

Supply Chain Leadership and its Functions in Competitiveness and Excellence of Companies (The Case of Shahrvand Chain Store in Iran)

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Abstract: Purpose: The supply chain leadership has absorbed the attention of many of the managers and researchers in production fields during the two past decades. Recently, new concepts such as supply chain leadership, work culture and institutionalization have been shown and this indicates the classic supply chain theories were transformed. The aim of this research is to state the proper style of supply chain leadership in chain stores and its functions. Design/Methodology/ approaches: The conceptual model has been evaluated by the opinions of managers and experts of organizations that are engaged with the supply chain management concept. The reliability of the questionnaire has been evaluated through the statistical method (Alpha Cronbach). The validity of measuring instrument is evaluated by statistical method such as exploratory and confirmatory factor analysis (EFA-CFA). Finding: findings say that the transformational leadership is the best leadership style in SHAHRVAND chain stores' supply chain. Supply chain leadership has a positive and significant impact on supply chain policies and strategies, work culture and supply chain institutionalization and infrastructure dimensions. Also, the results reveal that leaders of Shahrvand Chain Stores must make any efforts in order to create the culture of knowledge acquisitions and competitiveness through followers and stakeholders. Limitations: since the model has been tested only in a company's supply chain, there should be more discreet to generalize in the supply chain of the other organizations. In other word because of the nature of case study, external validity of the model is not defendable. Originality/value: developing concepts such as leadership, institutionalization and work culture in context of the supply chain management is based on the conditions of chain stores. Meanwhile the casual relations among concepts have been evaluated.

Key words: Supply chain management (SCM) • Supply chain leadership • European Foundation of quality management (EFQM) • Chain Stores • Structured Equations Model (SEM) • Shahrvand Chain Stores

INTRODUCTION

Nowadays business is moving toward network business. The production organization is based upon the network of partners, products and fit services and indirect control mechanism (bonus and negotiation) and many other ways for competition in the network economy [1]. The main reason of this behavior is Adam Smith's absolute advantages and Ricardo's comparative advantages in efficient use of the other organizations and governments' competences [2].

One of the modern patterns of network economy is the supply chain management that is a set of tools and methods toward management and fitting of all the chain and will continue from the supplier of suppliers till the customer of the customers [3]. Although there aren't any consensus about the supply chain management definition, but the following definition is not useless. A supply chain is defined as the "network of facilities and activities that performs the functions of product development, procurement of material from suppliers, the movement of material among facilities, the manufacturing

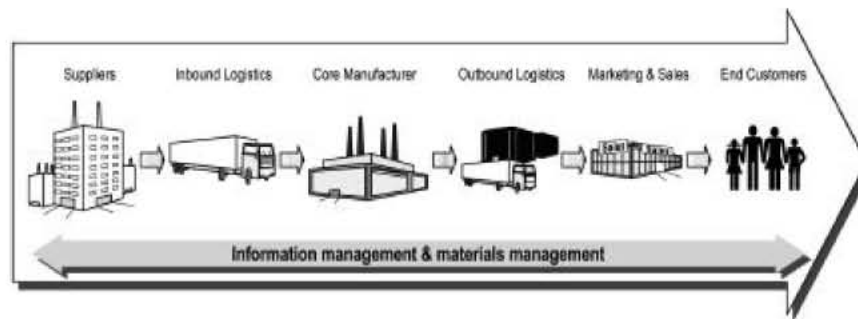


Fig. 1: General flowchart of supply chain [5].

Table 1: Some differences between leadership and management [12]

Leadership	Management
Goal setting, framing, strategic planning	Daily programming such as scheduling, resource allocations
Directing behavior	Monitoring behavior
He/she Asks what and why standard condition must change	He/she Asks how and when gain standard conditions
Create and definite new vision for organization	Working in present cultural boundaries
Challenge present situation and create change	Reinforcing and establishing present conditions

of products, the distribution of finished goods to customers and post-sale services for sustainment [4].

Supply chain management similar to the other ideas and management paradigms that have been stated during the recent 100 years has been evolved. As we can point to the problems like: lack of the holistic view to the problems and the dimensions such as leadership affecting on employees and the other stakeholders, policy making and strategies, importance of intellectual and social capitals, impacting on society and environment (and lack of attention to the behavioral patterns and the relations among the organizations like, power, commitment, interdependency, trust [6] and the supply chain actor networks [7] Many of aspects and topics mentioned in common and current models like SCOR¹ has been ignored [8,9]. Any way, the aim of this research is to state the proper kind of supply chain leadership and consequences or its functions in chain store's supply chain.

The Literature Review: Along with passing the developmental process of organizations from the four walls to the network and supply chain function [10]. This evolutionary trend derived from a systematic thinking which in that the optimization of systems depend on optimum function of all subsystems and all the subsystems should try for reaching the determined goals².

Leadership term has 3300 years history. The number of definitions of leadership is equal with the persons that have defined that [11]. There is no consensus among the

experts about the difference between the leadership and management. Some know the management as the duties of the leadership and others have had an opposite opinion. Kanungo (1998), has separated the behaviors and duties of leaders and managers from different viewpoints (Table 1).

Different authors and researchers have discussed about this concept during two decades after discussion and statement about supply chain leadership (Figure 2). Amongst this the epoch about the profits of research focus, 2 studies about the buying centers and WALL MART chain stores is remarkable. Considering the sale centers, some researches [13] have found that transformational leadership has a positive and significant impact on the supply chain performance and sale centers performance respectively. The transformational leadership is one of the recent leadership styles that are designed to raise the awareness of the importance and value of desired outcomes, get supply chain participants to transcend their own self-interests and alter or expand the personal abilities and needs of stakeholders [13].

Also Sam Walton, the legendary leader and founder of Wall Mart chain stores as the greatest and richest world company used the servant leadership style in the process of prevalence on employees [14]. Both of the leaders (transformational and servant leader) are idealist, make a confidence among followers; enable their followers, listen and try to trust their followers [11].

¹ Supply chain operation reference model

² Skinner define this situation as a productivity paradox

Table 2: Summary of researches related to supply chain leadership

Authors	Main results
[17]	Developing a theoretical framework based on organizational leadership literature related to autocratic, commanding, controlling, participative and stakeholders oriented styles in business
[18]	Define two leadership styles in automotives supply chain based on power, legitimacy and business necessities
[19]	Leadership style is a contingent factor with regard to financial and non financial criteria
[20]	Transformational leadership has a positive impact in relational commitment among buyers, sellers and suppliers
[21]	There is positive and significant relationship between leadership and supplier quality management. Leadership is critical factor in cultural practice
[16]	One of the reasons of Wal-Mart chain stores successes was servant leadership style by Sam Walton and substitutes
[13]	leadership style in buying center has positive impact in developing culture of knowledge acquisition and competitiveness

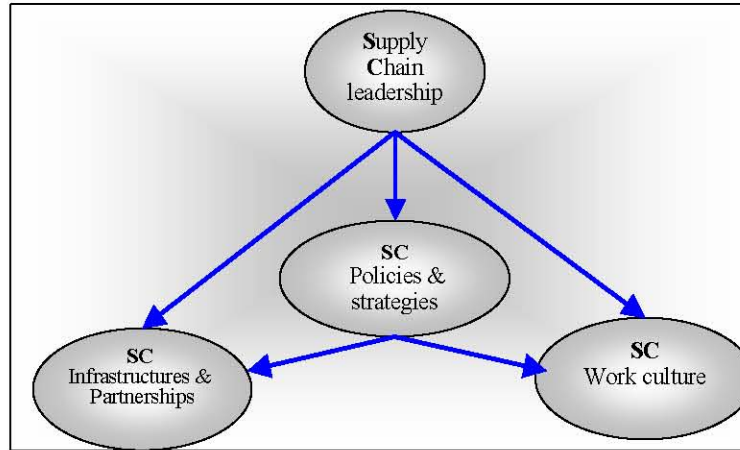


Fig. 2: Research's conceptual model

The EFQM model shows that the excellent leaders make the missions very well and create more values for the attainment of the organization and direct them by their proper behaviors [15]

The relation between the leadership and organizational culture has been emphasized by scholars (e.g. Edgar Schein). The studies reveal that the sessions of Saturday morning not only make ways and guidelines for better management of stores, but also have a great affect in the relations of the people. Some of the researchers believe that the values of knowledge acquisition and the culture of competitiveness have positive impact on the chain stores and buying centers' supply chain performances [13].

On the other hand, the employee criterion in EFQM propose that the excellent organizations use all their potential power, in single, team and organizational levels. They prevail the equities, try to engage the employees participate in the affairs and delegate them the authority.

One of the considerable factors in the supply chain functions is infrastructures and instutualization in the supply chain partnerships. The EFQM model shows in excellent organizations, participations and external trade cooperation's plan and manage their resources and providers for supporting the policies and strategies and the effective implementation of their processes [15].

On the other hand, many scholars have stated the participations and resource based view of the inter-organizational aspects to an intra organizational topic is in the frame of two concepts of integration and instutualization of development supply chain. The integration points use the physical infrastructures about creating the information and communication technologies. The supply chain instutualization handles the factors such as trust (loyalty, making contract, good intention), suppliers' high accordance and the interdependency of the suppliers to each other and so on [6]. Regarding to the mentioned contexts and studies about the relations between the EFQM model enablers' criteria [22, 23], the research conceptual model is summarized.

Research Methodology: According what is mentioned before, this research has been faced to three research questions for stating the functions of supply chain leadership:

- What are the supply chain leadership dimensions in SHAHRVAND chain stores?
- What are the functions and consequences of SHAHRVAND supply chain leadership?
- What are causal relationships among the supply chain leadership and consequences?

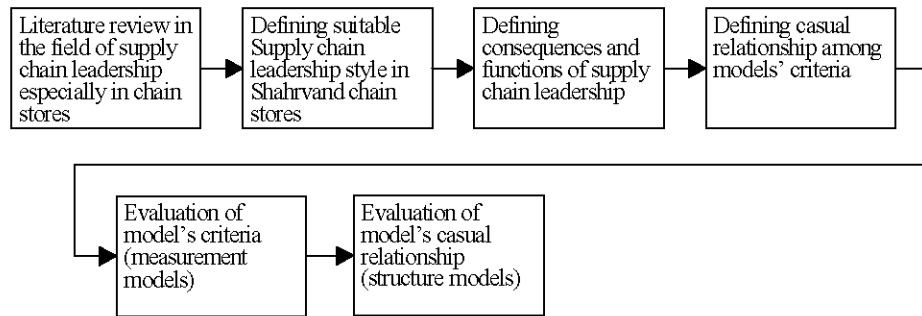


Figure 3: Evaluation of supply chain leadership and consequence's model

Table 3: Summary of casual hypotheses

	Hypotheses	Past Literature
H_1	Transformational and committed leadership positively affects Supply Chain infrastructure and partnership	[24, 15, 13]
H_2	Transformational and committed leadership positively affects Supply Chain policies and strategies	[25, 24, 15]
H_3	Transformational and committed leadership positively affects Supply Chain work culture	[26, 15]
H_4	Supply Chain policies and strategies positively affects Supply Chain infrastructure and partnership	[15]
H_5	Supply Chain policies and strategies positively affects Supply Chain work culture	[27, 22]

To answer these questions, we design an interactive process based upon figure 3.

In order to answer the first research question that has exploratory nature, we did a development of the conceptual model and measuring the model by qualitative and quantitative methods. To answer the second question that is relational we stated the functions of the supply chain leadership based upon the EFQM model and the other related researches in this field (Table 3). We did the causal relations among the research variables (Figure 2).

Data Analysis: The questionnaire approach has been used for measurement of model's dimensions and also for the consideration of causal relations. The mentioned questionnaire has 2 parts. The first part reflects the respondents' biographies. The second part includes the main questions of research. And the Likert 5 optional scale was used for measuring the second part of the questionnaire.

The Statistical Population and Sample: The statistical population of this research is consisting of managers and senior experts of SHAHRVAND chain stores that are familiar with supply chain and functional management. The questionnaires were sent to managers and senior experts of organization and the dependent companies and strategic partners that they were at all 121 and 113 of them were accepted.

Validity and Reliability of Measuring Instrument: The cronbach alpha parameter has been used for measurement of reliability of sub-criteria that indicates the extent to which the measurement instrument is without bias, i.e. produces stable and consistent data in measuring concepts [28]. The amounts of calculated cronbach alpha are all upper than 0,6 that shows the stability of questionnaire in the confidence level of 0. 95.

Validity, on the other hand, gives an indication of the certainty of the instrument in actually measuring the concepts it is intended to measure. Validity indicates that the instrument is measuring what it is supposed to measure. Three types of validity are most common in business and organizational research: content validity; construct validity and criterion-related validity [28].

Content validity is defined as the extent to which it provides adequate coverage of the topic under study. This type of validity is mostly based on the analysis of the target domain required and drawn on expert judgment [4]. Content validity is demonstrated in this instrument in two ways. Firstly, the "analysis of the target domain" was achieved through the literature review conducted in previous papers and the theoretical development of the model based on well-established models. Second, the "expert judgment" was based on the empirical evaluation of expert interviews and case studies [29] and the evaluation of the questionnaire in the pilot study.

Construct validity shows the extent to which items of a construct measure the same Construct, i.e. do not measure multiple constructs. Construct validity can be

Table 4: Internal consistency (α), Factor loading and K-M-O values of the four latent variables

Codes	Latent factor	Factor loading (Principal component Analysis)	K-M-O	Ronbach Alpha(α)
	Supply chain leadership(6 items)		0.887	0.88
lead10	Going beyond his/her own self-interest for the good of the supply chain	.771		
lead11	Talking enthusiastically about what needs to be accomplished in the supply chain.	.777		
lead12	Spending time teaching and coaching us about the supply chain.	.835		
lead13	Seeking different perspectives when solving supply chain problems.	.816		
lead14	Clarifying the central purpose underlying our supply chain actions	.853		
lead15	improving relationship between partners by Performance of management	.797		
	Supply chain work culture(8 items)		0.802	0.721
WC17	Development and using training to empowering employee in supply chain environment	.746		
WC18	Enough knowledge and ICT education to ensure supply chain handling	.577		
WC19	Encouraging and motivating people aligned with supply chain strategies	.714		
WC20	Appreciate new ideas and innovation among supply chain partners	.604		
WC21	Management supports entrepreneurship approaches to business development	.707		
WC22	Learning about Supply chain is an investment not expense	.691		
WC23	We share data on participant satisfaction in the supply management process on a regular Basis	.706		
WC24	Supply chain management practices were systematically documented	.760		
	Supply chain polices and strategies(4 items)		0.775	0.621
Pcly25	Supply chain Policies and strategies are based on information about the needs of stakeholders	.766		
Pcly26	Supply chain Policies and strategies are based on information from performance measurement	.894		
Pcly27	Supply chain Policies and strategies are developed, reviewed and updated	.878		
Pcly28	Policies and strategies are communicated and implemented	.784		
	Supply chain infra structure and partnership(6 items)		0.867	0.633
Ptrnr29	Supply chain's partners have a high level of trust together	0.877		
Ptrnr30	Partners exchange on time, relevant and accurate information with in formal and informal methods	.839		
Ptrnr32	Partner have high degree of interdependency among themselves	.868		
Ptrnr33	Exchange intellectual property(employee, technology) to reinforce cohesiveness	.744		
Ptrnr34	Suppliers cooperate in process design and scheduling	.935		
Ptrnr35	Supplier developod ICT infrastructure (extranet-intranet) to better communication	.891		

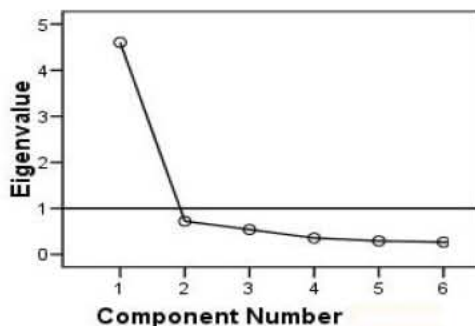


Fig. 4: Cottle scree plot to construct validity of leadership criterion

demonstrated by a factor analysis on the items of each construct. Table 4 and Figure 4 show the factor analysis and Scree plot conducted on the sub-criteria of the concepts using SPSS software.

The extraction method used was "principal component analysis". It can be seen that only one factor was extracted in Table II, as its Eigen value is larger than

1 and the slope in the Scree plot (Figure 4) changes after this first factor. At first the adequacy of data was measured. The calculated rate of this concept is measured by Kiser-Meyer-Oaklyn (K-M-O) measure by the SPSS15 software that shows the adequacy of the test data (Table4).

Construct validity measured by an exploratory factor analysis (EFA) for each of the structures by the SPSS15 software. Latent variables are equal with the parameters including the value upper than 1. Beside these tests, construct validity of variables that the values of them are less than 0.5 in commonalities table are rejected. For this reason all parts of this research are related to the leadership, the supply chain work culture, the strategies and policies and ultimately institutionalization and the physical infrastructures of supply chain are accepted.

The above tests were considered and confirmed in a similar way for work culture, policy and strategies, participations and the supply chain leadership. For ensuring about the given relations in the exploratory

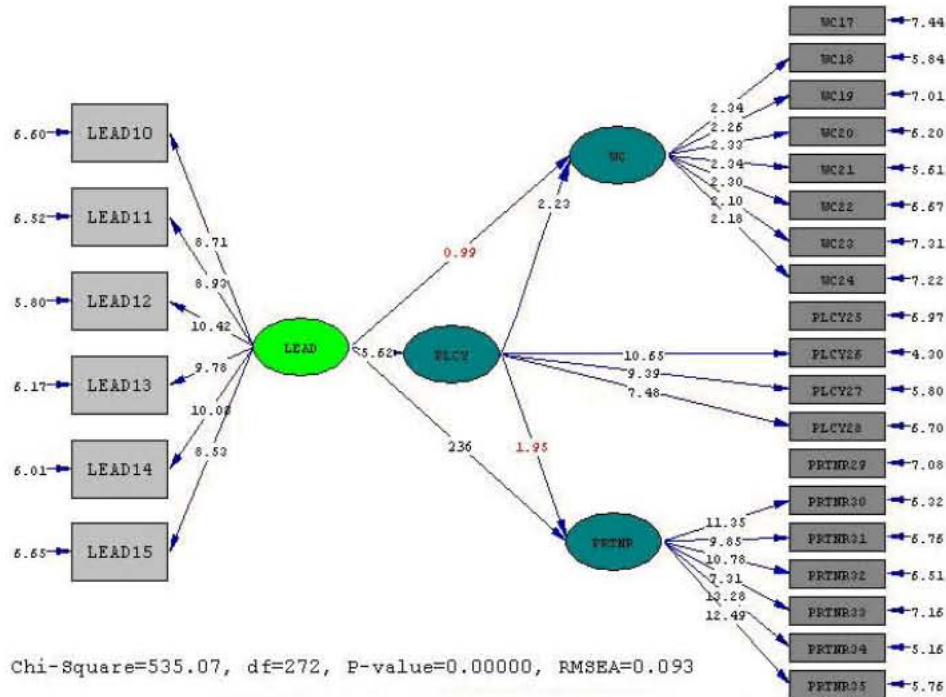


Fig. 5: T values test for structure and measurement model

factor analysis, the quad concepts of the model were evaluated by the confirmatory factor analysis (CFA) and by using the LISREL8.53 software again. When we have a specific hypothesis to find the latent factors in a research, we use the confirmatory factor analysis method. The LISREL is a software for analyzing the linear structured equations [30]. In the analysis of the linear structured equations the whole model's validity will be evaluated meanwhile considering the measurement models and structural models.

There is no reason to reject the measurement hypotheses of the model, as the amounts of T test values are upper than 1.96 and we have these cases in the LISREL software as the amounts that are between the observed variables and ellipse shape variables, so the validity of the measurement models are again confirmed (Figure 5).

At this part we have evaluated the causal relationships between variables by the analysis of structural models. Paying attention to the interpolated amounts in figure 5, the known amounts between the ellipse-shape variables show the test of path coefficients in the research. In this way, if the amounts of calculated T test be more than 1.96, they will be accepted in path analysis tests. Or in other words there will be no reason to reject the statistical

hypotheses. It means there is no reason to reject the H2, H4 and H5. Also H4 is acceptable in the confidence level as %90 with a little connivance. But the H3 hypothesis is rejected.

Furthermore, the LISREL software can evaluate all the goodness of fit of the model that this is one of the features of the software. There are different criteria to goodness of fit in statistical model literature that we will point to two kinds of them. One of their criteria is the Root Means Square Error Approximation (RMSEA). The gained amount was equal with 0,093 that is less than the accepted error (0.1). So there is no reason to reject the above said model.

The other criterion is the ratio of chi square parameter to degree of freedom³. If the amount of this criterion be less than 3, there is no reason to reject the goodness of fit of the model. In this research the mentioned criterion is 1, 93 that means the whole model acceptable [30]

CONCLUSION

The concept of supply chain management has been under attention by the scholars and the managers of organizations during the past decade. Recently, new topics have been considered and discussed about the supply chain leadership and its functions.

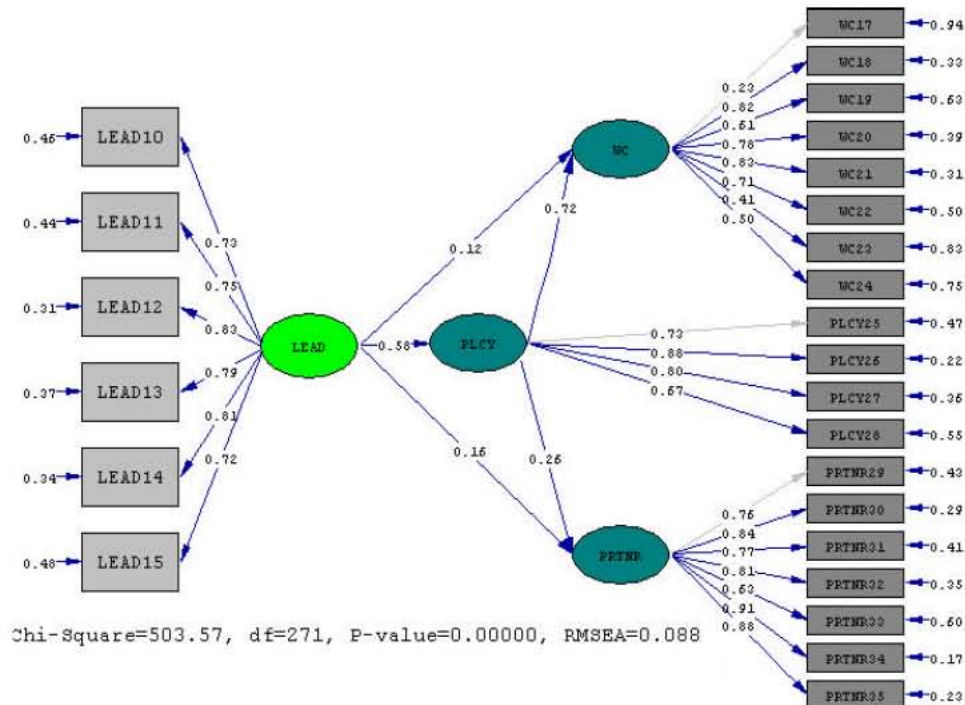


Fig. 6: Standard estimation of structural and measurement model' coefficient

This research has campaigned to the concept of supply chain leadership and its functions in supply chain about studying the needs of chain stores. For this reason there has been given concepts and models for describing and stating the functions of leadership, studying the excellent organizational models and the literature review of supply chain leadership. The results of research reveal that factors such as culture of knowledge acquisition and the competitiveness of supply chain, integration and institutionalization of supply chain and the actor network of the supply chain are of the factors that have been under attention less as a united form in the common models. The above mentioned factors have more importance in organizations and the supply chain of companies that are handled and controlled by the public sectors.

The results of the research in the studied company show that the indicator of clarifying the central purpose underlying our supply chain actions (lead12) more prevalence in comparison with other indicators of supply chain leadership. As the amounts of standard approximation of the measurement models are shown by the LISREL software, making proper education for creating work culture (wc21), consolidation and consensus between the policies of chain partners and the physical-financial infrastructure with the partners (prnr 34) have more impact on institutionalization and integration of supply chain (Figure 6).

Discussion and Suggestions for Future Researches: Supply chain leadership is one of the emergent concepts in the supply chain management that ensures the growth and excellence of organizations in the modern stages of business and the network economy era. For this reason this is efficient that the managers realize and operate the proper way for supply chain leadership style in their organizations, paying attention to the conditions and the organizational needs.

Based upon the consideration of statistical hypotheses in the part of found analysis, the statistical hypotheses of positive and significant impact of leadership on the supply chain work culture (H3) was rejected. So, this is important that the organizational leaders do the necessary attempt to lead the follower's minds, partners and the other stakeholders in obtaining the culture of competitiveness and knowledge acquisitions in Sharvand chain stores.

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