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Measuring the Supply Chain Performance of Guar (*Cyamopsis tetragonoloba* L.) as Medicinal and Industrial Plant in Iran

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ABSTARCT

The integration of supply chain has always been a challenge for many companies. Despite the agreement on the strategic importance of supply chain integration, limited researches have been done on the relationship between supply chain integration and its impact on performance. In this study, sample size was 75 managers and experts from agriculture supply chain sector. Hence, interpretative structural modeling and structural equation modeling were used for analyzing the data (smart PLS). The results infer that the integration of marketing and supply chain management would improve supply chain performance through some factors. The results indicated Knowledge Management (KM), Human Resource Management (HRM), Information Technology (IT), marketing planning and supply chain planning are the most important indicators in improving Guar supply chain management. The Guar supply chain performance would be improved through the relationship between IT and HRM.

Keywords: Human resource management, Knowledge management, Structural equation modeling, Supply Chain Management (SCM).

INTRODUCTION

Supply chains are defined as an integrated network of facilities and transportation options for the supply, manufacture, storage and distribution of materials and products (Najafi *et al*., 2021). In different industries, supply chains vary in size, complexity, and scale (Chopra *et al.*, 2013). The success of the supply chain depends on the ability to moderate the various interests of the supply chain members (Lintukangas *et al*., 2019). Providing remarkable services to customers fundamentally depends on two functional domains, supply chain management and marketing (Madhani, 2016). Therefore, in order to be successful in providing superior services in the value chain to customers, integrated work relationships in different sectors are required (Madhani, 2013). On the other hand, agricultural supply chain (one of the types of supply chains) is defined as a complex system that is responsible for the agricultural products circulation in the markets (Zielinski, 2007). Agricultural commercial resources, as the carrier of the circulation of agricultural products, are significant guarantee to respond to the demand of agricultural products and their safety and quality (Gardas *et al*., 2019).

The term ‘guar’, as one of the agricultural products, evolved from its common use in India as animals feed. Guar is an important product in rainfed areas, especially in semi-arid and arid regions. This crop is resistant

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to dry and semi-arid climates. It is an important source of nutrition to both human beings, as vegetables, and animals, as cattle feed (Sharma *et al*., 2018). It becomes a commercial destination in India, Pakistan and the United States. However, in some areas, such as Iran, soft green guar is an important source of human nutrition (Meftahizade and Hatami, 2021). Guar is grown in Iran, especially in the Balochistan Region, but not enough information is available (Meftahizade *et al*., 2019). It is also used to feed livestock as a green manure. Due to the presence of galactomannan in its endosperm, guar is a valuable industrial product (Gresta *et al*., 2018) used in a wide range of industries such as food, oil well drilling, cosmetics, etc (Bhatti and Sial, 1971).

Therefore, due to the great diversity in the production of guar, its application and consequently the export of guar, and its derivatives, safety concerns become important for the guar processing industry. In addition, providing guar in Iran through imports, the high price of this imported product, the processing of industry-specific value-added products, the weak market relationship with farmers and unstable trade policies, have made the supply chain of this product important. Thus, the current article discusses these issues and strategies in the guar gum supply chain and guar gum processing industry.

Many companies are looking to gain more market share and gain customer trust through efficient SCM and marketing (Davé *et al*., 2018).

In the literature, modeling and optimizing agricultural supply chain (Yue *et al*., 2014; Atashbar *et al*., 2016), designing of biomass supply chain (Mafakheri and Nasiri, 2014; Sun and Fan, 2020), and reviewing processing industries in guar supply chain (Sharma and Gummagolmath, 2012) are discussed. Guar marketing process involves farmers selling their produce to commission agents who then sell to wholesalers and processors, and products such as guar meal and guar gum are produced and sold to the markets as animal feed and for industrial applications. Therefore, creating an efficient infrastructure system and higher productivity such as access roads and better storage technologies will also help a lot in ensuring efficiency in the Guar gum value chain (Vazquez *et al*., 2021; Singh *et al*., 2020).

Improving assimilation between functional areas is a major challenge for the firms (Saragih *et al*., 2020). Managers have found that in order to continue presence in the market, materials that have contribution in its production must have the highest quality and lowest cost (Ellram and Cooper, 2014). Inter-functional collaboration involves departments working together, sharing resources and achieving collective goals build meaningful relationships, and appreciate each other's expertise (Schrage, 1990; Mukhtar and Azhar, 2020). Thus, inter-functional association allows diverse functions to converse, learn and work across the functional areas that have characterized organizational structures (Liedtka, 1996). So, it is obvious that internal assimilation was found to positively impact organization performance (Breitling, 2019).

SCM facilitates marketing strategies (Alvarado and Kotzab, 2001). Marketing and SCM are two basic functions that are the main factors in creating value and expanding organizational boundaries (Gölgec *et al*., 2019; Ou *et al*., 2010; Jüttner *et* al., 2010; Piercy, 2009). As customer demands are becoming more volatile, companies need to pay more attention to their customer service to stay competitive (Kumar and Reinartz, 2016). Over the time, it was determined that supply chains and SCM include many phenomena and practices common to the practice of marketing. Furthermore, balancing the organization's decision-making forces, leadership, processes and relationships on reporting in the organization are the effects of supply chain management and marketing alignment (Madhani, 2012). Table 1 shows the selected factors.

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Table 1. Effect of selected factors on supply chain performance.

No	Factors	Reference
F1	Knowledge management	Sharma and Gummagolmath (2012)
F2	Marketing planning	Sharma and Gummagolmath (2012), Madhani (2016)
F3	Innovation	Madhani (2012)
F4	Information technology	Sharma and Gummagolmath (2012), GoI (Government of India) (2003); Brah and Lim (2006), Fawcett *et al*., (2008);
F5	Guar Supply chain improvement	Zuniga *et al* (2021), Sharma and Gummagolmath (2012)
F6	Supply chain planning	Sharma and Gummagolmath (2012), Madhani (2016), Danmei (2016)
F7	Human resource management	Madhani (2012)

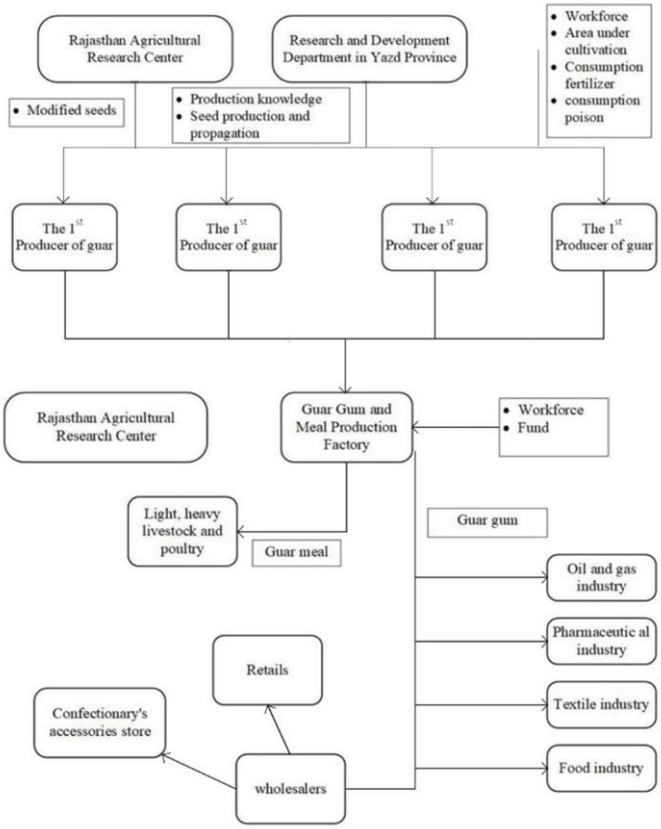

Figure 1. Guar meal and gum supply chain in Iran (researcher made).

Figure 1 shows the supply chain of guar meal and gum in Iran, in which, first, modified seeds are imported from Rajasthan research center to Iran. Then, it is produced and propagated in the research and development center of Yazd Province. In the next stage, the seeds will be delivered to selected farmers who are producers of guar plants in provinces such as: Sistan and Baluchestan, Kerman, Ilam and Khuzestan. Planting and producing guar is done twice in spring and summer. After that, the harvested plants are transferred by the transportation system to the factory for the production of meal and guar gum in Yazd Province. After going through the process of winnowing and

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sorting, they enter the processing line of mainly meal and guar powder. The meal is produced for consumption of light and heavy livestock and poultry, and gum powder is used for consumption in oil and gas, textile, pharmaceutical and food industries. Finally, the produced gum powder is transported to wholesalers, and from there to retailers and confectionery's accessories stores.

MATERIALS AND METHODS

The research strategy consists of both qualitative and quantitative analysis. In the qualitative part, the interpretive structural modeling was employed, and for the second part the structural equations modeling and PLS software were used, where the weaknesses of the first method was counterbalanced by the strengths of second one. The quantitative analysis was based on the data collected through a questionnaire-based survey and we used data of 12 experts in the field of agriculture supply chain (n= 12). The second analysis was based on interaction and semi-structured questionnaire with industrial experts in the field of agriculture and specifically Guar supply chain (n= 75). There are procedures in the use of the ISM method to develop a hierarchical model.

Obtaining a Structural Self-Interaction Matrix (SSIM).

The following four symbols were used to denote the direction of the link involving any two factors (i and j) (Table 2):

V- Factor i will influence factor j (relation from i to j);

A- Factor i will be influenced by factor j (relation from j to i);

X- Factor i and j will influence each other (both direction relations) and

O- Factor i and j are unrelated or does not appear to be valid.

Development of a Reachability Matrix

In this stage, the RM matrix can be obtained by transforming SSIM matrix into the binary

(zero and one) by the following rules (Table 3):

1. If the (i, j) entry in the SSIM is V, the (i, j) value in the reachability matrix becomes 1 and the (j, i) value becomes 0,
2. If the (i, j) entry in the SSIM is A, the (i, j) value in the reachability matrix becomes 0 and the (j, i) value becomes 1,

Table 2. Development of Structural Self-Interaction Matrix (SSIM) of factors affecting the supply chain performance.

	Factors j						
Factors i	Knowledge management	Marketing planning	Innovation	Information technology	Guar Supply chain improvement	Supply chain planning	Human resource management
Knowledge management	X	V	V	X	V	O	O
Marketing planning		X	O	O	O	V	X
Innovation			X	O	V	V	A
Information technology				X	O	O	V
Guar Supply chain improvement					X	A	O
Supply chain planning						X	O
Human resource management							X

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Table 3. Initial reachability matrix of factors affecting the supply chain performance.

	Factors j						
Factors i	Knowledge management	Marketing planning	Innovation	Information technology	Guar Supply chain improvement	Supply chain planning	Human resource management
Knowledge management	1	1	1	1	1	0	0
Marketing planning		1	0	0	0	1	1
Innovation			1	0	1	1	0
Information technology				1	0	0	1
Guar Supply chain improvement					1	0	0
Supply chain planning						1	0
Human resource management							1

Table 4. Final reachability matrix of factors affecting the supply chain performance.

	Factors j						
Factors i	Knowledge management	Marketing planning	Innovation	Information technology	Guar Supply chain improvement	Supply chain planning	Human resource management
Knowledge management	1	1	1	1	1	1*	1*
Marketing planning	0	1	0	0	1*	1	1
Innovation	0	0	1	0	1	1	0
Information technology	1	0	1*	1	1*	0	1
Guar Supply chain improvement	0	0	1*	0	1	0	0
Supply chain planning	0	0	1*	0	1	1	0
Human resource management	0	1	1	0	1*	0	1

3. If the (i, j) entry in the SSIM is X, the (i, j) entry in the reachability matrix becomes 1 and the (j, i) value also becomes 1,
4. If the (i, j) entry in the SSIM is O, the (i, j) entry in the reachability matrix becomes 0 and the (j, i) value also becomes 0 (Agarwal *et al.*, 2007).

The second step is to make final Reachability Matrix (Table 4):

Level and Priority Determination Matrix

To determine the level and priority of variables, reachability and prerequisite set for each variable are determined from the final reachability matrix (Table 5).

Based on the results from determining the relationship between structures and the formation of prerequisite and reachability sets, the level of factors was determined and shown in Figure 2.

Model Analysis Using SEM

Structural Equation Modeling (SEM) has become a widely used method to investigate and evaluate the models of directional and non-directional relationships among a set of variables that would otherwise be difficult to study. The method offers various advantages for researchers to predict a particular construct (e.g. Mirghafoori *et al*., 2017). These advantages include its ability to handle complex research models and limited data. SEM-PLS consisted of the following steps (Figure 3):

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Table 5. Iteration to find levels of factors affecting the supply chain performance.

Factors	Reachability set	prerequisite set	Intersection set	level
Knowledge management	1-4	1-4	1-4	4
Marketing planning	2-7	1-2-7	2-7	3
Innovation	3-6	1-3-7	3	2
Information technology	1-4	1-4	1-4	4
Guar Supply chain improvement	5	1-2-3-4-5-6-7	5	1
Supply chain planning	3-6	2-3-6	3-6	2
Human resource management	2-7	2-7-4	2-7	3

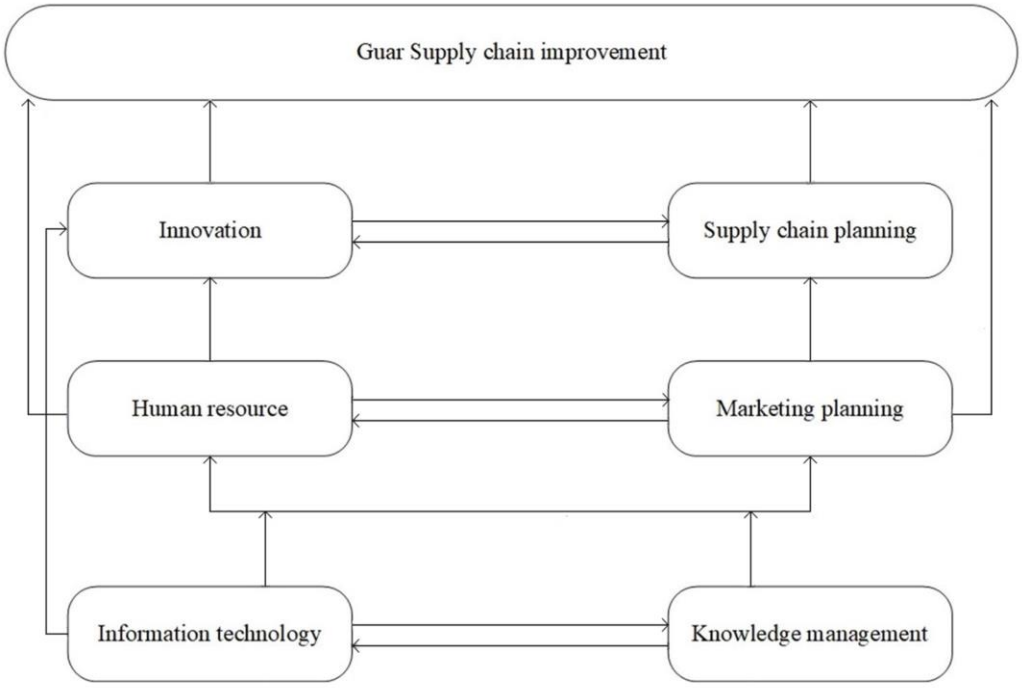

Figure 2. Interpretive structural model.

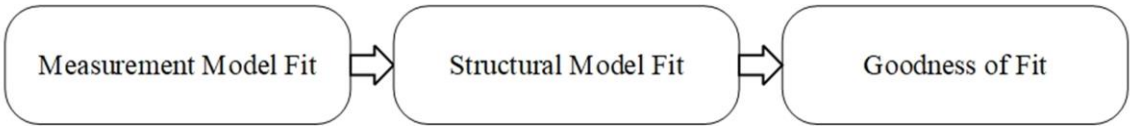

Figure 3. Procedures of SEM-PLS.

Hypothesis

According to the identified factors and the structural model of the research, the following hypotheses can be considered to investigate the relationships:

Hypothesis 1_0: Information Technology (IT) is not related to the Knowledge Management (KM).

Hypothesis 1_A: Information technology is related to the knowledge management.

In knowledge management and organizational knowledge researches, information technology is presented as a central and main topic (Anthargam, 2021).

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Knowledge management, in theory, is a multidisciplinary issue, but in practice, what goes on for knowledge management for many organizations is the issue of information technology, which is responsible for the work of information technology in data and information management (Mao *et al*., 2016). IT is a potential resource for gaining KM and competitive advantage (Chehr Azad, 2021). Thus, the literature on IT and KM has focused on these two factors as drivers of organizational performance (Pérez-López and Alegre, 2012).

Hypothesis 2_0: Knowledge management is not related to the human resource management.

Hypothesis 2_A: Knowledge management is related to the human resource management.

Today, the structure in which organizations must operate is influenced by trends in the knowledge environment such as knowledge explosion, specialization and globalization of knowledge (Chen and Fong, 2013). Studies show that knowledge management often focuses on identifying and acquiring knowledge, communicating between individuals through electronic media, sustaining the growth of organizations, and acquiring capabilities (Poór *et al*., 2018; Sundiman, 2017). The main purpose of knowledge management is to identify the needs and assets of strategic knowledge (Laily and Efendi, 2020). Accordingly, it is believed that by investing in advanced information technology equipment, new sciences will emerge, which requires knowledgeable and capable people in the organization (Turulja and Bajgoric, 2018).

Hypothesis 3_0: Human resource management is not related to the Guar supply chain improvement.

Hypothesis 3_A: Human resource management is related to the Guar supply chain improvement.

In some cases, the shortage of talented supply chain managers with the necessary skills and business competencies to manage complex and strategic supply chain processes is quite obvious (e.g., Agyabeng-Mensah *et al*., 2020). Thus, organizations can create a competitive advantage by leveraging human resource management to provide a wide range of change-oriented and growing features related to the set of critical characteristics of supply chain managers (Guersola *et al*., 2018; Koulikoff-Souviron and Harrison, 2010). The guar supply chain studies (Sharma and Gummagolmath, 2012) also investigate human resource management approach in the supply chain improved and in the futures trade of Guar-seed. Supply chain activities contributed around 75% revenue of the organizations. Henceforth, supply chain management decisions are extremely important and have a significant impact on the company's financial performance, professional human resource development capabilities in training and growth, organizational growth and development, and change in management (Longoni *et al*., 2018).

Hypothesis4 $_0$: Marketing planning is not related to the Guar supply chain improvement.

Hypothesis4 $_A$: Marketing planning is related to the Guar supply chain improvement.

Today, presence in the global economy is facing new challenges for manufacturers and commercial companies. The large number of suppliers and their intense competition and rising consumer expectations for better quality and faster service have put a lot of pressure on manufacturers (Muralidharan and Raval, 2017). In this situation, companies realized that in addition to paying attention to internal affairs and resources, there is a need to manage and monitor related resources and elements outside the company (Ellram and Murfield, 2019).The reason for this is to gain competitive advantage in order to gain more market share (Ma *et al*., 2018). Thus, one of the tools that can help in efficient and effective management of the supply chain is marketing (Kristaung and Riorini, 2020). The relation between marketing and improved supply chain include sharing

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information (Ardito *et al*., 2019), eliminating task duplication (Xu *et al*., 2014), reducing overhead at the interface, and transferring responsibilities between members to perform the task and could create differential advantages (Yu *et al*., 2017). Thus, integration of marketing and Guar supply chain facility of the organization could improve Guar supply chain through decision synchronization by providing relevant, timely, and accurate information required to take effective decisions for marketing and SCM members (Madhani, 2011).

Hypothesis 5_0: Knowledge management is not related to the innovation.

Hypothesis 5_A: Knowledge management is related to the innovation.

Relying on innovation, countries are seeking to increase productivity and improve the economic situation, and one of the main reasons for this attention is the increasing competition between societies (Fu *et al*., 2018). Flexibility and quick response to changing environmental conditions, better use of human resources and available knowledge in them, as well as better decision making, are the achievements of knowledge management for organizations (Ferreira *et al*., 2018; Lei *et al*., 2021). Numerous studies in the field of knowledge management consider innovation as a vital factor for companies in order to create value and maintain a competitive advantage in today's highly complex and dynamic environment (Mardani *et al*., 2018; Lam *et al*., 2021). Innovation has a very strong tendency towards employees' knowledge, expertise and commitments as key inputs in the value creation process. At the same time, companies will be more successful in responding to environmental changes as well as developing new capabilities that help them achieve higher performance with higher innovation (Shujahat *et al*., 2019).

Hypothesis 6_0: Human resource management is not related to innovation.

Hypothesis 6_A: Human resource management is related to innovation.

Limited researchers have shown the relation between human resource management and innovation (Hanedaa and Itob, 2018) and in some studies, the linkage between HRM and innovation has been explored from different angles such as indirect relation between HRM and innovation (Aryanto *et al*., 2015). Thus, these findings contribute to a significant understanding of the relationship between human resources and innovation.

RESULTS AND DISCUSSION

Measurement Model Fit (Reliability of the Variables)

Cronbach's alpha value was greater than 0.6 for all the factors. Moreover, the Composite Reliability (CR) was greater than the acceptable limit of 0.7 and Average Variance Extracted (AVE) scores was greater than the acceptable limit of 0.5 for all the factors. These values indicated the internal consistency of the variables of the model. The amount of cross loading for all the variables was also greater than the acceptable limit of 0.4, which is shown in Table 6 and Figure 4.

Table 7 shows the discriminant validity of the model.

Structural Model Fit

Unlike measuring model fit, this section does not consider the questions (obvious variables) and examines only the latent variables along with their relationships. R^2 shows the effect of an extrinsic variable on an intrinsic variable. The Q^2 value must be calculated for all the intrinsic variables of the model. In this case, Hensler *at al*. (2009) set the values of 0.02, 0.15 and 0.35 as low, medium, and strong predictive power. If the amount of $Q2 \leq 0.02$, it indicates that the relationships between this variable and the other ones are not well explained and, therefore, the model needs to

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Table 6. The value obtained for reliability and convergent validity of the model.

variables	dimensions	Indicated by	Factor Loading	Cronbach's Alpha	CR [a]	AVE [b]
Marketing planning	Market infrastructure	X1	0.743	0.763	0.790	0.557
	Identification of new market opportunities	X2	0.687			
	market research	X3	0.805			
Guar Supply chain improvement	Export of products	X4	0.778	0.841	0.893	0.676
	fast response	X5	0.828			
	Profitability	X6	0.856			
	Market share	X7	0.824			
Knowledge management	Knowledge structure	X8	0.796	0.790	0.876	0.702
	Knowledge distribution	X9	0.852			
	Cooperation	X10	0.864			
Innovation	Product innovation	X11	0.831	0.771	0.814	0.596
	Process innovation	X12	0.654			
	New product development	X13	0.818			
Information technology	Integration and coordination of information resources	X14	0.806	0.829	0.884	0.657
	technology for value added products	X15	0.747			
	Access to up-to-date technologies	X16	0.838			
	Management and planning	X17	0.848			
Supply chain planning	Supply chain flexibility	X18	0.777	0.745	0.869	0.770
	Research and Development	X19	0.968			
Human resource management	Specialized labor	X20	0.779	0.712	0.790	0.653
	Professional advice and technical support	X21	0.836			

[a] Composite Reliability [b] Average variance extracted

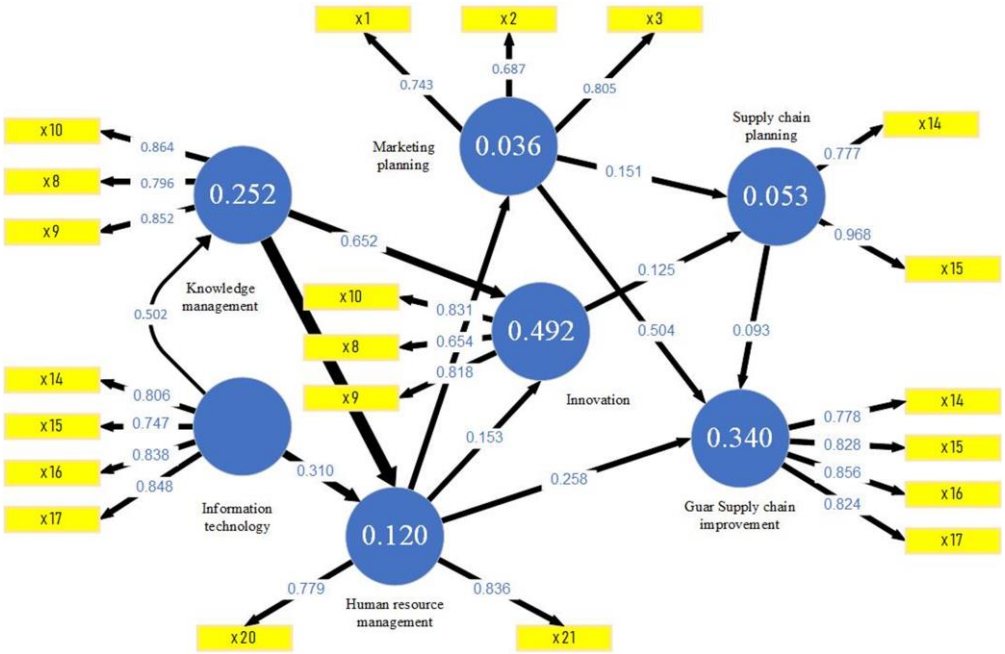

Figure 4. Model path coefficients.

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Table 7. The values obtained for discriminant validity.

***	Innovation	Supply chain planning	Human resource management	Marketing planning	Knowledge management	Information technology	Guar supply chain improvement
Innovation	0.772						
Supply chain planning	0.181	0.878					
Human resource management	0.296	0.406	0.808				
Marketing planning	0.370	0.197	0.190	0.747			
Knowledge management	0.705	0.412	0.342	0.372	0.811		
Information technology	0.686	0.271	0.219	0.472	0.502	0.838	
Guar Supply chain improvement	0.576	0.111	0.315	0.534	0.356	0.694	0.822

Table 8. The values of R^2 and Q^2.

Variables	R^2	Q^2
1- Innovation	0.492	0.261
2- Supply chain planning	0.053	0.157
3- Human resource management	0.120	0.144
4- Marketing planning	0.036	0.214
5- Information technology	0.252	0.165
6- Guar Supply chain improvement	0.340	0.208

be corrected. As shown in Table 8, the structural model of the research is confirmed by the level of prediction and explanation of the related variables

Hypothesis Analysis

The significance coefficients, which are shown by T-value, indicate whether the research hypotheses are significant. According to the Table 9, all the hypothesis, except H6, is supported by the amount of ≥ 1.96 at the confidence level of 95%.

Table 9. The values of T-value.

hypothesis	T-value	status
H1	5.396	supported
H2	2.244	supported
H3	2.095	supported
H4	4.902	supported
H5	9.882	supported
H6	1.418	unsupported

Goodness of Fit

Goodness-Of-Fit index (GOF) is a means to validate a PLS path model and the values of 0.01, 0.25 and 0.36 are defined as weak, moderate, and strong values (Tenenhaus *et al*., 2004). Eq. 2 confirms the strong GOF of the model. The GOF is defined as follows:

Equation (1) $GOF = \sqrt{\overline{\text{Communalities}} \times \overline{R^2}}$

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Equation (2) GOF = $\sqrt{./6588 \times ./2155}$ = 0.376

Based on the importance and diverse application of Guar products, in the present study, the alignment and integration of marketing and supply chain in improving the supply chain performance of Guar products was investigated. Notably, several factors are necessary for the coherency and unity of this integration and facilitate it. In the research literature, these factors have been identified and presented in the form of hypotheses. This goal is achieved through variables such as knowledge management, marketing planning, innovation, information technology, Guar supply chain improvement, supply chain planning, and human resource management, which had the most repetition in the literature and were mentioned by many researchers.

The results obtained provide evidence for the effect of the information technology on the knowledge management (T value: 5.396) as an element that facilitates innovation in process of improved supply chain management. In accordance with the proposed hypothesis, it can be concluded that the highest value and impact of information technology on knowledge management is to facilitate and increase the speed of knowledge transfer and, among the IT's dimensions, management and planning has the most factor loading (0.848). In fact, the amount of factor load of an index in relation to a specific structure expresses the contribution of that index in explaining that structure and management and planning have a greater share in explaining information technology. In addition, using information technology, allows sharing knowledge in various divisions such as marketing and supply chain. Moreover, knowledge management has a positive effect on the human resource management (T value: 2.244) and innovation (T value: 9.882). Most factor loads related to knowledge management, innovation and HRM, respectively, belong to cooperation (0.864), product innovation (0.831), and professional advice and technical support (0.836). This means that cooperation between members of an organization has the greatest impact on the development of knowledge management and performance improvement. Also, product innovation is increasingly becoming a crucial strategy for developing and maintaining a strong position in competitive business environments. In relation to HRM, it was found that professional advice and technical support has the highest factor loading, which reveals that in organizations that have the technical support, human resources are basically seeking new information and practical solutions to achieve better productivity. These types of organizations are characterized by dynamism, creativity, and maturity to create effective changes in organizational factors. Knowledge management and HRM have a broad range of influences upon each other. The field of HRM can benefit from an understanding of KM-related processes and functions (Gourlay, 2001) and improves employee's performance and effectiveness, and knowledge management can promote HRM processes. However, this study found no significant relationship between the human resource management and innovation (T value: 1.418). This result is also supported by (Díaz-Díaz and De Saá-Pérez, 2014) who concluded that the HR policy and innovation in products have no relationship. The findings also reveal that the human resource management and Guar supply chain improvement have a positive relationship (T value: 2.244), which means, the better and more alignment of marketing strategies with the supply chain management, the greater performance of the supply chain. In this regard, profitability has the most factor loading (0.856), which shows the importance of profitability in improving supply chain performance. This result is supported by Kumar *et al*., 2012), who proposed and evaluated a model that integrates the alignment of marketing strategies and supply chain performance. By analyzing the relationship between human

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resource management and improving the Guar supply chain, it was found that there was a positive relationship between these two variables (T value: 2.095). Therefore, this study has significant practical implications because it confirms that to improve the performance of the Guar supply chain, companies must consider their capability in knowledge management, information technology, human resource management, and marketing planning.

According to Figure 1, a poor linkage between producers and consumers can be effective for minimizing price risk in future, value-added products of gum, and developing the total installed capacity for use in different industries. It is suggested that a part of revenue from selling need to be diverted to create a national level research and development institute for this purpose.

CONCLUSIONS

Generally, in this research, several main factors were proposed to align the supply chain with marketing. Organizations can gain competitive advantage and create synergy in the age of competition by considering knowledge as a valuable and strategic resource for their organization and take advantage of the relationships between employees and up-to-date information technology to enjoy their competitive advantage. The proposed model can help marketing managers to develop superior marketing, appropriate to business environments and also increase the chances of achieving and maintaining a competitive advantage in the market by better understanding the behavior and dynamics of competitors in the market and marketing managers need to align strategies with a focus on decisions that improve overall supply chain performance.

It should also be noted that one of the problems of experimental study is in identifying the variables to be considered. Therefore, there may be other indicators that are not shown in this study and their analysis will be useful for future studies. Future research works could also take a longitudinal approach to analyze the evolution of the relationship between factors over time. Finally, Future empirical studies should examine the proposed model in different organizations in other parts of the world to make a comprehensive assessment. Managers of organizations must realize the existential value of each of the variables identified in the current research and provide the basis for improving supply chain performance.

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سنجش عملکرد زنجیره تأمین گوار به عنوان یک گیاه دارویی و صنعتی در ایران

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چکیده

ادغام زنجیره تأمین همواره برای بسیاری از شرکت ها یک چالش محسوب می‌شده است. علیرغم توافق بر سر اهمیت استراتژیک یکپارچه سازی زنجیره تأمین، تحقیقات کمی در رابطه با ارتباط بین یکپارچه‌سازی زنجیره تامین و تاثیر آن بر عملکرد زنجیره تأمین انجام شده است. از این رو تحقیق حاضر با هدف بررسی ادغام و یکپارچه‌سازی مدیریت زنجیره تأمین و بازاریابی و تأثیر آن بر عملکرد زنجیره تأمین انجام شده است. در تحقیق حاضر ۷۵ نفر از مدیران و کارشناسان بخش زنجیره تأمین کشاورزی به عنوان نمونه انتخاب شدند و برای تحلیل داده‌ها نیز از مدل‌سازی ساختاری تفسیری و مدل‌سازی معادلات ساختاری (Smart PLS) استفاده شده است. نتایج حاکی از آن است که ادغام بازاریابی و مدیریت زنجیره تأمین از طریق عواملی چون مدیریت دانش، مدیریت منابع انسانی، فناوری اطلاعات، برنامه‌ریزی بازاریابی و برنامه‌ریزی زنجیره تأمین باعث بهبود عملکرد زنجیره تأمین گوار می‌شود. همچنینف نتایج بیانگر این موضوع است که عملکرد زنجیره تأمین گوار از طریق رابطه بین فناوری اطلاعات و مدیریت منابع انسانی بهبود می‌یابد.

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