THE IMPACT OF SUPPLY CHAIN ON THE ORGANIZATIONAL PERFORMANCE OF TEA PRODUCERS AND DISTRIBUTORS

Saeed Pakfard[1]*

[1]Researcher, Business Management Strategic Orientation, Faculty of Management, Payame Noor University, Central Alborz Province, Iran, Email: Saeedpakfard@gmail.com, ORCID: 0000-0002-7186-2295,

Mahnaz Pirgazi[2]

[2]Master graduate Business Management, E-commerce trend,Islamic Azad University, North Tehran Branch, Mahnaz.pirgazi@gmail.com , ORCID: 0000-0001-6034-775X

Morad Kurdi[3]

[3]Public Administration, Human Resources trend, Faculty of Management, Payame Noor University, Central Alborz Province, Email: Kordi.145@pnu.ac.ir, ORCID: 0000-0003-0455-0387

*Corresponding author: Saeed Pakfard, Email: Saeedpakfard@gmail.com

Abstract

This study aimed to investigate the effect of the supply chain on the organizational performance of tea production and distribution companies. The research method was descriptive-correlational. The statistical population of the present study included employees manufacturing companies operating in the tea industry in Karaj included. The random sampling methods with the Morgan table were used to select 278 people from Ghazal Pakhsh Pishro Company (representative of Behesht Qandil Company). Data were analyzed using AMOS-23 software in social sciences in two descriptive and inferential levels. According to the expressed variable or independent variables, at the descriptive level, the indices of mean, standard deviation (standard), frequency and percent frequency, and at the inferential level, correlation, hierarchical mediation regression were used to obtain the relationship between the two variables and to identify the behavior of interdependent data. Based on the results, the supply chain significantly affects the organizational performance of tea production and distribution companies.

Keywords: supply chain, organizational performance, tea production, distribution companies

1. INTRODUCTION

Nowadays, competition between companies has been replaced by competition between supply chains. On the other hand, a network of company's duty is converting raw materials into the final product and sending them to the customer. This network of entities is a supply chain responsible for various supplies, production, storage, and distribution processes. Supply chains have an undeniable role in today's global economy. Regulators widely recognize conditions for sustainable development. Companies and consumers can follow the definition of sustainable development that meets society's current needs without jeopardizing the future generation's ability to meet their needs (Fallah Jimmy and Kazemi Meridani 2017).

The Global Supply Chain Association defines supply chain management as follows: Supply chain management integrates important business processes from the final user to the main supplier that provides products, services, and information because it makes the organization's customers and stakeholders worthy. In recent years, the Supply Chain Operations Reference Model (SCOR) has been accepted by many organizations as a strong and comprehensive tool for describing, analyzing, and improving supply chains. The main supply chain processes such as sourcing, manufacturing,

and distribution are the basis of this model (Denham et al. 2015).

The supply chain includes four processes: program, source, build, and delivery because it is a hybrid system. In general, there are activities performed in the supply chain field such as supply and demand planning, raw material supply, production planning, inventory control, warehousing, product distribution, and information management (Yarian Tel Zali and Shams al-Dini 2015).

Miklós et al. (2019) believe that one of the main factors in improving organizational performance is supply chain integration. Supply chain management processes are effective on competitive advantage and organizational performance. Organizational performance is a complex phenomenon interpreted as activities performed to achieve organizational goals. Therefore, organizational performance determines how an organization has achieved its goals (Sanford 2009). The ability of actors and processes of the organization to meet organizational goals is determined by the correct performance of the organization. Organizational performance originates from the philosophy of the organization. In addition, it is responsible for the satisfaction of stakeholders and customers of the organization. The concept of organizational performance is extremely used to integrate the organization's activities to achieve strategic and long-term achievements while controlling daily activities. This view is also responsible for continuous improvement and comprehensive development (Mehrmanesh and Ghasemi 2018).

One of the outstanding industries in the country has been Iran's food industry in recent years which has a special place in the development and growth of the country. Compared to other industries in the country, this industry has a better competitive position (Hosseini and Sheikhi 2012). The tea industry is one of these important and widely consumed food industries. The hundred-year historical trend of tea cultivation and industry has encountered many ups and downs in our country. It has been exposed to serious crises for various social, economic, and political reasons. However, the Iranian tea industry has never been as chaotic and critical as the current situation during its hundred years of life. Meanwhile, part of the country's resources in agriculture, industry,

finance, and human beings have been dedicated to this industry (Amin Naseri et al. 2007). Regarding the mentioned information and subject importance, the present study is to answer this question: Does the supply chain have a significant impact on the organizational performance of tea production and distribution companies or not?

2. Theoretical foundations of research

2.1 Supply chain

Supply chain management is defined as planning, performing, and controlling supply chain operations in the most optimal way possible. Supply chain management includes all the movement, storage of raw materials, on-the-job inventory, and completed product from the primary starting point to the final point of consumption.

Supply chain management flows from suppliers to customers because it is an integrated approach for planning and controlling materials and information. As there are different tasks in an organization, supply chain management is a combination of methods used for effective integration and efficiency of suppliers, manufacturers, warehouses, and sellers so that the right number of goods in the right place at the right time are produced and distributed to minimize system costs and meet service needs. The supply chain's main goal is to maximize the created total value. This value is the difference between the final product's values that reach the customer and the cost spent in the supply chain to prepare and deliver the product (Coopra et al. 2007; quoted by Yarian Telzali and Shams al-Dini (2015)).

According to Chan et al., the supply chain is a network of suppliers, downstream customers, and a host of service providers who cooperate to value end customers.

The supply chain seems a complex network consisting of four basic categories: suppliers, manufacturers, distributors, and end-users (Nasiri Tarzam 2018).

2.2 Principles of supply chain management system

Principle 1. Segmentation according to the required services and designing the supply chain selection to provide services to customers in different sectors to have a suitable and desired profitability.

Principle 2. Adjusting the logistics network based on the needs of customers and the principle of profitability.

Principle 3. Paying attention to market information and aligning the supply chain. On the other hand, using continuous forecasting and optimal resource allocation to plan demand

Principle 4. Designing and manufacturing products concerning customer feedback and increasing the acceptance of changes in the supply chain.

Principle 5. Strategic resource management to decrease the cost of materials and related services.

Principle 6. Designing a supply chain strategy to support different levels of decision and provide a clear view of the flow of products, services, and information.

Principle 7. Selection of comprehensive performance metrics to measure the success rate in achieving efficient end-user demands. The strategy is the most important part of a supply chain management system which is considered the driving force (Yarian Tel Zali and Shams al-Dini 2015).

2.3 Reasons for using a stable supply chain

There has always been anxiety about global warming, depletion of natural resources, non-renewable resources, and increased industrial activity in developed and emerging economic societies among governmental and non-profit organizations, people, especially environmentalists. This issue has led many shareholders to focus on sustainable business development. In recent years, corporate, social, and environmental responsibility has been a part of the production and service organizations' goals and has been positively the rule of organizational activities.

Other factors make organizations utilize sustainable supply chain management, especially in the upstream parts of the supply chain. There are two factors of internal or external. External factors include legal regulations, the nature of business, competitors, and shareholder actions (such as NGOs). Internal factors are senior management perspectives, sustainable supplier incentives, and customer needs.

2.4 Organizational Performance

Organizational performance is the sum of behaviors that people represent at the job. It is the responsibility of the management organization to determine work-related behaviors and their value in determining employee performance (Hosseini 2019).

Organizational performance evaluation objectives:

Performance appraisal quantifies the efficiency and effectiveness of operations. The reasons for Performance appraisal are divided into three main groups:

2.4.1 Strategic goals

This goal includes strategic management and strategy revision.

2.4.2 Communication goals

This goal includes controlling the current situation, showing the future direction, providing feedback, and modeling other organizations.

2.4.3 Motivational goals

This goal includes rewards and encouragement, improvement, and learning. Researchers have been challenged with performance appraisals for many years. In the past, organizations used only financial indicators to evaluate performance. A revolution has been created in performance management due to shortcomings of the traditional performance appraisal system. Researchers and users are interested in creating systems that address current goals and environments. Therefore, numerous processes were created for the use of organizations. Many frameworks were suggested to support these processes. These processes helped the organization to evaluate performance properly. In the early 1980s, Until Kaplan and Norton revealed many inefficiencies in this information to evaluate the performance of organizations after reviewing and evaluating management accounting systems. Due to the increasing complexity of organizations, the dynamics of the environment, and market competition, the information is inefficient. Each organization needs evaluation to be aware of the quality and desirability of its activities in complex and dynamic environments (Miranzadeh 2017).

3. Research History

Jahanbakhsh and Tohidi (2020) conducted research that examined the competitive design of perishable goods logistics networks based on optimizing demand and increasing customer satisfaction. In addition, they showed that reducing delivery time and increasing its quality reduces the return rate of goods by 20%.

Musa Shams Abad et al. (2020) conducted research that examined the effect of applying knowledge management on supply chain management using a balanced scorecard (Case study: Wheat supply chain in Iran State Trading Company). They also concluded a positive and

significant relationship between creation, application, and transfer of knowledge on financial performance, stakeholders, internal processes, and growth and learning in the wheat supply chain. The dimensions of knowledge management have had the minimum effect on the company's financial performance.

Ebrahimpour Azbari et al. (2017) conducted a study investigating the role of customer pressure and innovation on sustainable supply chain management activities and sustainable competitive advantage. They found that customer pressure factors and company innovation affect sustainable supply chain management activities. It also confirms the impact of sustainable supply chain management activities on creating a sustainable competitive advantage for the organization.

Yarian Telzali and Shams al-Dini (2015) conducted research that examined the integrity of the supply chain. They state that creating satisfaction for customers' needs in the supply process and generating profit for the supply chain itself is the first goal of the supply chain. The supply chain is defined as shaping the processes of physical, information, financial, and knowledge flows to meet end-user needs through supplier-related products and services. In addition, supply chain management includes the design, maintenance, and operation of supply chain processes to meet end-user needs.

Miklós et al. (2019) conducted a study examining the effect of supply chain integration and internal control on financial performance in the Jordan banking sector. They concluded that one of the main factors in improving financial and organizational performance is supply chain integration.

Mathiyazhagana et al. (2015) studied green supply chain management in Indian industries. They used hierarchical analysis to categorize the results and presented a comprehensive solution as a fulcrum for implementing green supply chain management in industries.

4. Research Method

The present research is a descriptive and correlational study. The statistical population of the present study included all employees of manufacturing companies operating in the tea industry in Karaj. The random sampling method with the Morgan table was used to select 278 people among the active tea production companies of Ghazal Pakhsh Pishro Company (representative of Behesht Qandil Company). The inclusion criteria in this study included informed consent to participate, minimum diploma education, and an age range of 25 to 40 years. The theories section collects information from the library, and a questionnaire was used to collect the research data in the field section.

4.1 Tool Introduction

Supply Chain Questionnaire: Ebrahimi (2007) (Quoted from Arghavani Gozaf et al. (2014)) conducted a supply Chain Questionnaire, which is a 20-item questionnaire. This questionnaire has four sub-components as 1-Organizational infrastructure: 1 to 4, 2- Information technology: 5 to 11, 3- Decision support system 12 to 15, 4- Inter-organizational relations: 16 to 20. In this questionnaire, the lowest and highest scores are 20 and 140. Scores between 20 and 53 indicate that supply chain readiness is low. The scores of 53 to 80 indicate that supply chain readiness is average. Scores above 80 indicate that supply chain readiness is high. Supervisors' and consultants' opinions were evaluated well and confirmed the validity of the questionnaire. The Cronbach's alpha test was used to calculate its reliability. This questionnaire alpha was above 70%, indicating the questionnaire's acceptable reliability.

Organizational Performance Questionnaire: Hersy and Goldsmith (2003) (Quoted from Asadi et al. (2009)) Organizational Performance Questionnaire has 42 questions . In addition, this questionnaire evaluated seven components of ability (items 1-2-3-20), clarity (items 4-5-6-7-8-38- 39) help (items 9-11-12-13-15), incentives (items 16-18-19-21-22-25), evaluation (items 23-30-31-32-33-34- 35-36-37), measures validity (items 17-24-26-27-28-29) and environment (items 10-14-40-41-42).

This questionnaire is based on a 5-point Likert scale (very low: 1 to very high: 5). The lowest and the highest scores in this questionnaire are 42 and 210. Scores between 42 and 84 indicate poor organizational performance. Scores between 84 and 126 also indicate moderate organizational performance, and scores above 210 indicate very good organizational performance. This questionnaire has good validity. Asadi et al. (2009) conducted a study in which the reliability of this tool with Cronbach's alpha was 0.86. The present study used the software package in social sciences version 23 and Amos software in two descriptive and inferential levels to analyze the data using regression.

5. Results
5.1 Descriptive indicators
Table 1. Descriptive measures of the mean and standard deviation of research variables

	Skewness	elongation	average	standard deviation
Organizational infrastructure	-0.616	0.445	20.75	3.033
Information technology	-0.517	1.126	31.55	5.04
Decision support system	-0.244	0.350	19.27	4.81
Inter-organizational relations	-0.517	0.455	25.09	4.522
Organizational Performance	-0.666	1.413	124.35	11.495

In Table 1, a statistical description of the scores is provided related to the variables of supply chain management, customer satisfaction, and organizational performance such as skewness, elongation, and indicators of average and standard deviation of scores. According to the obtained information, the average of organizational infrastructure is equal to 31.27; information technology is 40.73; the decision support system is 41.26; inter-organizational relations is 44.33, and the average of organizational performance is 75.50. The data have a normal distribution at the level of 0.05 because the values of skewness and elongation are between +2 and -2.

5.2 Multiple alignments
Tolerance and variance inflation factors were used to examine the multiple alignments between variables. A tolerance of less than 0.1 or a VIF greater than 10 indicates multiple alignments.

Table 2. Multiple alignment test results

Variables	Tolerance Statistics	VIF
Organizational infrastructure	0.621	1.611
Information technology	0.494	2.022
Decision support system	0.620	1.614
Inter-organizational relations	0.475	2.105

Based on the results in Table 2, no deviation was observed from the assumption of linear multiplicity in the tolerance and VIF statistics calculated for the research variables.

Table 3. Matrix of correlation coefficients between research variables

Variables	1	2	3	4	65
1. Organizational infrastructure	1				
2. Information technology	0.537**	1			
3. Decision support system	0.437**	0.495**	1		
4. Inter-organizational relations	0.505**	0.611**	0.486**	1	
6. Organizational performance	0.648	0.719**	0.607**	0.674**	1

*
*

_____
| * Significance at the level of 0.05   ** Significance at the level of 0.01

In Table 3, the correlation results between supply chain management and customer satisfaction with organizational performance is shown. According to the results, all calculated correlation coefficients are positive and significant at the alpha level of 0.01 (p <0.01). There is a direct relationship between supply chain and customer satisfaction with organizational performance based on the positive coefficients.

The path analysis method was used to study the relationship between supply chain management relationship and organizational performance of manufacturing and distribution companies. In the following, the studied model is presented with the indicators related to the model fit.

Indicators related to model fit are presented in Table 4.

SRMR	<0.08	0.051
CFI	>0.9	0.917
NFI	>0.9	0.917

The chi-square-to-freedom ratio index (df / 2χ) confirms the model's fit.

The number of df/2χ is between 1 and 5, which means the model fits with the data. The second root of the average of the remaining squares (SRMR) is 0.051, which is less than the criterion (0.08) and, therefore, confirms the model's fit. IFI, CFI, GFI, and NFI indices are finally larger than the desired criterion (0.9). The model's fit confirms the mediating role of customer satisfaction in the relationship between supply chain management and organizational performance due to the sum of the calculated fit indices.

The Bootstrap method was used to investigate the statistical significance of the mediating role of customer satisfaction in the relationship between supply chain management and organizational performance.

Table 4. Model fit indicators

Fit index	Acceptable range	Observed value	Fit index evaluation
IFI	>0.9	0.918	Appropriate
GFI	>0.9	0.924	Appropriate

Table 5. Path coefficient of the indirect effect of supply chain management on organizational performance through customer satisfaction variable

Indirect path			Standard coefficient	The significance level
Organizational infrastructure	Customer satisfaction	Organizational Performance	0.025	0.034
Information technology	Customer satisfaction	Organizational Performance	0.042	0.021
Decision support system	Customer satisfaction	Organizational Performance	0.043	0.021
Inter-organizational relations	Customer satisfaction	Organizational Performance	0.059	0.025

According to results, the coefficients related to the indirect effect of the supply chain on organizational performance at the alpha level of 0.05 are significant through the mediating variable of customer satisfaction (p <0.05). Therefore, the research hypothesis is confirmed, which is based on the impact of supply chain management on the organizational performance of tea production and distribution companies with the mediating role of customer satisfaction

5.3 Hypothesis investigation

1- Supply chain management significantly affects the organizational performance of tea production and distribution companies.

Table 6. Path coefficient of the relationship between supply chain management and organizational performance

Path			Standard coefficient	Statistic - t	The significance level
Organizational infrastructure	←	Organizational Performance	0.245	0.634	0.001
Information technology	←	Organizational Performance	0.322	0.844	0.001
Decision support system	←	Organizational Performance	0.196	0.794	0.001
Inter-organizational relations	←	Organizational Performance	0.189	0.840	0.001

Table 6 represents the results of the path coefficients between supply chain management and organizational performance. According to the results, path coefficients are positive and significant at the alpha level of 0.01 (p <0.01), related to the relationship between supply chain management and organizational performance. In addition, the research hypothesis is confirmed based on the effect of supply chain management on the organizational performance of tea production and distribution companies.

6. Discussion and Conclusion

According to the results, the supply chain significantly affects the organizational performance of tea production and distribution companies.

Based on the results of data analysis on the present hypothesis, the coefficients related to the indirect effect of the supply chain on organizational performance are significant at the alpha level of 0.05 through the mediating variable of customer satisfaction (p <0.05). Therefore, the research hypothesis is confirmed based on the effect of supply chain management on the organizational performance of tea production and distribution companies with the mediating role of customer satisfaction.

This study results about hypothesis are directly and indirectly consistent with the results of Jahanbakhsh and Tawhidi (2020), Musa Shamsabad et al. (2020), Ebrahimpour Azbari et al. (2017), and Yarian Telzali and Shams al-Dini (2015).

To explain the hypothesis's results, we concluded that the manufacturer and its suppliers, buyers, and all members of the expanded organization work together in a managed supply chain to market a common product or service for which the customer pays for it.

These partner companies cooperate as an expanded organization, and to achieve a unique competitive advantage; they make optimal use of shared resources. They have a high quality, easy accessibility, and low-cost product, consequently.

We need to consider the macro business orientation for competition to achieve competitiveness for managing a supply chain strategy. On the other hand, the supply chain strategy should cooperate with the business strategy for competitiveness. Therefore, business strategy results from business goals, management tools and processes, and senior management focus. Coordination and integration of total vectors (business strategy vector and supply chain strategy) obtained from the three vectors of supply chain objectives, supply chain processes, and management focus on supply chain activities are required to achieve supply chain competitiveness. The partial coordination of the three aspects of supply chain and business strategy is the best approach to achieving competitiveness. Therefore, to achieve competitiveness, inconsistency can cause inefficiency and lack of effectiveness of supply chain management even in one of the mentioned aspects.

Conflict of interest: The authors have no competing interests to declare that are relevant to the content of this article

Data availability statements: The data that support the findings of this study are available from the corresponding author upon request.

REFERENCE

Amin Naseri M, Moradi M, Malihi A (2007) Macro architecture of Iranian tea supply chain. Q Rev Econ Finance 43:119-143

Arghavani Gozaf P, Momeni M, Farazmand H (2014) Investigating the Impact of Supply Chain Management Methods on Organizational Performance: A Case Study of Production Companies with Supply Chain in Kermanshah Province. In: Third Annual National Conference on Modern Management Sciences, Gorgan. https://civilica.com/doc/311076

Asadi H, Ghanbarpournarsrati A, Ghorbani M, Dosti M (2009) Relationship between learning and organizational performance in experts of the Physical Education Organization of the Islamic Republic of Iran. Sports Management (Movement) (1):237-247. https://www.sid.ir/fa/journal/ViewPaper.aspx?id=121252

Denham FC, Janet R, Howieson VAS (2015) Wahidul K. Biswas, Environmental supply chain management in the seafood industry: past, present and future approaches. J Clean Prod 90:82-90. https://doi.org/10.1016/j.jclepro.2014.11.079

Ebrahimpour Azbari M, Moradi M, Momeneh M (2017) Investigating the role of customer pressure and innovation on sustainable supply chain management activities and sustainable competitive advantage. J Ind Manag Stud 15(47):121-150

Fallah Jimmy H, Kazemi Meridani F (2017) Evaluate the efficiency of suppliers in the sustainable supply chain using the DEA approach. In: Second National Conference on Industrial Management

Hosseini J (2019) Study of the effect of organizational learning on organizational performance concerning employee satisfaction and organizational citizenship behavior. Master Thesis, Allameh Amini University

Hosseini M, Sheikhi N (2012) Explaining supply chain management operations to improve company performance: A study of the Iranian food industry. Strateg Manag Stud 10:31-57

Jahanbakhsh N, Tawhidi H (2020) Investigating the competitive design of perishable goods logistics chain network optimizing demand and increasing customer satisfaction. Sci J Supply Chain Manag 22(69):20-36

Mathiyazhagana K, Govindanb K, Noorul HA (2015) Pressure analysis for green supply chain management implementation in Indian industries. Int J Prod Res 52(1):188-202. https://doi.org/10.1080/00207543.2013.831190

Mehrmanesh H, Ghasemi A (2018) Investigating the structural relationships between TQM, supply chain management, and organizational performance. Business Management Quarterly 38:137-168

Miklós P, Haddad H, Nagy J, Popp J, Oláh J (2019) The Impact of Supply Chain Integration and Internal Control on Financial Performance in the Jordanian Banking Sector. Sustainability 11(5):1248. https://doi.org/10.3390/su11051248

Miranzadeh S (2017) Investigating the effect of organizational agility on organizational performance in Birjand Education Organization. Master Thesis, Tehran Campus Center

Musa Shams Abad J, Bahramzadeh H, Samanian M (2020) Investigating the effect of applying knowledge management on supply chain management using a balanced scorecard (Case study: Wheat supply chain in Iran State Trading Company). Iranian Journal of Supply Chain Management 22(69):4-19

Nasiri Tarzam N (2018) Evaluate supply chain performance using data coverage analysis models. Master Thesis, University of Azerbaijan Ministry of Science

Sanford R (2009) The impact of activity-based costingon organizational performance. Phd thesis, Nova Southeastern University

Yarian Tel Zali Z, Shams al-Dini A (2015) Supply chain integration. In: Fourth International Conference on New Research in Management, Economics, and Accounting