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## Supply chain management in hospitality and its impact on competitive advantage, hotel, and supply chain performance

Nasser Safaie<sup>1</sup>, Ali Nazeri<sup>2,\*</sup>, Anita Mottakiani<sup>3</sup>

### Abstract

In this study, the relationship between supply chain management functions, supply chain performance, competitive advantage, and organizational performance in the hospitality were investigated. The objective of this study was to assess the performance of supply chains and management in the hospitality. For this purpose, a model consisting of 4 variables and 5 hypotheses was created. The statistical population of this study included all administrative staff of the 4 and 5-star hotels in Tehran. Sampling among senior and middle managers was done randomly. A total of 199 samples were collected and the designed model was tested using a structural equation approach. All study hypotheses were approved. The results indicated that using the dimensions of the supply chain management function, we can observe the positive and comprehensive impact of these factors on organizational performance, supply chain performance, and competitive advantage. In addition, supply chain performance and competitive advantage were found to have a positive and significant effect on organizational performance.

**Keywords:** supply chain management; hospitality; competitive advantage; performance.

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## 1. Introduction

Supply chain management (SCM) is defined, according to Cousins (2019), as a management philosophy involves a set of activities that directly and indirectly affect chain member organizations and supply chain performance. SCM is the efficient management of all processes from the design of a product or service to sale and disposal by the final consumer. Supply chain assessment capability includes all activities related to the flow of commodities from the supplying of raw materials to the final state as well as associated information flows. Looking at the definitions for SCM, in most of the supply chain performance as a whole is emphasized and the ultimate goal of SCM is introduced. Therefore, it is clear that the purpose of measuring the effective management of a supply chain is to determine overall objectives. SCM is an integrated process that transforms raw materials into final products to be offered to customers

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\* Corresponding author; [nazeri@damavandiau.ac.ir](mailto:nazeri@damavandiau.ac.ir)

<sup>1</sup> Faculty of Industrial Engineering, K. N. Toosi University of Technology, Tehran, Iran.

<sup>2</sup> Department of Industrial Engineering, Islamic Azad University, Damavand Branch, Damavand, Iran.

<sup>3</sup> Department of Management, Islamic Azad University, Damavand Branch, Damavand, Iran.

through distribution or retail. According to Al-Shabul (2017), what needs to be considered before designing any performance evaluation system is to know deeply the meaning of a supply chain as the basis of any possible improvements. As Park et al. (2014) stated SCM has become a success key in business performance. Understanding the nature of how it performs in this area is critical, so it is an important task for management. However, with the liberalization of global trade and financial markets, the global economy has become interconnected and market boundaries have been redefined towards outsourcing, creating a global supply chain. The emergence of competition in the global arena has led to production innovations and lower product lifecycles. Gunasekaran and Kobu (2007) discussed the rapid development of information technology and its widespread use in SCM, many of the core activities of chain management are being processed with new methods. He continued that the success or failure of an organization is ultimately characterized by its supply chain. Today, it has been widely accepted most successful companies look at the design of an appropriate supply chain that is consistent with their competitive strategies and business environment, and this is one of the key strategies in achieving a stable competitive position in a competitive global market. SCM, as Lee and Chandra (2007) indicated, is also a way to gain competitive advantage because competition is not between other organizations but within supply chains. It has provided numerous features and possibilities for information sharing, developed communication channels with customers, made possible joint and strategic decision making, and integrated business processes. Simchi-Levi et al. (2004) studied on how supply chain partners can share information on inventory levels, product diversity strategies, cost reduction strategies, finished products prices, technical knowledge, and appropriate supply chain training at a relatively low cost. Supply chains include value chains from the seller to the final customer. Chopra et al. (2003) necessitated SCM as a prerequisite for global competitiveness and increased profitability. Under conditions of economic prosperity, the tourism sector can collect wealth from people on a trip far away from their homes. On the other hand, in economic crises, tourism can be considered a key mechanism for economic recovery. A small number of recent studies have focused on both the upstream and downstream aspects of a supply chain. Tan (2002) examined the relationship between supplier management activities, customer relationships, and organizational performance. The study reflected the efforts made to illustrate different and interesting aspects of SCM. However, the absence of an integrated framework covering all upstream and downstream supply chain activities and their relationship with activities such as competitive advantages and organization performance reduces the previous results of SCM. The highly competitive environment of the hotel industry forces tourism businesses to seek new ways to improve their competitive advantage. Moberg (2002) discussed effective tourism SCM is one of the strategies that tourism businesses can use to increase their competitive advantage. He cleared since the hotel industry is one of the main pillars of the tourism industry, SCM and the competitive advantage of the hotel industry is very important. The hotel industry can be divided into manpower, tools, and equipment. The results of various studies show a positive relationship between service quality and organizational financial performance. In fact, high-quality companies have a higher market share, higher return on investment, and more asset turnover. Therefore, it can be concluded that in the long term, the most important factor affecting commercial performance is the quality of the goods and services that the organization offers to its customers. Beamon (1999) showed by a survey that the physical environment of a hotel consists of the external environment, equipment arrangement, cleanliness, and electronic equipment quality, which are key factors for positive customer assessments of service quality. Kim (1996) discussed hotel owners need to invest heavily in creating an effective physical environment. Of course, it is important to ensure that these financial investments are beneficial. The quality of hotel equipment is directly related to customer satisfaction, but cost control is

also important for investors in this industry; hence, the use of supply chains is important as long as the hotel industry is profitable overall.

Iran has been lagging in the hospitality, tourism, and hotel management industries when compared to some advanced and neighboring countries as these industries have not been able to fulfill their potential. Iran has tourism potential due to its ancient secular and religious history as well as its pristine, natural, and eye-catching landscapes. Given the growth of the hotel industry, which is the main source of customer attraction and monetization in the tourism industry, it is necessary to provide better services. The hotel management industry in Iran needs more attention as a service industry. This research is aimed to examine the impact of SCM on competitive advantage, the performance of hotel management organizations, and supply chains to improve the competitive advantage and supply chain performance of the hotel management industry.

The structure of the paper is as follows. In the next section, the research conceptual model and hypothesis are defined. In the following section the statistical population, sample size and questionnaire are described. This section follows by analysis of the structural model and finally, the last section dedicates to discussion and conclusions.

## 2. Model definition and hypotheses

The variables interrelation of conceptual model is shown in Figure 1.

The model (as shown in Figure 1) includes five hypotheses as follows:

- 1- The actions of SCM have a positive impact on organization's performance.
- 2- The actions of SCM have a positive impact on supply chain performance.
- 3- The actions of SCM have a positive effect on competitive advantage.
- 4- Supply chain performance has a positive impact on organizational performance.
- 5- Competitive advantage has a positive impact on organizational performance.

The research hypotheses will be defined and discussed in the following sections.

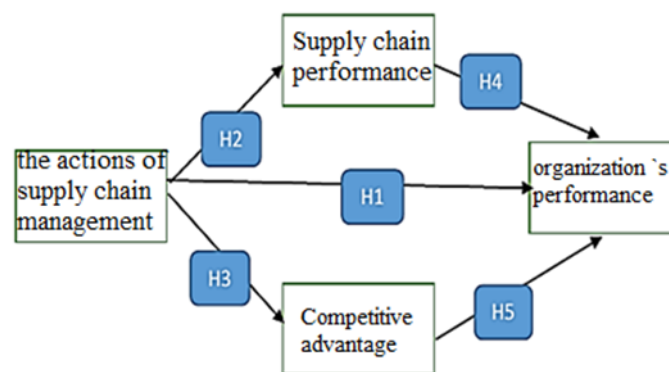


Figure1. The conceptual model of research

### 2.1. The relationship between the actions of SCM and organization performance

Li et al. (2008) cleared the effects of SCM in terms of logistics and transportation management. SCM is synonymous with integrated logistics systems with a focus on inventory reduction within organizations as well as the entire supply chain. But, the all definitions converge to improve company performance. Cousins (2019) approved that organizations with the best SCM have a 40-65% quicker cash cycle and better organizational performance than intermediate organizations. Based on what discussed, the first hypothesis which is discussed in the present study is that "The actions of SCM have a positive impact on organization's performance".

## **2.2. The relationship between the actions of SCM and supply chain performance**

As park et al. (2014) discussed eight dimensions of SCM are as follows: strategic supplier trust, strategic supplier commitment, high management commitment, strategic supplier relationships and criteria, comprehensive quality management, strategic partnerships with suppliers, reward and recognition systems, and employee participation. They also numerated ten dimensions of supply chain performance including strategic supplier trust, strategic supplier commitment, senior management commitment, strategic supplier relationships and criteria, comprehensive quality management, strategic partnerships with suppliers, reward and recognition systems, employee participation, supplier performance, and supplier flexibility. The study of Ahi and Searcy (2013) showed that SCM was implemented to obtain and improve supply chain performance using internal company integration and external supplier and customer integration. Therefore, the second hypothesis is that "The actions of SCM have a positive impact on supply chain performance".

## **2.3. The actions of SCM and competitive advantage with a positive impact**

The effects of SCM and the eight dimensions mentioned in section 2,2 are in relation to competitive advantage and supplier performance, which are two aspects of competitive advantage. Ragatz et al. (1997) discussed the actions of SCM not only affect organizational performance, but also competitive advantage. They are expected to improve an organization competitive advantage through the factors of price/cost, quality, timely delivery, time to market, and product innovation. For example various components of SCM (such as collaboration with strategic suppliers) affect various aspects of competitive advantage (such as price/cost). So, strategic supplier participation can improve supplier performance, reduce time to market, and increase customer satisfaction. In today's competitive world, and given the complex expectations of customers, organizations see themselves as having customers who want increased product diversity, lower costs, better quality, and faster access. The most important feature of SCM that distinguishes it from other forms of management, as Lopez-Costa and Munoz-Canavate (2015) emphasized, is competitive advantage. In many organizations, organizational managers and leaders seek to improve organizational performance. Organizations are turning to SCM for success because this approach focuses on activities that exist in the value chain. Competitive advantage directly affects SCM. Other researchers in previous studies related to supply chain performance evaluated the supply chain performance independently. Ahi and Searcy (2013) discussed that SCM is the creation a harmonized supply chain that integrates optional economic, environmental, and social considerations with in-company business systems to efficiently manage materials and information associated with the purchase, production, and distribution of products or services to meet stakeholder needs and improves profits, increasing the competitive advantage and sustainability of an organization in the short and long term. Thus, the third hypothesis is that "The actions of SCM have a positive effect on competitive advantage".

## **2.4. The relationship between supply chain performance and organization performance**

The effects of supply chain performance and its ten dimensions, as mentioned in section 2.2, are stated in relation to customer focus, organizational performance, and service quality. Temme et al. (2010) investigated the development of nuclear capabilities in supply chain performance on economic dependence using organization performance. The framework for supply chain performance developed in this study suggests that supply chain performance has a direct impact on overall financial and marketing performance, customer focus, and service quality. According to recent studies, supply chain performance is expected to increase organization market share, service quality, and overall organization performance. Lee et al.

(2007) surveyed that the participation of strategic suppliers increases organization financial performance. Also, advanced design and logistics connections are better for suppliers with efficient factories. Tan (2002) showed that customer relationship practices lead to significant improvements in organizational performance. Hence, the fourth hypothesis of the study is that "Supply chain performance has a positive impact on organizational performance".

## **2.5. Competitive Advantage and Organizational Performance**

The effects of competitive advantage were studied and analyzed in relation to customer focus, organizational performance, and service quality. As Mentzer et al. (2000) discussed, having a competitive advantage generally, means that an organization has one or more of the following features compared to its competitors: lower prices, higher quality, greater reliability, or shorter delivery times. This, in turn, raises the overall organization performance. Stanley and Winsler (2001) indicated that competitive advantage can lead to a high level of economic performance, customer satisfaction, and customer loyalty. Brands with high consumer loyalty have competitive changes in their target sectors as a result of increased sales and profitability

Finding new ways to compete in competitive markets is the mainstay of strategic thinking and marketing strategies, and the acquisition of sustainable competitive advantage is a central issue in strategy discussions. Green et al. (2008) conducted a study to show a positive impact from competitive advantage on organizational performance and the existence of a competitive advantage in an organization means better performance than its competitors, which in the short term means profitability and in the long term guarantees survival and growth. To date, no research has been done on affiliated organizations in hotel management.

Li (2006) argued that an organization could offer higher prices by offering high-quality products and thus increase its margin of profit in sales and investment returns. Cook (2010) also focused that an organization that has fast-paced innovations can launch its new products for the first time in a market, thereby benefiting from market share and high sales volumes. Park et al. (2014) approved by a survey a positive and significant relationship between competitive advantage and organizational performance. So, the fifth hypothesis of the research is that "Competitive advantage has a positive impact on organizational performance".

## **3. Statistical population and sample size**

In recent years, the tourism industry as one of the top ten industries in the world plays an important role in the field of economy and its improvement in countries. Due to the fact that the supply chain has developed increasingly in various industries, in the field of tourism, there is the ability to use it optimally and in an integrated manner. In 2008, about 943 million tourists with a financial cycle of \$ 922 billion, paid for tourism in the world. Last year, it accounted for 9.3 percent of the world's gross domestic product and managed to generate more than 210 million jobs, or 7.4 percent of the world's total market share (UNWTO website). These numbers clearly show the importance of a supply chain to improve tourism in the world. Hospitality in Iran is as old as the history of this country's civilization, but the hotel industry in Iran is a fledgling industry. According to the hoteliers' statistics, there are currently 1,087 hotels across the country, of which 361 are 1-star units, 378 2-star units, 238 3-star units, 83 4-star units and 27 5-star units. Iran, in terms of hospitality, tourism and hotel industry, lags behind developed countries and even some neighboring countries and has not been able to attract customers and tourism as much as it has the potential and capacity. Since our country has the potential to earn tourism in terms of ancient and religious landscapes as well as in terms of pristine, natural and eye-catching landscapes, and considering the growing growth of the hotel industry, which is the main basis for attracting customers and earning money in the tourism industry, efforts should be made to provide better services.

This research is an applied study because it was carried out in the real world and it is a descriptive and a cross-sectional survey study because it describes a situation in a statistical population using a questionnaire. The statistical population of this research included all administrative staff of 4 and 5-star hotels in Tehran. Sampling among senior and middle managers was done randomly.

The statistical population of this study included all administrative staff of 7 5-star hotels and 19 4-star hotels that exist in Tehran (N=400). The Cochran formula was used to calculate the sample size due to this study's limited population size (Cochran, 1950). The sample size with a confidence level of  $1-\alpha=95\%$  and an error rate of  $e=0.05$ , will be calculated  $n=196$  people.  $Z_{\alpha}$  is a point on standard normal distribution which leaves  $\alpha$  probability to the right of this point under the curve. In this study, we completed an average of 10 questionnaires per hotel. The whole questionnaire is brought out in Appendix A. A total of 196 completed questionnaires were randomly collected among senior and middle managers; this value is valid in relation to Equation (1).

$$n = \frac{N * Z_{\frac{\alpha}{2}}^2 * p(1-p)}{e^2(N-1) + Z_{\frac{\alpha}{2}}^2 * p(1-p)} = \frac{400 * 1.96^2 * 0.5(1-0.5)}{0.05^2(400-1) + 1.96^2 * 0.5(1-0.5)} = 196 \quad (1)$$

Where, N= Size of population=400,  $Z_{\frac{\alpha}{2}} = Z_{0.025} = 1.96$ ,  $p= 0.5$ ,  $q=1-p=0.5$ ,  $e=0.05$

After providing the necessary explanations, questionnaires were provided to respondents. Questionnaires were completed and collected during an interview. In this study's questionnaire, a Likert spectrum was used that included five levels of agreement from great, good, no opinion, low, and very low. These classes were responses to an item field. The answer rate is assumed to be equal for each item and all items were scored from 1 to 5. An index was obtained by summing and averaging all scores and then dividing the resulting total by the total number of items. The questionnaire of this research had two parts: the first part evaluated the individual characteristics of respondents using 4 questions. The second part consisted of 14 sections, which in total included 81 expert questions. In this study, the content validity method was used to assess the validity of the questionnaire. Using the opinions of the research supervisor and research experts, the study of similar questionnaires, articles, books and journals, and also after the elimination of ambiguities and errors in the questions, the final questionnaire designed and prepared.

#### 4. Analysis of the structural model:

To use statistical techniques, it must first be determined if the collected data has a normal or abnormal distribution. In the first step, the Kolmogorov-Smirnov test was used for each variable. According to the SPSS23 software, all numbers were less than 0.05, which can be seen in Table 1. This study found that all variables were abnormal and therefore, PLS-Smart software was used to analyze and measure the study model. Correlation and regression tests were used to test the hypotheses and to evaluate the model. Data analysis was used by a structural equation model.

**Table 1. Results of the Kolmogorov-Smirnov test**

Structures	Strategic supplier relationships and criteria	High management commitment	Strategic supplier trust	Strategic supplier commitment	Integrated Quality Management: Continuous Progress	Employee participation	Bonus and Recognition	Customer focus	the quality of service	Flexible supplier	SCM measures: a strategic partnership with the supplier	Supplier performance	Competitive Advantage	Organizational performance
Sig.	.00	.00	.00	0.00	.00	.00	.00	.00	.01	.01	.00	.00	.00	.00

#### 4.1. Fit the general research model

The study of model fit was done on the measurement, structural, and general model to examine the extent to which the research model is compatible with the data collected from the statistical sample. After confirming the model fit, the researchers examined and tested the research hypotheses. PLS software was used after obtaining variable data. Figure 2 shows the estimated standardized coefficients and Figure 3 shows the t meaningful coefficients. All analysis and measurement fittings, structural and general models, and hypothesis testing were based on these outcomes.

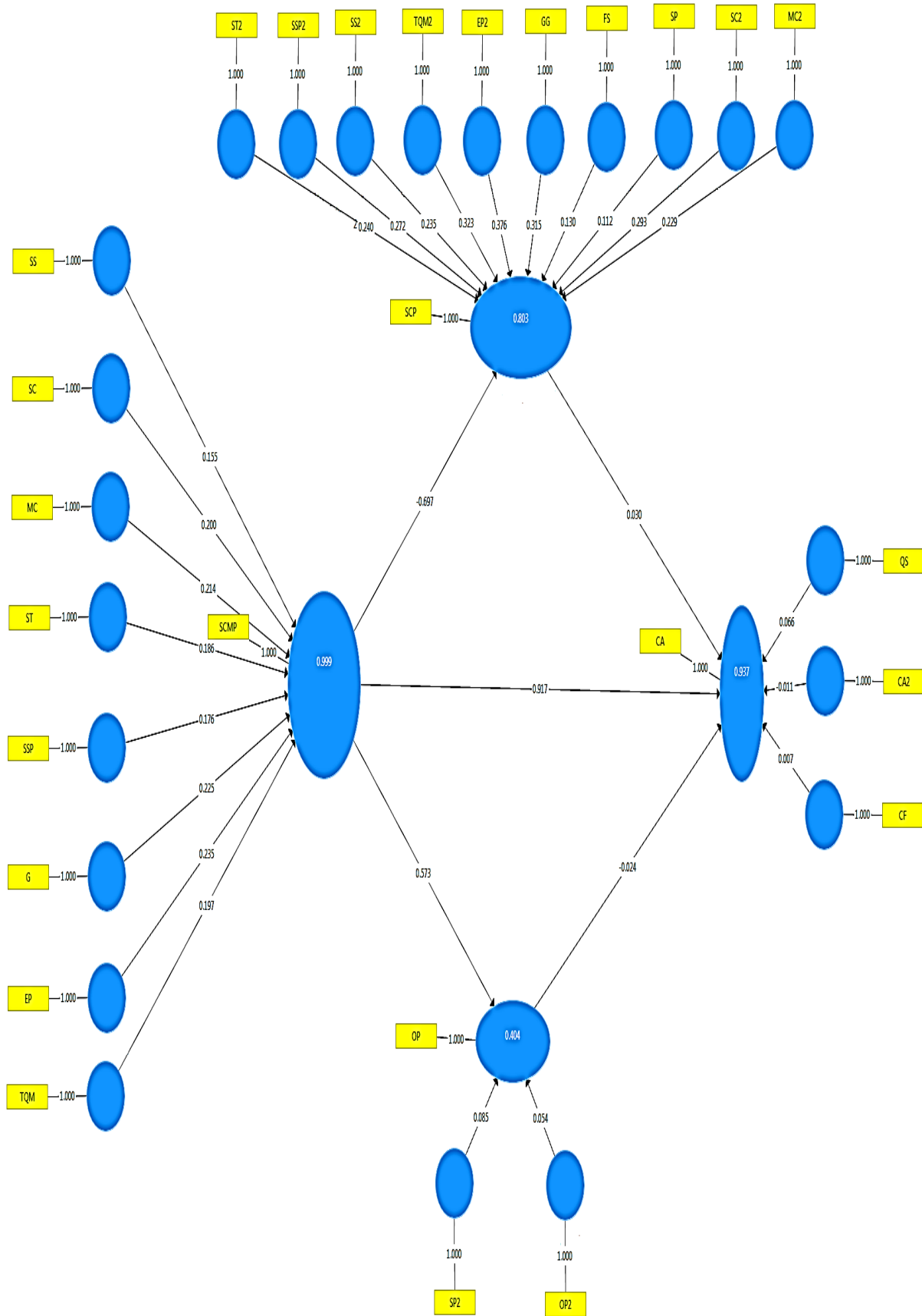


Figure 2. Final model of research in the mode of estimating standardized coefficients of load factor





The values placed on each of the arrows in Figure 2 and Figure 3 indicates if the relationships shown are meaningful. If the value of this Value-T is greater than 1.96, this indicates that the shown relationship is significant.

## **4.2. Data analysis**

The correlation coefficient between two variables is a statistical tool for determining the type and severity of their relationship. This coefficient is between -1 and 1. Before using these coefficients, the data distribution of both variables must be specified. If the data distribution of both variables is normal, then the Pearson correlation coefficient is used, and if the data distribution of one of the variables is abnormal, then the Spearman correlation coefficient is used. Due to the fact that the data distribution in this study is abnormal, as Boddy and Smith (2009) stated, the Spearman correlation coefficient was used.

The positivity of this coefficient indicates a direct relationship between the two variables and its negativity indicates an inverse relationship. As Lee and Nicewander (1988) clearly stated, the proximity of this coefficient to the number 1 (whether positive or negative) indicates the power of the relationship between the two variables. The results show that for the questionnaire structures there was a positive and significant correlation between the organizations under study. To assess the model fit, reliability, convergent validity, and divergent validity were used.

Index reliability was measured by three factors: factor loading coefficients, Cronbach's alpha, and composite reliability.

### a) Coefficients of factor loadings

Based on what Hulland (1999) indicated, factor loadings are calculated by calculating the correlation between the indices of a structure and the structure itself, which confirms that the variance between that structure and its indices is greater than the variance of the measurement error of that structure and its reliability is acceptable. The factor loading coefficients of all of the structures of the factor loading model had acceptable values. Therefore, the reliability of the measurement models was acceptable, which indicates the fitting of the measurement model.

### b) Cronbach's alpha and composite reliability

Wetzels et al. (2009) stated about the Partial Least Squares (PLS) method, it is necessary to examine the coefficients of Cronbach's alpha and the composite reliability. The Cronbach's alpha and composite reliability coefficients of the structures indicate the ratio of variance between each structure and its indices to the total variance of the structure. A reliability coefficient above 0.7 is acceptable. The results of the coefficient verification for reliability are presented in Table 2. According to the results, all factors have a composite reliability coefficient. The Cronbach's reliability coefficient was also acceptable, so it can be concluded that the research questionnaire has good reliability. As a result, the suitability of the measurement model was also confirmed.

**Table 2. Cronbach's alpha and composite reliability coefficients**

The variables	Cronbach's Alpha	rho_A	Composite Reliability
<b>Organizational Performance</b>	0.816	0.830	0.856
<b>Competitive Advantage</b>	0.753	0.774	0.811
<b>SCM measures</b>	0.893	0.898	0.903
<b>Supply chain performance</b>	0.739	0.776	0.784

### 4.3. Convergent validity

An Average Variance Extracted (AVE) index was used to evaluate convergent validity. This number shows the degree of correlation of a structure with its indices. Fornell and Larcker (1981) introduced this criterion for convergent validity and stated that it has a critical value 0.5. This means that a value above 0.5 represents acceptable convergent validity. Results showed that the AVE value for all structures was higher than 0.5, confirming the convergent validity and measurement of the model.

**Table 3. Convergent validity of AVE**

The variables	Average Variance Extracted (AVE)
<b>Organizational Performance</b>	0.542
<b>Competitive Advantage</b>	0.678
<b>SCM measures</b>	0.585
<b>Supply chain performance</b>	0.791

### 4.4. Fitting of structural model

According to the data analysis algorithm in the PLS method, after fitting the measurement models, it is necessary to fit the structural model. In this section, the significance coefficients, t, R-squared criterion, and Q<sup>2</sup> criterion were used to fit the structural model.

#### R-squared criterion

R<sup>2</sup> is a criterion for connecting the measurement part to the structural part of the model. R<sup>2</sup> indicates the effect that an exogenous variable on an endogenous variable. According to Boddy and Smith (2009), the values of 0.19, 0.33 and 0.67 are presented as weak, moderate, and strong, respectively. The results of this criterion review (as shown in Figure 2) are presented in Table 4.

**Table 4. Squared criterion**

The variables	R Square	R Square Adjusted
Supply chain performance measures	0.803	0.792
SCM measures	0.999	0.999
Organizational Performance	0.937	0.935
Competitive Advantage	0.404	0.395

The results of Table 4 show the strong influence of the variables, which confirms the fit of structural model according to R-Squared criterion.

#### F-squared criterion

Strijbos (2006) discussed this criterion determines the impact of the relationship between model structures. Cohen and Prusak (1996) formulated the calculation to measure impact size, which was presented based on Cohen values of 0.02, 0.15, and 0.35, which indicate a small, medium, and strong effect, respectively, of a structure on another structure. The values obtained for impact size showed a very strong effect. Only the effect of service quality on organizational performance was moderate, which confirms the fit of the structural model.

#### 4.5. Significance coefficient t

According to Temme et al. (2010) to verify the existence or non-existence of a relationship between variables, all relevant relationships between the variables must be meaningfully acknowledged. If the value of these numbers is greater than 1.96, it indicates the correctness of the relationship between the structures and, therefore, confirms the research hypotheses at a 95% confidence level. It should be noted that the t values only show the correctness of the relationships and that the severity of the relationship between the structures cannot be measured. The results for path significance are shown in Appendix B. As can be seen in Appendix B, the significance level of t for all the paths of the model except employee participation were greater than 2 and for supply chain performance were greater than 2. Also it is for supply performance, and competitive advantage was greater than 1.96. This confirms the significance of most of the relationships between the hidden variables at a 95% confidence level, which indicates the fit of the structural model and confirms the hypotheses.

#### GoF index review

The most important model fit index is the GoF Index of Minimum Squares. Wetzels et al. (2009) introduced three values of 0.01, 0.25, and 0.36 as weak, moderate and strong values for Gof, respectively. This index is calculated using the geometric mean of  $R^2$  and the mean of redundancy indices as shown in Equation (2).

$$\text{Goodness of Fit}=\text{GOF}=\sqrt{\text{average (Communalities)}*R^2} \quad (2)$$

The geometric mean of the  $R^2$  index was 0.55 and the mean of the redundancy indices was 0.91. Therefore, the Gof value for this research was equal to 0.711, indicating the appropriate quality of the model.

## 5. Discussion and conclusions

This study conducted a large-scale empirical effort to explore the relationship between SCM measurements with competitive advantage and supply chain performance in the hotel industry. The aim of this study was to apply the results obtained in the hotel industry of Iran to promote the tourism industry and stimulate scholars to further research in this area. Accordingly, companies can achieve deeper and richer knowledge on supply chains to allow for more effective SCM. The implications of the results of this study are as follows. This study provides scientific knowledge on SCM in several ways. First, this study provides a theoretical framework that examines and identifies multiple SCM structures and dimensions, including SCM practices, supply chain performance, organizational performance, and competitive advantage. In future research, this framework can be extended by adding structures or other dimensions. Structures can include other relevant aspects that may affect supply chains and their performance. Second, this study's results confirmed the impact of SCM performance on a variety of functional dimensions. The results indicated that increasing the implementation and performance of SCM directly leads to improved supply chain performance. In addition, increased SCM performance also leads to increased supply chain performance. Therefore, the results of this research emphasize more experimental support for the implementation of SCM. The research findings also emphasize that the proposed conceptual framework for supply chains in the hotel industry can be applied to other developing countries with similar capabilities and requirements. The proposed model and research findings have the ability to help policymakers design better policies for supply chain measurement and performance.

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## Appendix A.

Sample questionnaire used in this research

**Dear owners, senior managers and employees;**

Hello

Present questionnaire in related to the research by the topic “**Supply Chain Management in Hospitality and its Impact on Competitive Advantage, Hotel and Supply Chain Performance**”. Selecting you to answer the questions in this questionnaire was completely random and the information will be confidential and kept by the researcher. Therefore, your sincere cooperation in answering to the questions will help a lot to the researcher for completing this research.

Thanks for your attention

### Personal information

1. Please specify your gender:

Woman  Man

2. Please specify your education level:

Diploma and post-diploma (associate degree)  Bachelor's degree  Master's degree and above

3. Position:

Employee  Expert  Manager

4. Experiences:

less than 5 years  5-10 years  10-20 years  21 years and above

Supply Chain Management in Hospitality and its Impact on Competitive Advantage, Hotel and Supply Chain Performance						
A	<b>Strategic Supplier Relationships and Criteria</b>	I strongly agree	I agree	Disinterested	I disagree	I strongly disagree
	1-Hotel depends on several high quality suppliers.					
	2-Hotel uses the quality factor in choosing passengers.					
	3-Hotel provides any assistance to improve the quality of suppliers' products.					
	4-Hotel has continual improvement process.					
	5-Selection of the main suppliers is one of the main goals of the hotel.					
	6-New hotel services are included in the main resources.					
	7-Hotel, choose suppliers that can guarantee and deliver better quality					
B	<b>High Management Commitment</b>	I strongly agree	I agree	Disinterested	I disagree	I strongly disagree
	1-The hotel's senior management is constantly developing an integrated quality plan to achieve business goals.					
	2-The hotel's senior management encourages employees to work on quality management and improvement activities.					
	3-The hotel's senior manager provides all the resources needed to train staff.					
C	<b>Strategic Supplier Trust</b>	I strongly agree	I agree	Disinterested	I disagree	I strongly disagree
	1-Suppliers treat us honestly.					
	2-Our suppliers have high reliability					
	3-Suppliers help us keep our hotel information confidential					
	4-Our trade with suppliers need to be monitored or be under scrutiny.					
D	<b>Strategic Supplier Commitment</b>	I strongly agree	I agree	Disinterested	I disagree	I strongly disagree
	1-Some of our suppliers want to help us without any exception.					
	2-We hope that in the future there will be continuous cooperation between our business and our suppliers					



	3-Our suppliers are strongly committed to the signed agreements.					
E	<b>Total Quality Management: Continuous Improvement</b>	I strongly agree	I agree	Disinterested	I disagree	I strongly disagree
	1-Our hotel has an accurate and efficient database that creates information about internal operations, costs and finances.					
	2-Often Equipment maintenance is done according to the maintenance schedule.					
	3-Our hotel conducts various inspections effectively and continuously.					
	4-Our hotel uses quality control and statistical process control to control and improve the process.					
F	<b>Employee Participation</b>	I strongly agree	I agree	Disinterested	I disagree	I strongly disagree
	1-Our hotel has quality associations and responsible teams.					
	2-Hotel staff has the opportunity to actively participate in quality-related activities.					
	3-Employees have a great responsibility and are very committed to the success of the hotel.					
G	<b>Reward and Recognition</b>	I strongly agree	I agree	Disinterested	I disagree	I strongly disagree
	1-Hotel, has the promotion of PAYMENT and motivation to encourage participation Employees in improving quality.					
	2. Good offers from employees have financial rewards and appreciated from hotel.					
	3. Senior managers encourage hotel staff to adopt new skills and training programs					
	4. Hotel provides all the necessary resources for staff training programs.					
	5. Most hotel staff is trained on how to use the various equipment and tools.					
H	<b>Customer focus</b>	I strongly agree	I agree	Disinterested	I disagree	I strongly disagree
	1. The hotel collects passenger complaint information					
	2. The hotel has a program to maintain good communication with passengers.					
	3. The hotel evaluates passenger complaints based on quality criteria					
	4. Every year, the hotel measures passenger satisfaction in a survey and collects offers to improve services.					
I	<b>Services Quality</b>	I strongly agree	I agree	Disinterested	I disagree	I strongly disagree
	1. Hotel main services quality is increasing.					

	2. Hotel continual improvement process is increasing.					
	3. Improving the performance of the main services at the hotel is increasing					
	4. Incomplete hotel services is declining.					
<b>J</b>	<b>Supplier Flexibility</b>	I strongly agree	I agree	Disinterested	I disagree	I strongly disagree
	1. The hotel supply chain is able to competition with non-standard (non-legal) orders.					
	2. Hotel Supply Chain is able to provide special services for passengers.					
	3. The hotel supply chain is able to provide services with different features and based on the kind of passengers.					
	4. The hotel supply chain is able to adjust the capacity in providing services according to the passenger demand changes.					
	5. Hotel Supply Chain is able to provide a wide variety of services to meet the implicit needs of passengers.					
	6. Hotel Supply Chain is able to provide new services for passengers.					
	7. Supply chain is able to meet the needs and want hotel passengers of the target Society.					
<b>K</b>	<b>Supply Chain Management Acting: Strategic Partnership with Supplier</b>	I strongly agree	I agree	Disinterested	I disagree	I strongly disagree
	1-Hotel planning and goal setting activities include hotel main suppliers.					
	2-Hotel's main suppliers are actively involved in managing the provision of new services.					
	3-Hotel has continuous improvement programs that also include major suppliers.					
	4. Hotel helps main suppliers to improve the quality of products.					
	5- Hotel solves the problems with the help and participation of suppliers.					
	6- Hotel considers quality as an indicator in choosing a supplier.					
<b>L</b>	<b>Supplier performance</b>	I strongly agree	I agree	Disinterested	I disagree	I strongly disagree
	1. Our suppliers provide raw materials / equipment / products on time and without any delay.					
	2. Our suppliers offer acceptable delivery times.					
	3. Our suppliers are very reliable.					
	4. Our suppliers offer products with high quality materials / components					
	5. Our suppliers provide our company's materials / equipment / products at the lowest cost.					
<b>M</b>	<b>Competitive advantage</b>	I strongly agree	I agree	Disinterested	I disagree	I strongly disagree
	1. Our hotel offers a competitive price					
	2. The hotel is able to offer a lower price than its competitors.					

	3. The hotel has the ability to compete based on quality					
	4. The hotel offers services with high satisfaction.					
	5. The hotel offers stable (up-to-date) services.					
	6. The hotel offers high quality services to passengers.					
	7. The hotel offers all kinds of needs for travelers.					
	8. Passenger services are provided at the desired time.					
	9. The hotel offers reliable services.					
	10. The hotel provides favorite services for passengers.					
	11. The hotel modifies provision of better services to meet the urgent needs of passengers.					
	12. The hotel responds well to the customer's future and new needs.					
	13. hotels provide optimal services to passengers quickly					
	14. Hotel is a leader in providing new services to passengers.					
	15. The service time in our hotel is lower than the average competitors.					
	16. Providing services in the hotel is fast.					
N	<b>Organizational Performance</b>	I strongly agree	I agree	Disinterested	I disagree	I strongly disagree
	1. Hotels grows faster than key competitors.					
	2. The hotel is more profitable than key competitors.					
	3. The hotel gains more customer satisfaction than key competitors.					
	4. The hotel offers more quality services compared to key competitors.					
	5. The hotel uses resources more effectively than key competitors.					
	6. The hotel offers faster services compared to key competitors.					
	7. The hotel has a higher level of satisfaction than key competitors.					
	8. The hotel has more quality employees than key competitors.					
	9. Hotel has more innovative and creative staff compared to key competitors					
	10. Compared to key competitors, the hotel has higher quality internal (service) processes					

## Appendix B

Results of t significance coefficient and hypothesis test

The relationships	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
Strategic Supplier Relationships and Criteria 2 -> Supply Chain Performance Measures	0.235	0.256	0.314	2.102	0.019
Strategic Supplier Confidence -> Supply Chain Management Measures	0.186	0.187	0.015	12.850	0.000
Strategic Supplier Trust 2 -> Supply Chain Performance Measures	0.240	0.249	1.017	2.080	0.037
Supply chain performance measures -> Organizational performance	0.030	0.036	0.034	2.885	0.037
Supply chain management measures -> Supply chain performance measures	-0.697	-0.742	1.855	3.044	0.065
Supply chain management measures -> Organizational performance	0.917	0.912	0.043	21.472	0.000
Supply chain management measures -> Competitive Advantage	0.573	0.568	0.063	9.080	0.000
Supplier Flexibility -> Supply Chain Performance Measures	0.130	0.126	0.041	3.196	0.001
Strategic Supplier Commitment -> Supply Chain Management Measures	0.200	0.201	0.015	13.490	0.000
Strategic Supplier Commitment 2 -> Supply Chain Performance Measures	0.293	0.296	1.505	3.084	0.033
Top management commitment -> Supply chain management measures	0.214	0.214	0.011	18.992	0.000
Top Management Commitment 2 -> Supply Chain Performance Measures	0.229	0.238	1.543	4.065	0.049
Customer focus -> Organizational performance	0.007	0.008	0.024	2.288	0.074

<b>The relationships</b>	<b>Original Sample (O)</b>	<b>Sample Mean (M)</b>	<b>Standard Deviation (STDEV)</b>	<b>T Statistics ( O/STDEV )</b>	<b>P Values</b>
Strategic Supplier Relations and Criteria -> Supply Chain Management Measures	0.155	0.155	0.009	18.029	0.000
Supplier Performance -> Supply Chain Performance Measures	0.112	0.108	0.066	2.709	0.088
Supplier Performance 2 -> Competitive Advantage	0.085	0.090	0.060	1.432	0.053
Organizational Performance 2 -> Organizational Performance	-0.011	-0.012	0.020	3.518	0.005
Comprehensive Quality Management -> Supply Chain Management Measures	0.197	0.197	0.013	15.459	0.000
Comprehensive Quality Management 2 -> Supply Chain Performance Measures	0.323	0.335	1.116	3.104	0.018
Competitive Advantage -> Organizational Performance	-0.024	-0.027	0.024	1.987	0.024
Competitive Advantage 2 -> Competitive Advantage	0.054	0.052	0.058	5.944	0.046
Strategic Partnership with the Supplier -> Supply Chain Management Measures	0.176	0.176	0.014	12.352	0.000
Strategic Partnership with Supplier 2 -> Supply Chain Performance Measures	0.272	0.262	0.229	2.084	0.033
Employee Participation -> Supply Chain Management Measures	0.235	0.236	0.016	14.638	0.000
Employee Participation 2 -> Supply Chain Performance Measures	0.376	0.373	1.091	0.092	0.027
Bonus and Recognition -> Supply chain management measures	0.225	0.225	0.013	17.220	0.000
Bonus and Recognition 2 -> Supply chain performance measures	0.315	0.316	0.816	4.082	0.034
Service Quality -> Organizational Performance	0.066	0.067	0.029	2.270	0.024

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