ÖRGÜTSEL YENİLİKÇİLİK İLE İŞ MÜKEMMELLİĞİ ARASINDAKİ İLİŞKİNİN İNCELENMESİ: ÖZEL HASTANELER ÜZERİNDE BİR ARAŞTIRMA[*]

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ÖZ
Hastanelerin faaliyet sonuçlarının değerlendirilmesi ve hedeflenen çıktılara ulaşılıp ulaşılmadığının belirlenmesi hastane yöneticilerinin önemle üzerinde durduğu konular arasında yer almaktadır. Sıfır hatanın önemine vurgu yapılan sağlık sektöründe yer alan hastanelerin faaliyetlerini iş mükemmelliğini göz önünde bulundurarak gerçekleştirmeleri önemlidir. İş mükemmelliği yarının dünyasında neler olacağını bugünden görebilmek ve gerekli önlemleri alabilmekle mümkün olmaktadır. Sağlık sektöründeki yenilikler ve gelişmeler insan yaşamını ve yaşam kalitesini doğrudan etkilemektedir. Bu nedenle hastaneler için yeniliği benimsemiş ve kurumsallaştırmış örgüt olmak oldukça önem arz etmektedir. Buradan hareketle tasarlanan araştırmanın amacı hastanelerde örgütsel yenilikçilik ile iş mükemmelliği arasındaki ilişkiyi ortaya koymaktır. Araştırma kesitsel tipte ve tanımlayıcı bir çalışmadır. Araştırma verileri özel hastanede görev yapan 450 sağlık çalışanına yüz yüze anket yöntemi kullanılarak toplanmıştır. Araştırmada uygulanan pearson korelasyon analizine göre örgütsel yenilikçilik ile iş mükemmelliği arasında orta düzeyde, pozitif yönde ve anlamlı ilişki olduğu tespit edilmiştir ($r=0.674$; $p<0.05$). Ayrıca örgütsel yenilikçiliğin tüm alt boyutlarının (ürün yenilikçiliği, süreç yenilikçiliği, davranışsal yenilikçilik, pazar yenilikçiliği ve stratejik yenilikçilik) iç ve dış müşteri memnuniyeti ile ilişkili olduğu saptanmıştır ($p<0.05$). Hastanelerin iş süreçlerinden stratejilerine ve hizmet sunumuna kadar pek çok alanda yaptıkları yenilikler, hasta beklentilerine cevap vermelerini sağlamaktadır. Bu sayede hastaneler hasta memnuniyetini artırarak iş mükemmelliği yolunda önemli mesafe kat edebilecektir.
Anahtar Kelimeler: Örgütsel Yenilikçilik, İş Mükemmelliği, Hastaneler, Sağlık Sektörü, Toplam Kalite Yönetimi

INVESTIGATION OF THE CORRELATION BETWEEN ORGANIZATIONAL INNOVATION AND BUSINESS EXCELLENCE: A RESEARCH ON PRIVATE HOSPITALS[*]

ABSTRACT
Evaluating the activity results of hospitals and determining whether the targeted outputs have been achieved are among the issues that hospital administrators emphasize. It is important that hospitals in the health sector, where the importance of zero error is emphasized, carry out their activities by considering business excellence.

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Business excellence is possible by being able to see what will happen in the world of tomorrow and taking the necessary precautions. Innovations and developments in the health sector directly affect human life and quality of life. For this reason, organizational innovation is important for hospitals. With this background, the aim of the research is to reveal the relationship between organizational innovation and business excellence in hospitals. The research is a cross-sectional and descriptive study. Data were collected by using face-to-face survey method on 450 healthcare workers working in private hospitals. According to the results of the pearson correlation analysis, it was determined that there is a moderate, positive and significant correlation between organizational innovativeness and business excellence ($r=0.674$; $p<0.05$). In addition, all factors of organizational innovation (product, process, behavioral, market and strategic innovation) were found to be related to internal and external customer satisfaction ($p<0.05$). Innovations made by hospitals in many areas such as business processes, strategies and service delivery enable them to keep up with patient expectations. In this way, hospitals can make significant progress towards business excellence by increasing patient satisfaction.

Keywords: Organizational Innovativeness, Business Excellence, Hospitals, Health Sector, Total Quality Management

1. INTRODUCTION

The need to evaluate the operating results in order to improve the performance for every organization is indisputable. This situation is not different in organizations providing health services. Critical and objective measurement of the degree of success of the health services provided in achieving the determined goals is the main reason for the evaluation of the operating results of the hospitals (Saluvan and Kaya, 2010). The validity and reliability of the measurements made for the evaluation of the operating results in healthcare depends on the standardization of the quality indicators. Therefore the concepts of performance and quality are considered synonymous for hospitals. In this sense, the goals set by the World Health Organization are to meet the expectations of patients, to provide the most appropriate health care standards and to satisfy health service providers (Ministry of Health, 2020; Atalic and Cicek, 2021). When the literature is examined, it is seen that business excellence models have been developed in order to achieve these goals. Although the variables in different business excellence models vary, leadership, patient satisfaction, continuous improvement, rational management and people-oriented management are among the basic elements for hospitals (Kanji and Moura, 2003). In order for hospitals to reach all these critical success indicators, they need to have innovative processes that can respond to changes in patient needs and expectations.

Hospitals with high organizational innovation skills can respond to the new needs emerging in the health sector and make the necessary changes. Furthermore, innovative hospitals can adapt to market changes and gain a strong market area that can create customer loyalty. Sustainable innovation created through services, processes, systems and technologies that emerge as a result of innovation activities allows hospitals to position themselves more competitively than their competitors (Ozay and Kaymaz, 2023).

Innovations in the presentation of services in the health sector aim to increase the quality of life, diversity in diagnosis and treatment, cost-effectiveness in the health system and the quality of service provided. Therefore, organizational innovation should be increased in order to better analyze critical patient needs and expectations on the way to business excellence in hospitals, to identify areas where innovation needs to be made, and to use scarce resources rationally to meet patient expectations (Soylu and Ileri, 2010). For this reason, hospitals need organizational innovation in order to improve the quality of the service they provide and to achieve business excellence. With this background, the aim of the research is to examine the relationship between the organizational innovation level of hospitals and business excellence.

2. CONCEPTUAL FRAMEWORK

2.1. The Concept of Organizational Innovativeness

The notion of organizational innovation is subject to multiple interpretations among various researchers. Mol and Birkinshaw (2009), for instance, define organizational innovation as the conception and execution of novel management practices, processes, structures, or techniques in response to the contemporary context, aiming to attain fresh organizational objectives. Wang and Ahmed (2004), on the other hand, characterize organizational innovation as an organization's capacity

to introduce novel products to the market or establish new markets through the amalgamation of its strategic orientation with innovative behaviors and processes. Furthermore, it is widely recognized that the ultimate objective of organizational innovation is the enhancement of business performance.

From the perspective of organizational behavior, organizational innovation includes the organizational structures that prioritize the support of organizational creativity and entrepreneurship in teamwork, and the provision of suitable environment conditions for innovations in the organization, in addition to the individual creativity of the members of the organization (Aykanat and Yildiz, 2016).

2.2. Importance of Organizational Innovativeness for Hospitals

Changes in the health sector today bring new problems and needs with them. It is not always possible to ignore these changes and to respond to emerging problems and needs with current methods. Therefore, organizations that provide health services should take into account environmental conditions while continuing their activities and have an attitude that is open to innovation and change in order to intervene more effectively and quickly in these changing conditions (Birinci, 2018).

Although the hospital has a lot of knowledge and experience, there is always a need for new ideas. These new ideas can be made possible with the creativity of the employees. For this, it is important to create an organizational environment that values the opinions and suggestions of its employees and is open to innovation. Thus, hospitals can develop themselves as a process and structure through continuous learning, and it is possible to increase productivity to higher levels (Zerenler and Karakus, 2017).

The benefits of innovation to hospitals are summarized below (Avci, 2009; Ozturk, 2018):

- Organizational innovation enables to activate organizational processes by closely monitoring the advances in information and communication technologies and to increase productivity in hospitals by creating new applications that reduce costs.
- Organizational innovation provides sustainable competitive advantage by using new ideas, knowledge, discoveries and inventions in the most efficient way. The way to achieve sustainable competitive advantage is through innovation.
- It is possible to increase the quality of service through organizational innovation and to respond quickly to patient demands, thus ensuring patient loyalty.
- Organizational innovation prevents the repetition of mistakes by providing organizational learning and development in hospitals.
- Hospitals that seek innovative solutions for patient satisfaction gain the ability to predict emerging threats and developments, effectively cope with unexpected events, and manage change by adapting to new conditions.
- Organizational innovation provides hospitals with advantages in terms of getting rid of the static structure and enables them to gain a dynamic structure.
- Organizational innovation gives hospitals important abilities to transform into high-performance organizations and to steer the environment.

2.3. Dimensions of Organizational Innovativeness

2.3.1. Product innovativeness

Product innovation is critical to sustainable business success (Henard and Szymanski, 2001). Innovative products offer important opportunities for businesses to grow and expand into areas that have not been entered (Danneels and Kleinschmidt, 2001). It is important to distinguish between product and process innovations. While the distinction between products and processes is clearer in companies that produce goods, this distinction is less clear in companies that produce services because the production, delivery and consumption of services occur simultaneously. If the innovation relates to a new or significantly improved feature of the service, it is a product innovation. Process innovation

occurs when innovation includes the methods, equipment, or capabilities used to deliver the service (OECD, 2015).

2.3.2. Market innovativeness

Market innovation is often closely tied to product innovation and is sometimes conceptualized by certain authors as "product-market innovation." However, when viewed in a broader context, market innovation encompasses processes that pertain to market research, advertising, the exploration of novel market opportunities, and the expansion into previously untapped markets.

Market innovation can manifest in two primary ways. The first approach involves businesses identifying fresh markets or market segments and introducing products infused with the latest technological advancements. The second approach revolves around a firm's adoption of novel marketing strategies to enhance the promotion of its existing product offerings. In both scenarios, the firm is likely to encounter competition from new entrants, be it in a completely new market or within an established market segment (Wang and Ahmed, 2004).

2.3.3. Process innovativeness

Process innovation encompasses the ability of an organization to recombine and reconfigure its resources and capabilities to meet creative production requirements. Process innovation is considered as a sub-element of technological innovation in some studies. However, it is widely accepted that technological innovation is embedded in process innovation (OECD, 2001; Wang and Ahmed, 2004). The process innovation dimension includes all new methods and approaches that can be used to develop areas open to improvement in production and management processes, as well as new technologies that can be used to achieve this goal (Caliskan, 2017).

2.3.4. Behavioural innovativeness

Behavioral innovation exists at different levels in organizations such as individuals, groups and management levels. Measuring the behavioral innovativeness of an organization is not done by examining the innovation activities that occur from time to time or the innovative characteristics of specific small groups in the organization. The behavioral dimension of organizational innovation reflects the organization's "continuous behavior change" towards innovations, that is, its behavioral commitment to innovation (Avlonitis et al., 1994).

2.3.5. Strategic innovativeness

According to Markides (1998), strategic innovation is a reconceptualization of what work is about, which means playing the game in a radically different way in an existing job. Strategic innovation happens when a business identifies gaps in its current position, pursues them, and when these gaps grow into new markets. Strategic innovation is considered as the development of new competitive strategies that create value for the business (Wang and Ahmed, 2004).

2.4. The Concept of Business Excellence

In line with the changes and developments experienced in recent years, organizations try various methods in order to be in a leading position and to maintain it. Various organizations around the world apply different business excellence models for this purpose. These models can be used to measure the level of performance of an organization in different areas using various quality dimensions.

The concepts of business excellence and Total Quality Management (TQM) are taken by many authors as having the same or similar meaning. Since business excellence is built on the same values as TQM, it is a variation of TQM. The common points of organizations that achieve long-term success are their adoption of TQM and business excellence philosophies (Kanji, 2002).

2.5. Importance of Business Excellence for Hospitals

The concept of hospital performance can be expressed as the evaluation of whether predetermined goals have been achieved in clinical or administrative terms. Today, hospitals are obliged to measure their performance due to the expectation of patients to receive better quality health care services, the

increase in the pressure of regulatory institutions, the increase in the cost of health services, the competition with other health institutions and some ethical reasons (Guvener, 2023).

One of the main goals pursued by many countries is to ensure that the health system provides quality service and achieves high efficiency, and that the use of resources is at an optimum level. In addition, a balance is expected between the need to create value through allocated resources and the need to ensure that all citizens have access to quality health services. For this reason, it is very important to establish comprehensively researched criteria to evaluate the activities of hospitals (Kanji ve Moura, 2003; Guvener, 2023). Performing performance evaluation with business excellence, which is a quality tool, allows this process to be handled with a holistic perspective. It also coordinates the activities carried out by the members of the organization by directing the attention of everyone in the organization to a series of basic goals and objectives (Stewart and Lockamy, 2001).

Evaluations made with the business excellence model allow hospitals to review their activities and the results of these activities in a comprehensive, systematic and regular manner. It offers hospitals the opportunity to learn about their strengths and weaknesses as well as where they are on the road to quality. The focus of these assessments is on continuous improvement. The ultimate goal of excellence models is to help them continuously improve their performance for service quality (Kanji, 2002).

2.6. Kanji's Business Excellence Model

The pyramid model, summarized as Kanji's Structural Model of Business Excellence, presents the main causal relationships between prime, principles and concepts (Figure 1).

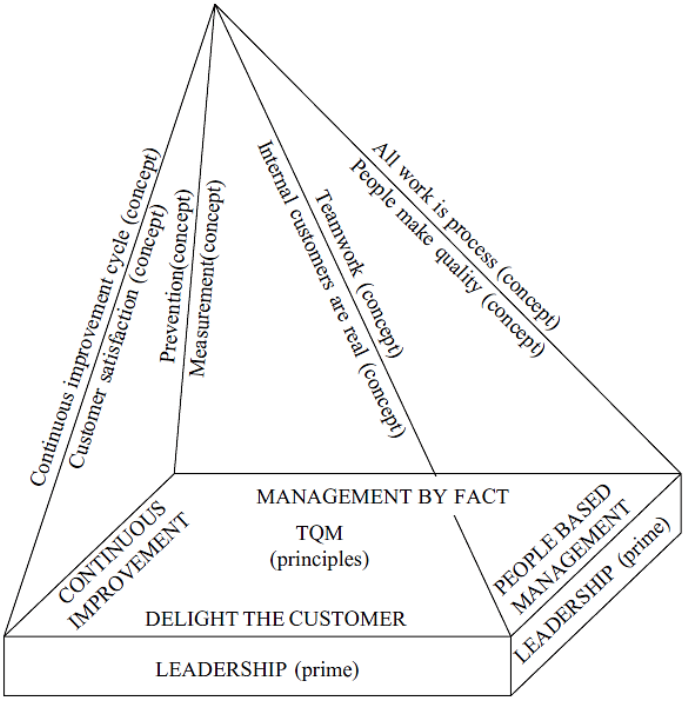

Figure 1: Kanji's pyramid model; Source: Kanji, 2002; 20.

The pyramid consists of five principles and eight basic concepts. The implementation of each principle except leadership can be realized through two basic concepts. The five principles with their basic concepts are as follows (Kanji, 2002):

2.6.1. Leadership

Leadership plays a pivotal role in actualizing the tenets and fundamental tenets of TQM. A comprehensive grasp of TQM is imperative for managers at every organizational level, and their commitments should align with quality objectives, policies, principles, and strategic plans. To enable management to strategize quality enhancements effectively, it is paramount to commence with a thorough understanding of the current organizational landscape. This initial comprehension serves as a foundation for charting the desired destination and devising the appropriate pathways to reach it. A

highly effective approach for ascertaining the present state of affairs is through self-assessment methodologies rooted in the framework of business excellence, as advocated by Kanji (2002).

2.6.2. Delight the customer

The way to ensure customer satisfaction of an organization passes through two basic concepts, external customer satisfaction and internal customer satisfaction. The internal customer is the next activity, department or user in the value chain. Each department or activity in the organization must accept the next department or activity in the value chain as a real customer and its own reason for existence. There are many internal customer relationships that need to be managed within an organization. For example, the marketing department collects information about the needs of external customers and transmits this information to the R&D department, which is its internal customer. The same procedure is used from R&D to production, from production to sales, and finally from sales to external customers. In this process, it is necessary to act with the perspective of "A chain is never stronger than the weakest link" (Kanji, 2002). In this way, the ultimate goal of creating value and external customer satisfaction can be achieved.

2.6.3. Continuous improvementss

Continuous improvement is the strongest principle guiding management. Two basic concepts related to continuous improvement are discussed as 'continuous improvement cycle' and 'prevention'. The cost of an error in operations increases exponentially over time, and the later a mistake is found, the more costly it is to correct it. The effect of each mistake that is eliminated before it occurs on the profit to be obtained further increases the fact that the concept of prevention is vital for organizations (Kanji, 2002).

Continuous improvements change the organization over time, lead to the production of new goods or services, new processes or ways of doing business, and ultimately result in radical changes and innovations (Drucker, 2014:95).

2.6.4. Management by fact

The implementation of management by fact is based on the two basic concepts 'all work is process' and 'measurement'. The TQM philosophy is based on measuring the elements of the process to find the cause of a failure early in the process. 'All work is process' perspective, on the other hand, means that the organization is process-oriented. Process orientation requires focusing not only on the result, but also on how the process works (Kanji, 2002).

2.6.5. People-based management

The perspective of 'teamwork' and 'people make quality', the two basic concepts on which people-oriented management is based, underlines the need for cooperation among employees and emphasizes that excellence cannot be achieved only with standards, technology and processes. For this reason, employees should be encouraged to put quality at the center of their production processes. In order to achieve this, clear goals (what should be achieved), processes (how to do it) and feedback on performance are indispensable elements (Kanji, 2002).

2.7. The Relationship Between Organizational Innovation and Business Excellence

The ability of hospitals to maintain their existence for a long time and to achieve success in competition depends on their ability to increase their performance. For this reason, hospitals need to evaluate opportunities before their competitors and act innovatively to continuously improve their market shares. It is known that innovation can increase hospital performance in terms of profitability, efficiency and growth in the long run (Kalmuk and Acar, 2018). In addition, it is important for hospitals to implement innovation activities by considering business excellence. By monitoring the critical success factors in business excellence models, it is possible to make the necessary innovations to reach the targets, to continuously improve the performance and to direct the efforts of the hospitals to the right areas. (Kanji and Moura, 2003). In this way, the changes in outputs through innovation activities are evaluated and the critical role of these activities is revealed.

When the hospitals that can maintain their competitive advantage are examined, it is seen that they are organizations that can adapt to the internal and external environment as soon as possible with flexible practices, are open to innovations, have the ability to learn continuously, and allocate resources to research and development activities (Grant, 2008). Therefore hospitals must adapt to the changes and developments in the health sector in order to achieve their goals. Employees become more adaptable to change through TQM practices in an hospital, and this determines the success of organizational innovation (Lee et al., 2010).

The necessity of ensuring the integration of continuous developments into the processes of diagnosis, diagnosis, treatment and rehabilitation services offered in hospitals necessitates innovation. Innovations made by hospitals in many areas such as business processes, strategies and service delivery enable them to keep up with patient expectations. In this way, hospitals can make significant progress towards business excellence by increasing patient satisfaction, which is an important performance indicator (Kanji and Moura, 2003).

3. METHOD

The research is a cross-sectional and descriptive study. Research data were collected using face-to-face survey method. The population of the research consists of health workers working in private hospitals operating in Istanbul. The disproportionate stratified sampling method was used because the hospitals were not homogeneous in terms of various features such as size, technological equipment, and number of employees.

In order to determine the stratified sample, the active private hospitals list on the official web page of the Department of Private Hospitals affiliated to the Ministry of Health was used. (https://shgmozelhasdb.saglik.gov.tr/TR-53567/ozel-hastane-listesi-faal.html). The 167 private hospitals in this list were divided into strata as Group A, Group B, and Group C, and the hospitals determined by drawing lots from these strata were included in the study. The descriptive information of the strata is given below:

- *Hospitals in Group A:* These are the hospitals that have more than 100 beds and are rich in technological equipment. These hospitals offer luxury-level hotel management and advanced medical care.
- *Hospitals in Group B:* These are hospitals with 50-100 beds. Compared to the hospitals in Group A, it has lower technological equipment. In addition, all kinds of medical services other than those requiring advanced medical care can be provided.
- *Hospitals in Group C:* These are hospitals with 25-50 beds. It is limited in terms of number of personnel and technological equipment. Hospitals in this class provide basic medical care.

3.1. Sample size

The sample size calculation in the research was made using the sample size formula, which is valid for cases where the universe is not known. The formula applied and the calculated sample size are as follows:

$$\text{Sample Size} = (\text{Z value})^2 \times p \times (1-p) / (\text{error})^2$$

Z value = 1.96

p = 0.50

Error = 5%

$$\text{Sample Size} = (1.96)^2 \times 0.5 \times (1-0.5) / (0.05)^2$$

$$= 3.8416 \times 0.25 / 0.0025$$

$$= 384.16$$

In case of incomplete filling of the questionnaires given to the participants, the number of 422 was obtained by adding 10% wastage (38) to the number of 384. This number (422) was determined as the

minimum sample size to be reached in the study. A total of 450 participants, 150 from each stratum (Groups A, B, C) were included in the study.

3.2. Measurement Tools

3.2.1. Organizational innovation scale

In this study, the Organizational Innovativeness Scale, originally developed by Wang and Ahmed (2004) and subsequently translated into Turkish by Kendir (2016), was utilized. This scale adopts a 5-point Likert-type, where respondents are asked to rate their agreement on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree).

3.2.3. Business excellence scale

In this study, the Business Excellence Scale, originally developed by Kanji (2002) and subsequently translated into Turkish by Atalic (2019), was utilized. The items in this scale were rated on a scale where '1=very little' and '10=very much'.

3.3. Analysis of Data

The data were subjected to analysis using SPSS for Windows 25.0 and the AMOS 23.0 program. In order to assess the construct validity of the scales, confirmatory factor analysis was conducted using the AMOS program.

The normal distribution assumption was validated through several methods, including the One Sample Kolmogorov-Smirnov test ($p>0.05$), examination of skewness and kurtosis values, as well as the inspection of histograms. These assessments collectively confirmed that the data followed a normal distribution. Consequently, Pearson correlation analysis was employed to examine the relationships between the variables.

4. RESULTS

Table 1 presents the socio-demographic information of the participants. It was observed that 75.1% of the group is female. It was seen that 36.2% of them are associate degree graduates. In addition, 29.8% of the participants are nurses. It was seen that 36.4% of the participants are also in the 25-31 age group.

Table 1: Descriptive Statistics

The variables		Frequency	%
Profession	Doctor	59	13.1
	Nurse	134	29.8
	Assistant health personnel	73	16.2
	Support services personnel	109	24.2
	Administrative staff	75	16.7
Education	Primary/Secondary school	4	0.9
	High school	91	20.2
	Associate's degree	163	36.2
	Bachelor’s degree	114	25.3
	Master's degree	20	4.4
	PhD	6	1.3
	Specialization	52	11.6
Age ($\bar{X}$±SS = 30,98±10,35)	18-24	140	31.1
	25-31	164	36.4
	32-38	57	12.7
	39-45	41	9.1
	46 and above	48	10.7

Sex	Female	338	75.1
	Male	112	24.9
Hospital Group	Group A	150	33.3
	Group B	150	33.3
	Group C	150	33.3
Total		450	100

According to the confirmatory factor analysis of the organizational innovativeness scale, factor loads of 4 out of 20 items were found to be below 0.40 (Item 8, Item 14, Item 17, Item 20). For this reason, these items were removed from the scale. The remaining 16 items were distributed in 5 factors (Table 2).

Table 2: Results of the model of the organizational innovativeness scale

Factors	**Items**	**Factor Loading**	**Cronbach's alpha**
Behavioural Innovativeness	OI 1	0.834	0.856
	OI 2	0.688	
	OI 3	0.774	
	OI 4	0.802	
Product Innovativeness	OI 5	0.867	0.892
	OI 6	0.893	
	OI 7	0.821	
Process Innovativeness	OI 9	0.761	0.813
	OI 10	0.798	
	OI 11	0.577	
	OI 12	0.745	
Market Innovativeness	OI 13	0.780	0.847
	OI 15	0.805	
	OI 16	0.843	
Strategic Innovativeness	OI 18	0.757	0.752
	OI 19	0.796	
Total Reliability (α) = 0.942			

*p<0.05, α: Cronbach's alpha; Sig: Significance; Std error: Standard error.

The reliability coefficient for the organizational innovativeness scale was found to be 0.942 (Table 2). Table 3 presents that the model fit indices of the organizational innovativeness scale are within acceptable limits.

Table 3: Model fit indices of the organizational innovation scale

Model Fit Indices	**Observed Values**	**Acceptable Values**	**References**
CMIN/DF	3.598	≤5	(Capik, 2014)
RMSEA	0.076	≤0.10	(Kazak, 2010)
CFI	0.947	≥0.80	(Buyukozturk, 2007)
TLI	0.932	≥0.80	(Shadfar and Malekmohammadi, 2015)
IFI	0.947	≥0.80	(Akkus, 2019)
RFI	0.909	≥0.80	(Widodo et al., 2020)
NFI	0.929	≥0.80	(Wu and Wang, 2006)
SRMR	0.039	≤0.10	(Akkus, 2019)

According to the confirmatory factor analysis of the business excellence scale, it was determined that 59 items showed 6-factor structure. It is seen that the factor loads of the items are above 0.40 and all correlation are significant (Table 4).

Table 4: Results of the model of the business excellence scale

Factors	Items	Factor Loading	Cronbach's alpha
Leadership	BE 1	0.845	0.963
	BE 2	0.875	
	BE 3	0.895	
	BE 4	0.925	
	BE 5	0.934	
	BE 6	0.926	
Internal and External Customer Satisfaction	BE 7	0.892	0.966
	BE 8	0.875	
	BE 9	0.788	
	BE 10	0.869	
	BE 11	0.871	
	BE 12	0.847	
	BE 13	0.903	
	BE 14	0.901	
	BE 15	0.781	
	BE 16	0.746	
	BE 17	0.781	
	BE 18	0.765	
Management by Fact	BE 19	0.894	0.979
	BE 20	0.886	
	BE 21	0.899	
	BE 22	0.875	
	BE 23	0.908	
	BE 24	0.874	
	BE 25	0.914	
	BE 26	0.901	
	BE 27	0.896	
	BE 28	0.868	
	BE 29	0.797	
	BE 30	0.875	
	BE 31	0.895	
People-Based Management	BE 32	0.870	0.979
	BE 33	0.854	
	BE 34	0.910	
	BE 35	0.944	
	BE 36	0.939	
	BE 37	0.934	
	BE 38	0.918	
	BE 39	0.870	
	BE 40	0.886	
	BE 41	0.882	

	BE 42	0.821	
	BE 43	0.901	
Continuous Improvement	BE 44	0.922	0.984
	BE 45	0.929	
	BE 46	0.944	
	BE 47	0.943	
	BE 48	0.950	
	BE 49	0.917	
	BE 50	0.912	
	BE 51	0.929	
	BE 52	0.925	
	BE 53	0.925	
Organizational Excellence	BE 54	0.947	0.978
	BE 55	0.951	
	BE 56	0.946	
	BE 57	0.904	
	BE 58	0.943	
	BE 59	0.940	
Total Reliability (α) = 0.994			

*p<0.05, α: Cronbach's alpha; Sig: Significance; Std error: Standard error.

The reliability coefficient for the business excellence scale was found to be 0.994 (Table 4). Table 5 presents that the model fit indices of the business excellence scale are within acceptable limits.

Tablo 5: Model fit indices of the business excellence scale

Model Fit Indices	**Observed Values**
CMIN/DF	4.887
RMSEA	0.093
CFI	0.862
TLI	0.855
IFI	0.862
RFI	0.825
NFI	0.833
SRMR	0.052

Table 6 presents the results of the normality analysis of the scales and their factors used in the study. It is seen that the skewness and kurtosis values of the data are distributed between ±3. From this point of view, it was determined that the data had a normal distribution (Shao, 2002).

Table 6: Normality test results of the variables

Scale and Factors	**Skewness**	**Kurtosis**	**Results**
Behavioural Innovativeness	-0.833	1.458	Normal
Product Innovativeness	-0.765	0.534	Normal
Process Innovativeness	-0.619	1.117	Normal
Market Innovativeness	-0.617	0.404	Normal
Strategic Innovativeness	-0.693	0.969	Normal
General Organizational Innovativeness	-0.734	1.263	Normal
Leadership	-0.686	-0.096	Normal
Internal and External Customer Satisfaction	-0.633	-0.150	Normal

Management by Fact	-0.607	-0.176	Normal
People-Based Management	-0.585	-0.370	Normal
Continuous Improvement	-0.680	-0.197	Normal
Organizational Excellence	-0.712	-0.161	Normal
General Business Excellence	-0.640	-0.147	Normal

The total item score average of the participants from the organizational innovativeness scale was 3.61±0.71. It was observed that behavioral innovativeness had the highest item mean score (3.75±0.79) and strategic innovativeness had the lowest item score (3.46±0.86) (Table 7).

Table 7: Mean and standard deviation regarding the organizational innovativeness scale and its factors

Scale and Factors	**Mean ± Standard Deviation**
Behavioural Innovativeness	3.75±0.79
Product Innovativeness	3.69±0.91
Process Innovativeness	3.61±0.76
Market Innovativeness	3.56±0.88
Strategic Innovativeness	3.46±0.86
General Organizational Innovativeness	3.61±0.71

The total item score average of the participants from the business excellence scale was obtained as 7.07±2.04. It was observed that people-based management had the lowest item score average (Table 8).

Table 8: Mean and standard deviation regarding the business excellence scale and its factors

Scale and Factors	**Mean ± Standard Deviation**
Leadership	7.12±2.13
Internal and External Customer Satisfaction	7.19±2.02
Management by Fact	7.05±2.08
People-Based Management	6.86±2.23
Continuous improvement	7.06±2.20
Organizational Excellence	7.22±2.23
General Business Excellence	7.07±2.04

According to the result of pearson correlation analysis, a statistically significant and positive relationship was found between behavioral innovativeness and leadership ($r=0.511$; $p<0.05$), behavioral innovativeness and internal and external customer satisfaction ($r=0.539$; $p<0.05$), behavioral innovativeness and rational management ($r=0.524$; $p<0.05$), behavioral innovativeness and people-oriented management ($r=0.488$; $p<0.05$), behavioral innovativeness and continuous improvement ($r=0.508$; $p<0.05$), behavioral innovativeness and organizational excellence ($r=0.494$; $p<0.05$), behavioral innovativeness and business excellence ($r=0.537$; $p<0.05$) (Table 9).

It is seen that there is a statistically significant and positive relationship between product innovation and leadership ($r=0.540$; $p<0.05$), product innovation and internal and external customer satisfaction ($r=0.597$; $p<0.05$), product innovation and rational management ($r=0.597$; $p<0.05$), product innovation and people-oriented management ($r=0.503$; $p<0.05$), product innovation and continuous improvement ($r=0.560$; $p<0.05$), product innovation and organizational excellence ($r=0.566$; $p<0.05$) product innovation and business excellence ($r=0.589$; $p<0.05$) (Table 9).

In addition, there is a statistically significant and positive relationship between process innovation and leadership ($r=0.562$; $p<0.05$), process innovation and internal and external customer satisfaction ($r=0.591$; $p<0.05$), process innovation and rational management ($r=0.589$; $p<0.05$), process innovation and people-oriented management ($r=0.553$; $p<0.05$), process innovation and continuous improvement ($r=0.585$; $p<0.05$), process innovation and organizational excellence ($r=0.561$; $p<0.05$) process innovation and business excellence ($r=0.603$; $p<0.05$) (Table 9).

Moreover, a statistically significant and positive correlation was observed between market innovation and leadership ($r=0.561$; $p<0.05$), market innovation and internal and external customer satisfaction ($r=0.605$; $p<0.05$), market innovation and rational management ($r=0.609$; $p<0.05$), market innovation and people-oriented management ($r=0.538$; $p<0.05$), market innovation and continuous improvement ($r=0.589$; $p<0.05$), market innovation and organizational excellence ($r=0.597$; $p<0.05$) market innovation and business excellence ($r=0.612$; $p<0.05$) (Table 9).

Furthermore, a statistically significant and positive relationship was found between strategic innovation and leadership ($r=0.482$; $p<0.05$), strategic innovation and internal and external customer satisfaction ($r=0.517$, $p<0.05$), strategic innovation and rational management ($r=0.519$; $p<0.05$), strategic innovation and people-oriented management ($r=0.484$; $p<0.05$), strategic innovation and continuous improvement ($r=0.483$; $p<0.05$), strategic innovation and organizational excellence ($r=0.460$; $p<0.05$) strategic innovation and business excellence ($r=0.519$; $p<0.05$) (Table 9).

Finally, it is seen that there is a statistically significant and positive relationship between organizational innovativeness and leadership ($r=0.625$; $p<0.05$), organizational innovativeness and internal and external customer satisfaction ($r=0.672$; $p<0.05$), organizational innovativeness and rational management ($r=0.669$; $p<0.05$), organizational innovativeness and people-oriented management ($r=0.604$; $p<0.05$), organizational innovativeness and continuous improvement ($r=0.642$; $p<0.05$), organizational innovativeness and organizational excellence ($r=0.631$; $p<0.05$) organizational innovativeness and business excellence ($r=0.674$; $p<0.05$) (Table 9).

Table 9: Relationship between organizational innovation and business excellence scales and their factors

The variables		1	2	3	4	5	6	7	8	9	10	11	12	13
1-Behavioural Innovativeness	r	1.000	0.681	0.690	0.582	0.578	0.825	0.511	0.539	0.524	0.488	0.508	0.494	0.537
	p		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2-Product Innovativeness	r		1.000	0.693	0.723	0.564	0.868	0.540	0.597	0.597	0.503	0.560	0.566	0.589
	p			0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3-Process Innovativeness	r			1.000	0.719	0.640	0.874	0.562	0.591	0.589	0.553	0.585	0.561	0.603
	p				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4-Market Innovativeness	r				1.000	0.649	0.870	0.561	0.605	0.609	0.538	0.589	0.597	0.612
	p					0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5-Strategic Innovativeness	r					1.000	0.809	0.482	0.517	0.519	0.484	0.483	0.460	0.519
	p						0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6-Organizational Innovativeness	r						1.000	0.625	0.672	0.669	0.604	0.642	0.631	0.674
	p							0.000	0.000	0.000	0.000	0.000	0.000	0.000
7-Leadership	r							1.000	0.865	0.863	0.799	0.828	0.783	0.891
	p								0.000	0.000	0.000	0.000	0.000	0.000
8-Internal and External Customer Satisfaction	r								1.000	0.926	0.867	0.873	0.863	0.950
	p									0.000	0.000	0.000	0.000	0.000
9-Management by Fact	r									1.000	0.925	0.929	0.901	0.979
	p										0.000	0.000	0.000	0.000
10-People-Based Management	r										1.000	0.929	0.885	0.958
	p											0.000	0.000	0.000
11-Continuous Improvement	r											1.000	0.930	0.965
	p												0.000	0.000
12-Organizational Excellence	r												1.000	0.938
	p													0.000
13-Business Excellence	r													1,000
	p													

5. DISCUSSION and CONCLUSION

Research findings reveal that there is a moderate, positive and significant correlation between organizational innovation and business excellence. When the literature is examined, the study conducted by Prajogo and Sohal (2003) with the participation of managers from various sectors shows that TQM is significantly and positively related to innovation performance, as well as a relationship between quality performance and innovation performance. Similarly, in the study conducted by Soomro et al. (2021), with organizations operating in various sectors shows that organizational innovation affects organizational performance. In addition in the study conducted by Lee et al. (2010) reveals that there is a relationship between TQM practices and product innovation performance.

In this research, it was found that there is a moderate, positive and significant correlation between organizational innovation and internal and external customer satisfaction. In line with this finding, in the study conducted by Alrubaiee et al. (2015) reveals that there is a correlation between the process and product innovation dimensions of organizational innovation and customer satisfaction. In addition, in the research conducted, it was determined that there is a positive correlation between all dimensions of organizational innovation (Behavioral, Product, Process, Market and Strategic Innovation) and business excellence. In the study conducted by Karaca and Marsap (2021), although it was determined that there is a correlation between the product and market innovativeness dimensions of organizational innovation and financial performance, no correlation was found between process innovation and performance. In the study conducted by Ho (2011), a positive and significant correlation was found between market innovation, financial performance and market performance. Moreover, in the study conducted by Llach et al. (2011) presents a relationship between the level of quality management and the implementation of organizational innovations. As a difference from these findings, no relationship was found between innovation and performance in the study conducted by Aslan and Yaman (2021). In addition, in the study conducted by Amin Beidokhti et al. (2016), no positive or negative relationship was found between organizational innovation and TQM practices.

This research presents leadership, internal and external customer satisfaction, people-based management that the dimensions of business excellence are positively linked to product innovation. Similarly, the results of the study conducted by Lee et al. (2010) reveal that leadership, customer orientation and human resource management that the elements of TQM are positively linked to product innovation performance.

In this research, it has been determined that there is a significant and positive relationship between process innovation and all dimensions of business excellence. In line with this finding, in the research conducted by Antunes et al. (2017) show that while process innovation provides improvements in both operational and financial performance, product innovation only allows improvements in financial performance. In addition, it has been observed that TQM practices are associated with both product innovation and process innovation. Similarly, Khalfallah et al. (2022), reveals that there is a relationship between TQM and innovation. Moreover, the findings in this research confirm that product innovation and process innovation have a positive impact on operational performance.

This research presents continuous improvement and people-oriented management that the dimensions of business excellence are positively linked to organizational innovation. Similarly, the results of the study conducted by Abu Salim et al. (2019) confirms continuous improvement and human resource management that the factors of TQM are positively linked to innovation.

Organizational innovation skills are important for hospitals to be reflexive against changes and to take steps to adapt to these changes. Innovations and advances in the health sector have a direct impact on human life and quality of life. For this reason, in order to ensure innovation at the organizational level, healthcare professionals need to renew themselves in parallel with scientific, technological and social changes and developments in these fields. In this way, hospitals investing in innovation-creating activities reap the rewards of their efforts by achieving visible improvements in their operating results.

In order to increase organizational innovation in hospitals, it is necessary to ensure employee participation in decision-making processes, to support new ideas, to tolerate failures, and to facilitate information sharing between the managers and the managed and the employees themselves. Moreover,

it is important to create an organizational environment that values the opinions and suggestions of employees and open to innovation in hospitals. In this way, it is possible to create an organizational climate in which employees' unlimited imaginations will be transformed into innovation, and change will be perceived as an opportunity. In this way, personal talents and creativity potential within the organization can be used to reach the determined goals. Thus, hospitals can improve themselves in terms of process and structure through continuous learning, and it is possible for business excellence to reach higher levels.

REFERENCES

Abu Salim, T., Sundarakani, B. and Lasrado, F. (2019). "The Relationship Between TQM Practices And Organisational Innovation Outcomes: Moderating And Mediating The Role Of Slack." The TQM Journal, 31(6): 874-907.

Akkus, A. (2019). "Developing A Scale To Measure Students' Attitudes Toward Science." International Journal of Assessment Tools in Education, 6(4): 706–720. https://dx.doi.org/10.21449/ijate.548516

Alrubaiee, L., Alzubi, H. M., Hanandeh, R. E. and Al Ali, R. (2015). "Investigating The Relationship Between Knowledge Management Processes and Organizational Performance The Mediating Effect of Organizational Innovation." International Review of Management and Business Research, 4(4): 989-1009.

Aminbeidokhti, A., Jamshidi, L. and Mohammadi Hoseini, A. (2016). "The Effect Of The Total Quality Management on Organizational Innovation in Higher Education Mediated By Organizational Learning." Studies in Higher Education, 41(7): 1153-1166.

Antunes, M. G., Quirós, J. T. and Justino, M. D. R. F. (2017). "The Relationship Between Innovation And Total Quality Management And The Innovation Effects On Organizational Performance." International Journal of Quality & Reliability Management, 34(9): 1474-1492.

Aslan, M. and Yaman, F. (2021). "The Effect of Quality, Innovation, Participation and Cooperation As Corporate Values on The Employee's Job Performance in The Context of Person-Organization Harmony: A Research in The Hospitality Sector." Journal of Business Research-Turk, 13(1): 892-903. https://doi.org/10.20491/isarder.2021.1172

Atalic, H. (2019). *Analysing of Business Scorecard and Business Excellence Measuring Instruments in Terms of Socio-Demographic Variables in The Delivery of Healthcare Services.* PhD Thesis, Mehmet Akif Ersoy University, Institute of Social Sciences, Burdur.

Atalic, H. and Cicek, H. (2021). "Total Quality Management Practices in Health Care Organizations: Perception of Health Care Providers." European Journal of Public Health Studies, 4(2): 76-97. http://dx.doi.org/10.46827/ejphs.v4i2.100

Avci, U. (2009). "The Effect of Learning Orientation in Firm Innovativeness: An Investigation in The Marble Industry in Mugla." ZKU Journal of Social Sciences, 5(10): 121–138.

Avlonitis, G. J., Kouremenos, A. and Tzokas, N. (1994). "Assessing The Innovativeness of Organizations and its Antecedents: Project Innovstrat." European Journal of Marketing, 28(11): 5-28.

Aykanat, Z. and Yildiz, T. (2016). "A Research on Relationship Between Charismatic Leadership and Organizational Innovation." Journal of Entrepreneurship and Development, 11(2): 198-228.

Birinci, M. (2018). "An assessment on The Importance of Social Services Organizations and Innovative Approaches." Journal of Social Work, 2(2): 43-62.

Buyukozturk, S. (2007). *Manual of Data Analysis for Social Sciences*. Ankara: Pegem Publishing.

Caliskan, M. (2017). *An Application on The Relationship Between Transformational Leadership and Organizational Innovativeness.* Master Thesis, Ardahan University, Institute of Social Sciences, Ardahan.

Capik, C. (2014). "Use of Confirmatory Factor Analysis in Validity and Reliability Studies." Journal of Anatolia Nursing and Health Sciences, 17: 196-205.

Danneels, E. and Kleinschmidt, E. J. (2001). "Product Innovativeness From The Firm's Perspective: Its Dimensions and Their Relation with Product Selection and Performance." The Journal of Product Innovation Management, 18(6): 357-73.

Drucker, P. F. (2014). *Management Challenges for The 21st Century.* Trans., Irfan Bahcivangil and Gulenay Gorbon. Istanbul: Epsilon Publishing.

Grant, R. M. (2008). "The Future of Management: Where Is Gary Hamel Leading Us?" Long Range Planning, 41(5): 469-482.

Guvener, H. "Intermediatıon Role of Work Engagement in The Effect of Innovative Leadershıp and Management Capability on Hospital Performance in Health Services." International Journal of Management Economics and Business, 19(2): 371-394.

Henard, D. H. and Szymanski, D. M. (2001). "Why Some New Products Are More Successful Than Others." Journal of Marketing Research, 38(3): 362-75.

Kalmuk, G. and Acar, A.Z. (2018). "Mediating Variable Effect of Entrepreneurship in Relation Between Innovation and Performance in Private Hospitals." Hacettepe Journal of Health Administration, 21(4): 655-673.

Kanji, G. K. (2002). *Measuring Business Excellence.* Taylor & Francis e-Library.

Kanji, G. K. and Moura, S. P. (2003). "Sustaining Healthcare Excellence Through Performance Measurement." Total Quality Management and Business Excellence, 14(3): 269-289.

Karaca, G. and Marsap, A. (2021). "The Effect of Strategic Orientations and Innovation on Business Performance and A Research.". Muhakeme Journal, 4(1): 28-45.

Kazak, C. F. Z. (2010). "Psychometric Properties of The Turkish Version of The Situational Motivation Scale–SIMS." Turkey Clinics Journal of Sport Sciences, 2(2): 86-94.

Kendir, V., Sinsoysal, B., Orcanli, K. and Boztoprak, H. (2019). "Mediating Role of Organizational Learning in The Relation Between Organizational Culture and Organizational Innovativeness.", KAUJEASF, 10(20): 881-908. https://doi.org/10.36543/kauiibfd.2019.037

Khalfallah, M., Ben Salem, A., Zorgati, H. and Lakhal, L. (2022). "Innovation Mediating Relationship Between TQM And Performance: Cases Of Industrial Certified Companies." The TQM Journal, 34(3): 552-575.

Lee, V. H., Ooi, K. B., Tan, B. I. and Chong, A. Y. L. (2010). "A Structural Analysis Of The Relationship Between TQM Practices And Product Innovation."Asian Journal of Technology Innovation, 18(1): 73-96.

Llach, J., Casadesus, M. and Marimon, F. (2011). "Relationship Between Quality-Management Systems And Organizational Innovations." Human Factors and Ergonomics in Manufacturing & Service Industries, 21(1): 52-66.

Markides, C. (1998). "Strategic Innovation in Established Companies." MIT Sloan Management Review, 39(3): 31-42.

Ministry of Health, (2020), *"Quality Standards in Health (Hospital)"* https://shgmkalitedb.saglik.gov.tr/Eklenti/41258/0/skshastane-seti-s-61-09082021pdf.pdf (Date of Access: 01.11.2021)

Ministry of Health, "Private Hospital List" https://shgmozelhasdb.saglik.gov.tr/TR-53567/ozel-hastane-listesi-faal.html# (Date of Access: 18.12.2021)

Ministry of Health, *"Private Hospital List"* https://shgmozelhasdb.saglik.gov.tr/TR-53567/ozel-hastane-listesi-faal.html# (Date of Access 18.12.2021)

Mol, M. J. and Birkinshaw, J. (2009). "The Sources of Management Innovation: When Firms Introduce New Management Practices." Journal of Business Research, 62: 1269-1280.

OECD, (2001), "*Cities and Regions in The New Learning Economy."* OECD Publishing, Paris. https://doi.org/10.1787/9789264189713-en.

OECD, (2015), "*Frascati Manual: Guidelines for Collecting and Reporting Data on Research and Experimental Development, The measurement of scientific, technological and innovation activities."* OECD Publishing, Paris. https://dx.doi.org/10.1787/9789264239012-en

Ozay, M. A. and Kaymaz, K. (2023). "A Research on Innovative Work Behavior and Its Antecedents." Afyon Kocatepe University Journal of Social Sciences, 25(1): 275-293.

Ozturk, A. (2018). *"Examining The Relationship Between Innovative Trends in Service Innovation and Organizational Resilience in The Health Sector."* Phd Thesis, Kocaeli Unıversity, Institute of Social Sciences, Kocaeli.

Prajogo, D. I. and Sohal, A. S. (2003). "The Relationship Between TQM Practices, Quality Performance, And Innovation Performance: An Empirical Examination." International Journal of Quality & Reliability Management, 20(8): 901-918.

Saluvan, M. and Kaya, S. (2010). " Performance Measurement in Hospitals." Journal of Productivity, 4: 1-26.

Shadfar, M. and Malekmohammadi, I. (2013). "Application of Structural Equation Modeling (SEM) in Restructuring State Intervention Strategies Toward Paddy Production Development." International Journal of Academic Research in Business and Social Sciences, 3(12): 576- 618. http://dx.doi.org/10.6007/IJARBSS/v3-i12/472

Shao, A. T. (2002). *Marketing Research: An Aid* To *Decision Making*. South-Western: Thomson Learning.

Soomro, B. A., Mangi, S. and Shah, N. (2021). "Strategic Factors and Significance of Organizational Innovation and Organizational Learning in Organizational Performance." European Journal of Innovation Management, 24(2): 481-506.

Soylu, Y. and Ileri, H. (2010). "S. U. Meram Medical Faculty Hospital in Example of Strategic Management Practise." Journal of Selcuk University Social Sciences Vocational School, 13(1-2): 79-96.

Stewart, L. J. and Lockamy, A. (2001). "Improving Competitiveness Through Performance-Measurement Systems: An Integrated Performance-Measurement System Can Improve Competitiveness By Meshing The Organization's Long-Term Goals With Its Day-To-Day Clinical and Administrative Functions." Healthcare Financial Management, 55(12): 46-51.

Wang, C. L. and Ahmed, P. K. (2004). "The Development and Validation of The Organisational Innovativeness Construct Using Confimatory Factor Analysis." European Journal of Innovation Management, 7(4): 303-313.

Widodo, S. A., Turmudi, T., Dahlan, J. A., Harini, E. and Sulistyowati, F. (2020). "Confirmatory Factor Analysis Sosiomathematics Norm among Junior High School Student." International Journal of Evaluation and Research in Education, 9(2): 448-455. http://doi.org/10.11591/ijere.v9i2.20445

Wu, J. H. and Wang, Y. M. (2006). "Measuring KMS Success: A Respecification of The De Lone and Mc Lean's Model." Inf Manage, 43: 728-739. https://doi.org/10.1016/j.im.2006.05.002

Zerenler, M. and Karakus, G. (2017). "The Effects of Product and Process Innovation on Enterprises Performance: A Case Study." Dokuz Eylul University The Journal of Graduate School of Social Sciences, 19(2): 305-331. http://dx.doi.org/10.16953/deusbed.28926