DESIGNING A GREEN MARKETING BEHAVIORAL PATTERN FOCUSING ON POULTRY PRODUCTS

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Abstract. Green marketing has rapidly emerged as a global phenomenon around the world **.**As a result, some companies have responded to environmental challenges by applying green marketing strategies. However, with the increasing importance of environmental and health issues and the concept of social responsibility among consumers, recognizing behavior by actors and companies related to green products marketing is necessary. Therefore, this study helps to improve the understanding of green marketing behavior, which plays an important role in improving community health and economic growth. This study aims to design a green marketing behavioral pattern focusing on poultry products. The statistical population of this study is 145 actors who are involved in the production, distribution, promotion and pricing of green poultry products in Iran (Gilan Province). The findings indicate that attitudes toward green marketing (β: 0/94), subjective norms in relation to green marketing (β: 0/90) and feasibility (β: 0/67) had significant positive influences on intention toward green marketing. In addition, the results of green marketing behavior revealed that intention toward green marketing (β: 0/48), feasibility (β: 0.28) and government support (β = 0.56) were the three variables that influenced green marketing behavior, with government support having the greatest impact.
Keywords: *attitudes, subjective norms, feasibility, self-efficacy, decomposed theory of planned behavior, planned behavior theory, green products*

Introduction

In conventional marketing, the needs of customers are identified and satisfied (Kotler, 2003) in the most profitable manner (CIM, 2011) without accounting for social welfare and environmental issues .In other words, conventional marketing focuses on the economic desires of the company and the direct benefits of the products (Khan and Rafat, 2015). In Iran, conventional marketing methods for agricultural production are associated with high costs and are incompatible with sustainable development goals. Among the major problems that Iranian traditional marketing faces in relation to agricultural products are price instability, the high cost and inadequacy of transportation, lack of producer knowledge of market situations due to the inadequacy of the market information system, lack of facilities such as warehouses, high cost of production and waste during the various stages of production, the existence of brokers and the inadequacy of government support in market development and marketing policies. In addition to the lack of green marketing options, information and targeted advertising, the lack of public interest in environmental programs is another challenge in Iran (based on interviews with experts from the Jahad Agricultural Organization).

Since traditional marketing techniques no longer address all of the issues of modern markets, the implementation of green marketing is expected to improve marketing strategies not only by providing long-term financial performance for companies, but also by improving their environmental performance (Kotler et al., 2010; Luchs et al.,

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2010; Liu et al., 2012; Malhotra et al., 2012). Thus, green marketing incorporates a wide range of activities, including product modifications, changes to the production process and, packaging changes, and also modifies the advertising approach (AMA, 2015; Polonsky, 2007). Additionally, Pride and Ferrell (1993) and Grove et al. (1996) noted that the term "green marketing" refers to an organization's efforts to design, promote, price and distribute goods that will not cause damage to the environment. Polonsky (1994) identified several reasons for companies to adopt alternative marketing: (1) social responsibility, i.e., a company understands that it is a members of a wider community and therefore should behave in an environmentally friendly manner and achieve both environmental and profit-related objectives; (2) opportunity, i.e., as people become increasingly concerned about the environment, the benefits of adopting alternative marketing strategies increase, and companies that have incorporated green marketing into their corporate strategy may enjoy a sustainable competitive advantage over companies that have not; and (3) governmental pressure, i.e., governments are attempting to establish regulations that control the amount of dangerous waste produced by companies and are issuing environmental licenses to control those wastes.

Ottman (2011) believes that the companies' product marketing function may be useful for two reasons. First, when a company adopts a program of environmentally friendly products, its distribution, pricing and promotion of the company image and reputation among customers can improve. Second, implementation of a green marketing plan may increase sales by giving a company access to new market segments.

In organic poultry production, the number of birds, nutritional factors, lighting, environmental conditions and even labor force prices and packaging are involved in the quality of the product. In general, the entire production cycle from corn and millet to the final ring of the slaughterhouse should be conducted without chemical interference. Due to the complexity of the production process, organic poultry production in Iran requires a suitable foundation that may take several years to establish. However, the first step in organic poultry in Iran is producing poultry without the use of antibiotics, meaning that during the breeding period, no antibiotic agent is injected into or consumed by poultry that are labeled as green. The northern provinces of Iran, due to their geographical location and the availability of appropriate physical resources, are potentially suitable for the poultry industry (Suri, 2014). Therefore, Gilan province was selected as a northern province in Iran with a high safety factor in the production of green poultry. Research in this field indicates that producers and actors in Gilan province have undergone a positive trend toward green marketing and organic farming because of the competitive and health advantages of such products. However, in recent years, early efforts at green marketing in Iran have focused only on the production; due to the lack of information, no serious efforts have yet been made in the areas of packaging, distribution and pricing. In addition, because of the high cost of organic production and the lack of specialized staff and government policies, this tendency has not led to the associated behavior. Therefore, this study aimed to examine green marketing behavior (GMB) predictors by designing a behavioral pattern.

According to market researcher Mintel, approximately 12% of the U.S. population can be identified as true greens, that is, consumers who seek out and regularly buy so-called green products. Another 68% can be classified as light greens, consumers who sometimes buy green products (Hanas, 2007). Research has also shown that the market grew by approximately 41% from 2004 to 2009 (Mintel, 2010). According to a new survey, most Europeans would be prepared to change their purchasing habits and buy

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more environmentally friendly products, but many feel that they lack information and distrust manufacturers' environmental claims (European Commission, 2013).

A change in agricultural practices is equivalent to changing the culture and mindset of farmers, which can be achieved only by prolonged interaction. Nongovernmental organizations (NGOs) have demonstrated capabilities to this effect (Shenoy, 2003). In Iran, due to the dispersion of active actors in the field of green production and green marketing as well as the lack of government support, official and accurate statistics regarding those who are engaged in green marketing are not available. With the emergence of the phenomena of social responsibility and green marketing, the private sector and NGOs play an important role in promoting and advertising organic farming activities; however, there is still little consumer participation in these activities (Sabori, 2009).

Academic studies on green marketing began in the 1990s and focused on concepts and approaches (Polonsky, 1994; Peattie, 2001; Peattie and Crane, 2005; Rex and Baumann, 2007), the evaluation of green marketing strategies (Polonsky and Rosenberger, 2001; Rivera Camino, 2007), the relationship between green marketing and consumers (Laroche et al., 2001; Ginsberg and Bloom, 2004; D'Souza et al., 2006; Lee, 2008) and the application of green marketing (Johri and Sahasakmontri, 1998; Teisl et al., 2002; Gurau and Ranchhod, 2005). Other researchers reported that there is a significant relationship between green product features, promotion, pricing and distribution and consumers' green behavior (Shahlaee Bagheri, 2014; Boztepe, 2012). Therefore, higher levels of green consciousness lead to greater influence by the mediating factors of attitude, subjective norm, and behavioral control on behavioral intention and the consequent actual behavior. Many studies applied the theory of planned behavior (TPB) to explore consumers' attitude, intention and actual buying behavior with regard to green products (Arvola et al., 2008; Smith and Paladino, 2010; Tanner and Wölfing Kast, 2003; Tarkiainen and Sundqvist, 2005).

The theoretical model of GMB is a set of factors. To better understand these factors, the most important are described in *Table 1*.

Table 1. *Constructing the research model factors*

Factors	**Definition**	
Attitude	H1	The degree to which the individual favors the behavior being examined (Ajzen, 1991)
Perceived risk	H2	An actor's perceptions of the uncertainty and adverse consequences of engaging in an activity (Bauer, 1960; Taylor, 1974)
Perceived usefulness	H3	The degree to which the individual believes that a technology would improve his or her job performance (Davis, 1989)
Ease of use	H4	The degree to which an innovation is easy to understand and operate (Rogers, 2003)
Subjective norms	H5	An individual's perception of social normative pressures, or relevant others' beliefs that he or she should or should not perform a behavior (Ajzen, 1991). Subjective norms are decomposed into injunctive norms and descriptive norms
Injunctive norms	H6	People's beliefs about what ought to be done (Cialdini et al., 1990; Lapinski and Rimal, 2005)
Descriptive norms	H7	Beliefs about what is actually done by most others in one's social group (Cialdini et al., 1990; Lapinski and Rimal, 2005)

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Feasibility (PBC)	H8	Beliefs regarding access to the resources and opportunities needed to perform a behavior or, alternatively, the internal and external factors that may impede the performance of the behavior (Ajzen, 1985, 1991; Ajzen and Driver, 1992; Ajzen and Madden, 1986; Madden et al., 1992)
Self-efficacy	H9	An individual's self-confidence in his/her ability to perform a behavior (Bandura, 1977)
Facilitating conditions	H10	The availability of resources needed to engage in a behavior, such as time, money or other specialized resources (Taylor and Todd, 1995). In other words, the person believes that this behavior is in his or her control
GMI	H11	An indication of an individual's readiness to perform a given behavior. It is assumed to be an immediate antecedent of behavior (Ajzen, 2002)
GMB	H12	The actors offer an environmentally friendly product that is not deleterious to health, the environment and society (based on qualitative research). Therefore, the term "behavior" is calculated with a mixture of green marketing aspects, including green product, green price, green promotion and green location

Surprisingly, there are few studies on Iranian agriculture in general, and none specific to green marketing that provides a behavioral pattern. For this study, a green marketing behavioral pattern was designed for actors in green poultry production in Gilan province. The author of this article had the following aims:

1. Describe certain personal and professional characteristics of actors in green poultry production.
2. Determine the effects of attitude, subjective norms, feasibility (perceived behavioral control), governmental support, and knowledge and intention toward green marketing (GMI) in green poultry production on GMB.
3. Provide a path analysis model of the green marketing behavioral pattern of actors in green poultry production.

Materials and methods

This is an applied study based on quantitative research, and the method of analysis used is correlation. This study focused on Gilan province, which has the potential capacity to serve as a poultry production zone in northern Iran .Due to the lack of sufficient facilities, most Iranian poultry farms are not used to produce green poultry. The production and marketing of this product are controlled by private companies that are responsible simultaneously for production, monitoring and marketing; therefore, accurate statistics regarding the amount of green poultry production and those engaged in it in Gilan were not available. However, information was informally obtained from experts. The sample in this study is 145 people who are involved in the production, distribution, promotion and pricing of green poultry in Gilan province; they are referred to as the actors (n = 145). The study was conducted as a census study because of the small size of the population of experts, and 128 usable questionnaires were obtained from interviews with the actors.

The main instrument used for data collection was a questionnaire, which was developed from a review of the related literature, in 8 sections (present status of GMB, intention toward green marketing (GMI), attitude toward green marketing, review of the actor's subjective norms, green marketing feasibility, review of government support, assessment of the actor's knowledge and description of the actor's personal and

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professional characteristics). The evaluations were based on two 5-point Likert scales ranging from 1 (strongly disagree) to 5 (strongly agree).

The content and validity of the questionnaire were established and revised with the help of experts, including faculty members and a few specialists in green marketing. A pretest study was conducted with 20 experts randomly chosen from these populations; the reliability of the questionnaire was verified (calculated Cronbach's alpha was 87.3 and ordinal theta coefficients were 81-94%), confirming the suitability of the items.

This study contained two types of variable: 1) GMB (Y2) as the final dependent variable, which was measured by the respondents' answers to 19 items, and 2) GMI as an intermediate dependent variable, which was measured by 5 items on the Likert scale. Independent variables included governmental support, actors' knowledge of green marketing, actors' attitude, actors' subjective norms and feasibility of green marketing.

The hypotheses were measured by studying the relationships between the variables and their direct and indirect effects. Structural equation modeling (SEM) is a general approach to data analysis that can accommodate either observable or latent variables (or factors) within structural models. This study used descriptive statistics and SEM. Following data mining, descriptive statistics and SEM analysis were conducted with SPSS20 and AMOS20 software, respectively.

Although some authors support the TPB model, whether it can predict all the determinants of human behavior has been questioned (Ajzen, 1991). Therefore, many researchers have proposed revised models to predict behavior accurately (Bond et al., 2009; He, 2012; Läpple and Kelley, 2010; McCarthy, 2007; Wauters and Mathijs, 2010). Many studies have applied the TPB to explore attitude, intention and actual behavior with regard to green products (Arvola et al., 2008; Smith and Paladino, 2010; Tanner and Wölfing Kast, 2003; Tarkiainen and Sundqvist, 2005). Additionally, influential studies have focused on green purchasing and green consumers, but none have provided an exhaustive study integrating all the effective elements from several viewpoints in the form of an individual study. In this study, the theoretical basis of the model is the planned behavior theory by Icek Ajzen and the decomposed theory of planned behavior described by Taylor and Todd. To better predict the green marketing behavioral pattern of actors in green poultry production and to evaluate the model performance, related variables used by other authors were also used to develop this model (*Fig. 1*).

Results

Personal characteristics

The results showed that of the 128 respondents, 4 (3.1%) were female and 124 (96.9%) were male; the average age and average work experience of the respondents were 40 and 9 years, respectively. Of the actors, 35.2% had an associate's degree. The actors' knowledge of green marketing was measured by a test (correct or wrong answers); the results indicated that their average level of green marketing knowledge was 65%.

Significance test

SEM was used to verify the research model. As shown in *Table 2*, some paths are significant and others are not significant.

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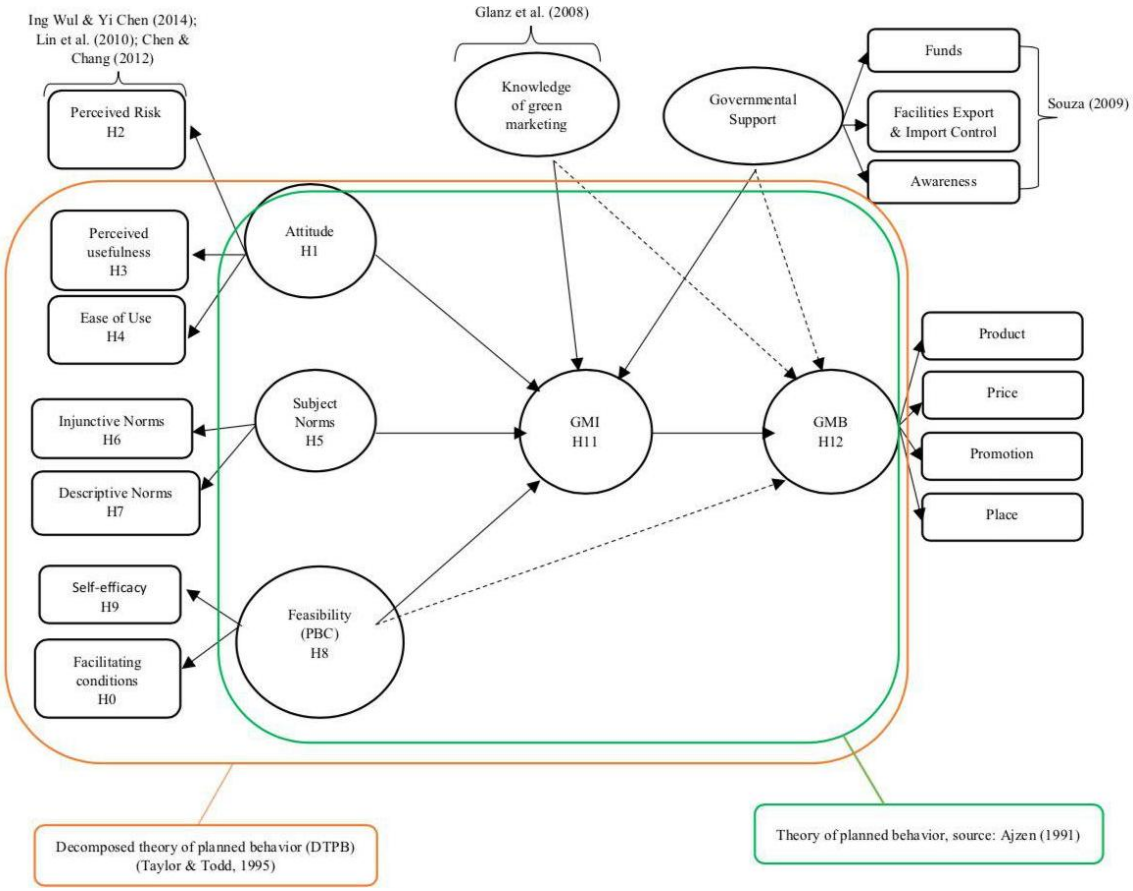

Figure 1. *Theoretical model*

Table 2. *Regression weight and significance test of paths*

Path	Estimate	S.E.	C.R.	*P* value
Attitude → intention	0.939	0.053	17.679	***
Subjective norms → intention	0.899	0.077	11.700	***
Feasibility → intention	0.657	0.070	9.354	***
Feasibility → behavior	0.161	0.062	2.594	0/009**
Governmental support → intention	0.146	0.194	0.752	0/452 n.s.
Governmental support → behavior	0.619	0.122	5.060	***
Knowledge → intention	-0.009	0.042	-0.207	0/836 n.s.
Knowledge → behavior	-0.044	0.045	-0.967	0/334 n.s.
Intention → behavior	0.422	0.097	4.342	***
Knowledge → self-efficacy	0.051	0.018	2.780	0.005**

*P < 0.05, **P < 0.01, ***P < 0.001

As shown in *Table 3*, the variable attitude at 0.94 has the greatest effect on GMI, and the variable governmental support at 0.56 has the greatest effect on the dependent variable (GMB).

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Table 3. *Standardized regression weights of significant paths*

Path	Estimate
Attitude of actors ⟶ GMI	0.94
Subjective norms of actors ⟶ GMI	0.90
Feasibility ⟶ GMI	0.67
Feasibility ⟶ GMB	0.28
Governmental support ⟶ GMB	0.56
GMI ⟶ GMB	0.48
Knowledge of actors ⟶ self-efficacy	0.12

Structural analysis and measures of fit

Model evaluation is one of the most unsettled and difficult issues of structural modeling. SEM was used to verify the research model with a covariance relationship among antecedents. The following goodness-of-fit measures were used to confirm the appropriateness of the research model for this study: P = 0.213, CMIN/DF = 1.431, GFI = 0.830, AGFI = 0.820, CFI = 0.980 and RMSEA = 0.037. These indices suggest a good model approximation to the sample data, and regression models are shown below:

1. GMB = 0.28 × feasibility + 0.48 × GMI + 0.56 × governmental support
2. GMI = 0.94 × attitude + 0.9 × subjective norms + 0.67 × feasibility

Figure 2 shows latent variables that influence GMB and GMI. The effect of knowledge of green marketing and government support on intention is not significant. The final model of the green marketing behavioral pattern of actors in green poultry production in Gilan province is shown in *Figure 3*.

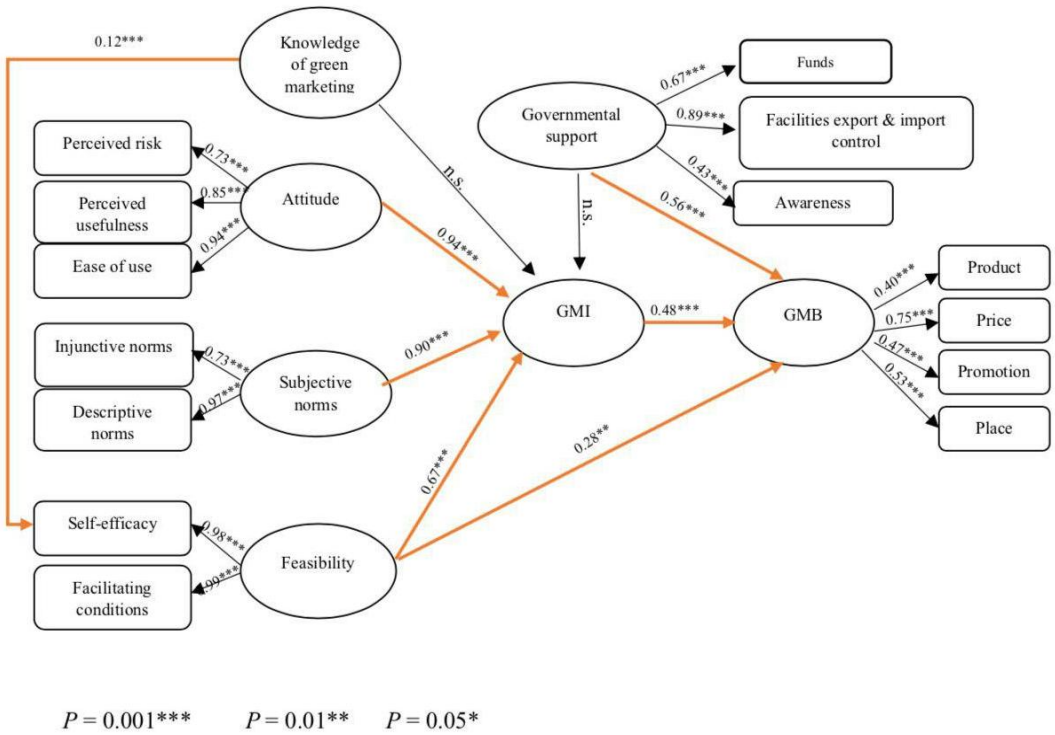

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Figure 2. *Model of latent variables*

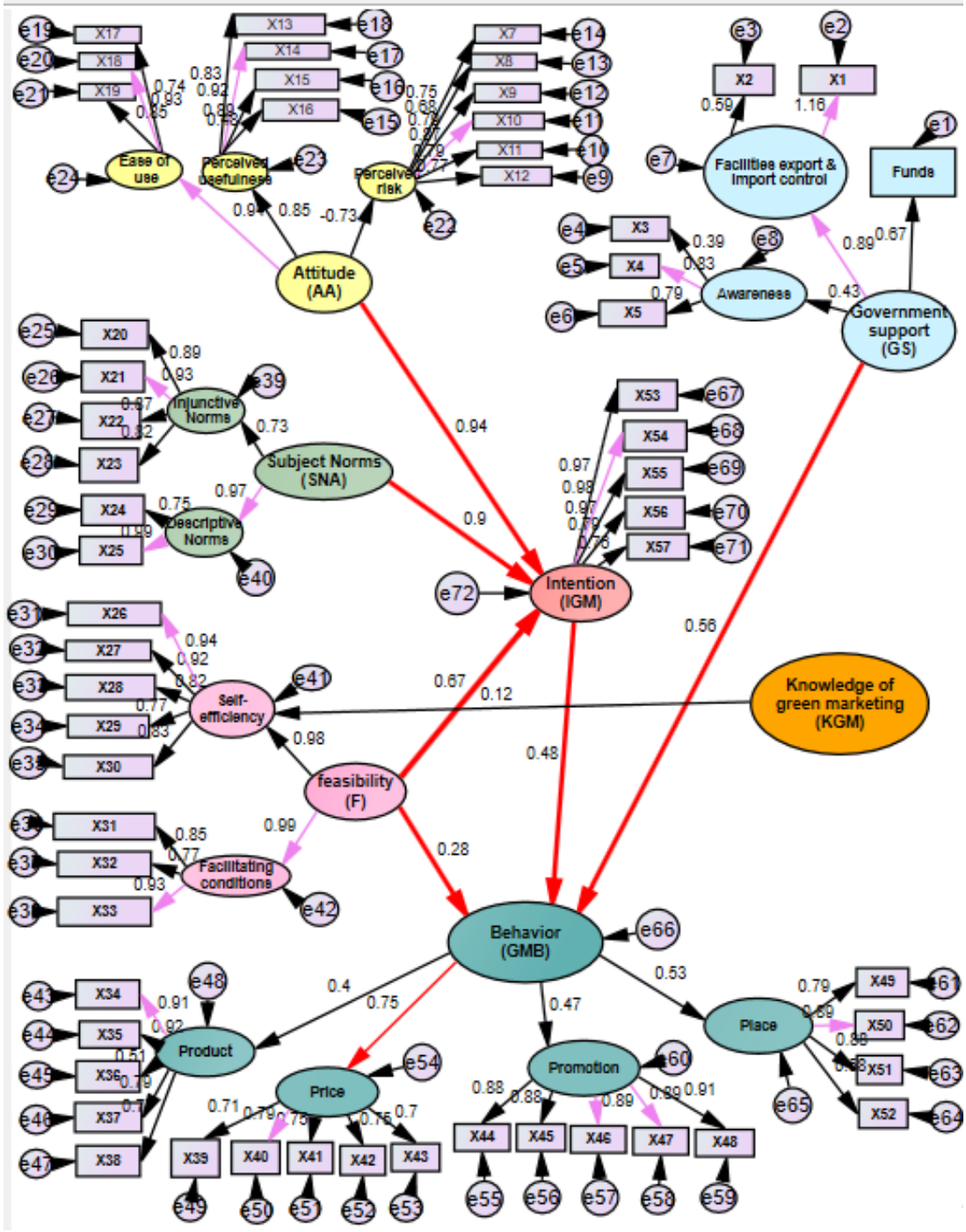

Figure 3. *Structural equation model for estimated standard coefficients*

Discussion

The purpose of this study was to design a green marketing behavioral pattern focusing on poultry products. It was predicted that certain elements would affect GMB. The results show how the TPB can increase our understanding of the factors that influence and determine GMB. In this regard, political (government support) and

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educational (knowledge of green marketing) elements were also used to better predict the results of this model.

According to the analysis of the results, it can be deduced that:

- The attitude of the actors has a significant positive effect on their GMI. Our finding is consistent with the findings of Ing Wul and Yi Chen (2014), Knabe (2012), Lin et al. (2010), Arvola et al. (2008), Smith and Paladino (2010), Tarkiainen and Sundqvist (2005) and Asadollahpour et al. (2016).
- The subjective norms of the actors have a significant positive effect on their GMI. This finding is in accordance with the findings of Ing Wul and Yi Chen (2014), Knabe (2012), Lin et al. (2010), Arvola et al. (2008), Smith and Paladino (2010), Tarkiainen and Sundqvist (2005), Soonthensmai (2001) and Asadollahpour et al. (2016).
- Feasibility has a significant positive effect on the actors' GMI. This finding supports the findings of Ing Wul and Yi Chen (2014), Knabe (2012) and Asadollahpour et al. (2016).
- Feasibility has a significant positive effect on the actors' GMB. This finding supports the findings of Ing Wul and Yi Chen (2014) and Asadollahpour et al. (2016).
- Governmental support has a significant effect on the actors' GMB. This finding is consistent with the findings of Chen and Chai (2010), Mei et al. (2012), Diekmeyer (2008) and Punitha and Rahman (2011).
- GMI has a significant positive effect on the actors' GMB. This finding is in accordance with the findings of Ing Wul and Yi Chen (2014), Knabe (2012), Lin et al. (2010), Arvola et al. (2008), Smith and Paladino (2010), Tarkiainen and Sundqvist (2005), Asadollahpour et al. (2016), Soonthensmai (2001) and Che Hsu et al. (2016).
- The knowledge of the actors has a positive effect on their self-efficacy.
- The effect of the actors' knowledge on their GMI is not significant. This finding confirms the results of Maichum et al. (2016).

The results indicated that first, the three components of intention, actors' attitude (0.94), actors' subjective norms (0.90), and feasibility (0.67), had significant positive effects on GMI. Additionally, the three variables GMI (0.48), governmental support (0.56) and feasibility (0.28) each contributed to the prediction of perceptions of GMB and were found to have significant positive effects on GMB. Attitude (0.94) had the most significant influence on GMI and thus was the strongest predictor of GMI, followed by subjective norms (0.90) and feasibility (0.67). Additionally, governmental support (0.56) had the greatest effect on GMB. The overall results confirmed that the TPB model and its measures were suitable for the studied group.

The reason that knowledge of green marketing was not a strong predictor of GMB and GMI in this study may be that most of the actors had no education in green marketing. The results indicated that knowledge of green marketing had a small effect on self-efficacy (0.12) and an indirect effect on feasibility. These findings are consistent with those of Ing Wul and Yi Chen (2014), Asadollahpour et al. (2016), Chen and Deng (2016) and Maichum et al. (2016).

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Conclusion

Although levels of analysis are not necessarily mutually exclusive, there are three general levels into which social science research may fall: microlevel; mesolevel, or middle range; and macrolevel (Blalock, 1970). Based on the results of this study, the following recommendations are presented at these three levels:

Macrolevel: The macrolevel is the national policy governing these activities in the country, including legislation and regulations. The analysis focuses on how these national policies influence activities in an institution or organization or at the field level. International influences on laws and policies may also be examined (ITCILO, 2009).

Among the variables constructing the GMB factor, governmental support was identified as the most important. In Iran, due to the lack of specific government policies related to organic products, there is little potential for organic poultry production; thus, government agencies and policy makers should consider specific policies such as:

- Allocating funds to develop organic production infrastructures
- Preparations and government support to attract foreign investors
- Allocating targeted funds to the construction of modern slaughterhouses in accordance with European standards
- Increasing government support to increase the ability of actors to produce organic products

Mesolevel: At the mesolevel, the focus is on how institutions such as NGOs and development organizations operate in terms of service provision and implementation and how they influence national policy. At this level, the focus is on education services, the role of the public and private sectors, the level of decentralization and the level of expertise in the institutions (ITCILO, 2009).

The importance of the variable subjective norms among the variables that construct the GMB factor has been explained by Montaño and Kasprzyk (2008). Montaño and Kasprzyk (2008) believe that if a person realizes that the result is a positive behavior, he or she will have a positive attitude toward performing that behavior; in addition, if others are positive about the behavior and the individual is motivated to satisfy others' expectations, a positive subjective norm is expected. Studies have shown that individuals' subjective norms affect GMI, and the results of this study confirmed the positive relationship between these two variables. As a result, it is recommended that institutions and service organizations use modern methods of information and advertisement, such as social media and the Internet, to develop green marketing campaigns to create positive subjective norms.

Microlevel: At the microlevel, the focus is on female and male consumers. The analysis should focus on how to identify the contexts-related specific needs and priorities of consumers and examine the extent to which gender roles, relationships and cultural issues are key (ITCILO, 2009).

Among the variables that construct the GMI factor, attitude was identified as the most important. Montaño and Kasprzyk (2008, p. 71) believe that "Attitude is determined by the individual's beliefs about outcomes or attributes of performing the behavior weighted by evaluations of those outcomes or attributes." In Iran, green marketing is related mostly to production, and no serious action has been taken for green packaging, distribution and pricing. Due to high production costs and the risk of customer distrust of green products, there is the possibility of financial losses for the

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actors. As a result, there is no positive attitude toward green marketing, and the impact of this variable on GMI is known to be the most important. Therefore, justifying the profitability of green products due to increased consumption of these products in the coming years and managing production, pricing, promotion and distribution plans in the framework of export standards may be fruitful for companies.

In sum, the results of this study showed that positive attitudes, appropriate subjective norms, and the feasibility of green marketing improve actors' GMI, and this positive intention will have an impact on GMB for organic production. In addition, government policies and support for the development of organic agriculture will significantly influence the process of GMB. Therefore, with a view to highlighting the financial and commercial aspects of organic agriculture, the agricultural extension as an educational institution can play an important role in this field with facilities and activities for educational and cultural promotion and the implementation of incentive policies.

The novelty of this study is its consideration of political, social, cultural, economic and educational dimensions in the hope that the results will be useful to managers, researchers, practitioners, and policy makers and contribute to future research as a reference. Also in this study, the theoretical basis of the model is combination of the planned behavior theory by Icek Ajzen and the decomposed theory of planned behavior described by Taylor and Todd, on the other hand to better predict the green marketing behavioral pattern of actors in green poultry production and to evaluate the model performance, related variables (governmental support, knowledge of green marketing and perceive risk) were also used to develop this model based on interviews with actors and the researchers' view.

There are some recommendations for future studies in this area. First, other aspects of the marketing mix that are considered substitutes for the 4 Ps, such as the 4 Cs (consumer, cost, communication, and convenience), and are more customer-oriented should be studied. Additionally, the limitations of the present study include the small size; therefore, future research should include a more comprehensive sample. In this study, based on some interviews and literature review, a questionnaire was developed. For further studies, using Delphi technique and grounded theory, will be suggested.

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