billion), the Manufacturing and Mining sector Rls133.46 trillion (USD16.68 billion) and the Service sector Rls339.67 trillion (USD42.46 billion) to the GDP. According to Central Bank of Iran (CBI) GDP growth stood at 7.4 percent in 2002/03 (at