https://dergipark.org.tr/tr/pub/ijhmt Doi Number: 10.31201/ijhmt.903101

Int Journal Of Health Manag. And Tourism 2021, 6(3), 564-578

JHMT Editorial

Internatıonal Journal Of Health Management And Tourism

THE EFFECTS OF BUSINESS EXCELLENCE TO INTERNAL AND EXTERNAL CUSTOMER OPINIONS IN HEALTHCARE

İpek Aydın*, Özkan Tütüncü**

*Dr., Dokuz Eylül University, Turkey
ipek.aydin@deu.edu.tr, orcid.org/0000-0002-9355-5712
** Prof. Dr., Dokuz Eylül University, Turkey
ozkan.tutuncu@deu.edu.tr, orcid.org/0000-0002-2482-0893
Received: 25.03.2021
Accepted: 26/11/2021
Research Article

Abstract

Aim: Hospitals can determine the strengths of organization and improvement strategies by implementing business excellence models to increase customer satisfaction. The aim of the study is to evaluate the effects of business excellence dimensions on internal and external customer opinions.

Methods: The universe of the study is public hospitals in Izmir urban area. Four hospitals included in the study and 488 healthcare workers agreed to participate to study. Survey was developed from the Malcolm Baldrige National Excellence Award Healthcare Criteria.

Findings: Factor analysis revealed six business excellence dimensions: strategic planning; workforce focus; process management; customer focus; leadership; and measurement, analysis, knowledge management. Correlation analysis showed that business excellence dimensions have strong relations between each other and internal and external customer opinions. According to regression analysis,

Corresponding author: Ipek Aydın, Necat Hepkon Faculty of Sports Sciences, Department of Recreation, Department of Recreation, Dokuz Eylül University, Izmir, Turkey e-mail: ipek.aydin@deu.edu.tr

customer focus, process management and measurement, analysis, knowledge management effect to the external customer. Workforce focus, process management and leadership effect to the internal customer.

Conclusion: In order to improve the internal and external customer opinions in healthcare organizations, hospital managerial teams have to focus on processes and workforce, give importance to be more patient centered and plan their strategies according to customers' opinions. This study helps the hospitals, in which areas should be focused on primarily when developing policies and strategies; and preparing plans for future developments.

Keywords: Business Excellence, Internal Customer, External Customer, Hospital, Healthcare

Introduction

The environment of healthcare organizations is excessively complex. The expectations of customers increase day by day, organizations are faced with intense competition and technology is advancing rapidly. In this context, organization's management structure must be based on solid foundations and processed efficiently. In order to respond to the environmental pressures, to overcome the global competition, to adapt to changes, to take costs down and to improve the productivity, it is required to carry out performance measurement and quality improvement activities. While improving organizational performance and quality, companies engage in approaches which are internal and external customer (IaEC) focused and which aim to identify expectations and needs for both IaEC. Thus, companies can develop strategies according to self-assessment reports in the field of business excellence (BE) model (Buttigieg *et al*, 2016).

1. Background

1.1 Business Excellence

One of the ways of improving organizational quality is using business excellence models based on the criteria of quality awards (Lee and Quazi, 2001), which are internationally recognized and contribute organizations to improve their performance in various sectors. In 1951, the first business excellence model called Deming Prize was developed in Japan, but it was not very common in the world and only used by Japanese organizations. In 1988, Malcolm Baldrige National Quality Awards was adopted by many organizations in the USA. It has become an internationally recognized model for its particular methods used to describe strengths, weaknesses and performance in organizational activities (Mackerron *et al*, 2003) Then, European Foundation for Quality Management created its own model, which is called European Quality

Awards in 1991, and it acquired worldwide recognition. According to Koura, the basic issues that are shared by the these excellence models are leadership; customer focus; process management; workforce focus; social responsibility; continuous improvement and innovation (Koura, 2009).

Since the 1990s, BE has been used as a tool to achieve organizational objectives by contributing the employee; and providing feedback and ensuring continuous improvement (Hillman, 1994). BE revises operations and outcomes of the organization by comparing comprehensively, systematically and regularly based on a business excellence model. BE has become one of the most considerable management tools (Zink and Schmidt, 1998), and excellence models increasingly being applied by organizations all over the world (Gómez, 2017). It creates opportunity of self-evaluation for organizations and it monitors the development processes (Caffyn, 1999). According to Hillman (1994), the components of the BE are model which is chosen, measurement success and management effectiveness. Excellence models, which are used for self-assessment, affect organizational performance and promote organizational excellence (Tutuncu and Kucukusta, 2007). There is no single technique or approach to be followed by organizations to manage the quality in healthcare in the context of BE. There are different models but the basic principles are common (Ritchie and Dale, 2000). Each organization must be evaluating its own structural dynamics including employees, resources, capabilities, strengths and weaknesses, and according to these dynamics, appropriate methods must be chosen and applied in the organization.

Upon implementation of BE models by businesses, academic studies started. First group of studies focused on analyzing internal improvements like positive effects of the implementing a BE model on the outcomes and organizational performance (Lee et al, 2003; Corredor and Goñi, 2010; Davies, 2008), employee satisfaction (Eskildsen and Dahlgaard, 2000), enhancing the management system (Eskildsen, 1998), and customer focus and satisfaction (Pannirselvam and Ferguson, 2001). Second group of studies focused on the relationship among the model criteria (Bou-Llusar et al, 2005; Ghosh et al, 2003) and some researchers specialized their study areas in education (Badri et al, 2006) and healthcare system (Goldstein and Schweikhart, 2002). In addition, some researchers analyzed the achievements and the competitive advantages by implementation the BE models (Tutuncu and Kucukusta, 2007; Kim et al, 2010).

1.2 Hypotheses Development

There are different studies in various sectors, which has positive effects to organizational dynamics in the field of BE. Additionally, within the scope of this study, from the view of healthcare workers, IaEC opinions wanted to be analyzed. For this reason, healthcare workers would be able to evaluate the service quality from the patient's point of view. It is asked which BE dimensions' effect on internal and external customer in order to improve quality in this study. Following hypotheses and reasons discussed in the research are stated.

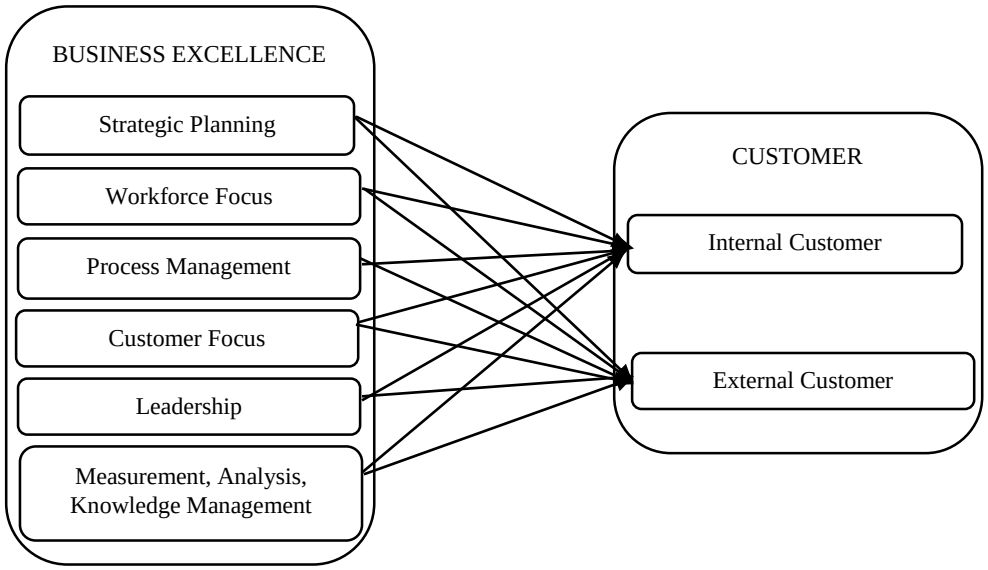

Figure 1. Research Model

Compared with many public services, it requires to focus more sensitively on health services and to provide the highest quality of health services. In healthcare, it is so difficult to evaluate the quality by analyzing the patient opinions, especially technical quality. During treatment process, patients are not only being aware from the clinical aspects of care, but also many other non-clinical aspects to evaluate the quality of the service (Berkowitz, 2016). Patients evaluate the service received according to their expectation (Kupfer and Bond, 2012), if the service quality meets to expectations, patients judge quality high and satisfied. To create quality culture, systematic approach should adopt and widespread throughout the organization. BE dimensions include the basic component to create a quality culture and improve service quality. There is a relationship between the quality of the service and patient satisfaction (Kupfer and Bond, 2012).

From the view of patients, healthcare organizations want to create a positive perception and improve patient experience by providers focusing on fulfilling patient desires and expectations. (Price et al, 2014). Because of supply creates its own demand (Pruckner, 2010), healthcare workers define the treatment process and medication for patients; and patient thoughts related to healthcare workers and processes are beyond a healthcare provider's control (Price et al, 2014). Because of patients do not have the expertise needed to evaluate the quality of care (Price et al, 2014), it is difficult to evaluate the quality of services as it's supposed to be. Therefore, healthcare workers can be evaluate the patient feelings by observing patients' behaviors and the healthcare services. For these reasons, opinions of healthcare workers should be taken into consideration and first hypothesis is analyzed from the point of healthcare workers:

Hypothesis 1: Business excellence dimensions have positive and meaningful effect on the external customer opinions.

Healthcare organizations are labor intensive organizations, for this reason, human factor have a great impact on the quality of services. Healthcare services delivered by healthcare workers can be affected positively or negatively by tangible or intangible factors including job satisfaction, career advancement, social life, formal or informal relations in the organization, reward and incentive system etc. For example, top management support, positive relations and working conditions can cause higher satisfaction with nurses care (Vahey et al., 2004) Healthcare worker job satisfaction has a significant impact on service quality, commitment to work, effectiveness, and additionally on healthcare costs (Miljkovic, 2007). Service provision may change by time to time or from a person to a person, because of the difficulty in standardization of services. At the same time, patients and their diseases also changes the way service delivered. Being lack of the standardization has an impact on patient and employee safety. Business excellence approach can be used as a management tool in order to assess and improve workers' well-being, satisfaction and motivation (Tutuncu and Kucukusta, 2007) and ensure standardization of the services provided to patients. For these reasons, opinions of healthcare workers should be taken into consideration and second hypothesis can be analyzed:

Hypothesis 2: Business excellence dimensions have positive and meaningful effect on the internal customer opinions.

2. Research Methodology

2.1 Design and study population

The present study aimed to assess the effects of BE dimensions on IaEC. The questionnaires gathered from healthcare workers (physician, nurse, administrative staff, technical staff and others). This study was approved by the research hospitals and reviewed by the Noninvasive Research Ethics Board, Dokuz Eylul University. In total, about 2200 healthcare workers were working in the state hospitals which are located in Izmir urban area, excluding education and research hospitals. The sample size encompasses 4 hospitals which are operating under the Turkish Ministry of Health, and located in Izmir urban area. In total, 1200 questionnaires distributed and after scanning process 488 questionnaires are taken into the study, with a usable response rate of 40,66%, which is statistically acceptable for data analysis.

2.2 Measurement

Data was obtained by administrating a structured-questionnaire consisting three parts. The main part of the survey was developed from the Malcolm Baldrige National Excellence Award Healthcare Criteria (NIST, 2008; NIST, 2013) and adapted into Turkish and inquired 48 questions to evaluate the thoughts of healthcare workers on BE. The study focused all the dimensions of BE except the results. The reason behind this, it is difficult to evaluate the results dimension of BE for healthcare workers. In other words, results can be analyzed with the view of top management. There were 8 statements in the second part, regarding the dependent variables, which were representing internal and external customer opinions. The items were rated on a five-point scale (5= very good; 4=good; 3=neither good nor bad; 2=bad; 1=very bad). The last part inquired demographic questions.

2.3 Data analysis

After scanning process, questionnaires which are eligible to be included in the analysis, were computerized. Statistical program was used for data analysis. Exploratory factor analysis (Principal Axes Factoring) was applied in the study to measure construct validity. The reliability (Cronbach's alpha) of the data which were intended for overall BE items, internal and external customer opinions, and each BE subscale items were tested. Correlation analysis was conducted in order to determine the direction and strength of the relationships among the BE dimensions, internal and external customer opinions. Finally, stepwise regression analysis was conducted to

determine the effects of independent variables on the dependent variable. Statistically, *p* value which was equal or less than 0,05 was accepted to be significant.

3. Analysis

Respondents' demographic characteristics are stated in Table 1. 488 respondents have participated in the research. The duration of the quality process also stated in the study. According to the frequency distribution, 70.65% of the respondents were women and 29.35% were men. 14.47% were physician 43.20% were nurses and the remainder was other medical staff. The skewness and kurtosis were within the range for assuming a normal distribution.

Table 1. Numerical and Percentage Dispersion of Sample Profile

	n	**%**		**n**	**%**
Sex			*Occupation*		
Female	337	70.65	Physician	67	14.47
Male	140	29.35	Nurse	200	43.20
Total	477	100.00	Other	196	42.33
			Total	463	100.00
Age			*Year of Work*	82	17.41
30 years and less	184	38.74	3 years and less	95	20.17
31-40 years	169	35.58	4-6 years	83	17.62
41 years and more	122	25.68	7-9 years	211	44.80
Total	475	100.00	10 years and more	471	100.00
			Total		
Education			*Quality Process*		
Secondary school and less	144	30.44	3 years and more	280	64.22
University and more	329	69.56	3 years and less	156	35.78
Total	473	100.00	Total	436	100.00

In order to identified the number of dimensions in exploratory factor analysis, Horn's parallel analysis and Velicer's minimum average partial test were carried out on the BE and internal and external customer opinions data sets (Horn 1965; Velicer 1976). The results of the tests showed that for the BE six-factor solution and for the internal and external customer opinions two-factor solution should be accepted for extractions. First results of Principal Axis Factoring showed that factor correlations were higher than 0.56 and lower than 0.72. Because of nonorthogonal factors, the promax oblique solution was used for rotation.

For the BE data set, Kaiser-Meyer-Olkin illustration value realized as 0.96, 48 variables are formed under six factors and explained 69,30% of the common variance. These factors are named as strategic planning; workforce focus; process management; customer focus; leadership; and measurement, analysis, knowledge management. According to the second factor analysis, 8 items related internal and external customer opinions, are formed under two factors and explained 61.35% of the common variance. Kaiser-Meyer-Olkin illustration value for internal

and external customer opinions realized as 0.85. The communalities were all above 0.41 and over the recommended value of 0.30 (Hair et al. 2007). Summary results of factor analysis of business excellence are presented in the Table 2 and Table 3.

Table 2. Factor Analysis Results (Business Excellence)

Business Excellence	Factor Loading	Eigenvalue	Variance Explained
Factor 1- Strategic Planning		**25.21**	**52.52**
Analyzing knowledge and data in strategic planning process	.97		
Planning and monitoring of the strategic objectives	.83		
Allocation of the resources to strategic plans	.82		
Performance indicators in the strategic plans	.81		
Forecasting the future according to the of strategic plans	.77		
Activity plans in the strategic plans	.74		
Consistency of the strategic goals	.68		
Planning of the human resources strategically	.63		
Factor 2- Workforce Focus		**2.73**	**5.68**
Participation of workers to organizational processes	.91		
Organizational culture adopted by workers	.84		
Support of career improvement for workers	.82		
Evaluation of the capacity of workers	.80		
Recruitment of the workers	.71		
Providing support for workers	.70		
Supporting the organizational policies by workers	.67		
Workplace health and safety	.61		
Factor 3- Process Management		**1.98**	**4.13**
Updating the processes according to needs	.86		
Designing the processes according to needs	.80		
Development of new processes related to health	.79		
Meeting the patient's expectations	.78		
Effectiveness of the process	.74		
Adequacy of the emergency process	.70		
Complete fulfillment of the processes	.68		
Adequacy of administrative and medical work process	.67		
Factor 4- Customer Focus		**1.28**	**2.67**
Value given to patients	.92		
Quality of healthcare provided to patients	.89		
Determination of patient needs	.85		
Speed of the health services provided to patients	.78		
Receiving and evaluating of patient recommendations	.75		
Establishing of new areas for patients	.58		
Factor 5- Leadership		**1.11**	**2.32**
Communication of the leaders with workers	.83		
Adopting the moral behaviors to workers	.72		
Giving importance to patient safety	.63		
Identifying the environment health needs by leaders	.61		
Future plans created by leaders	.60		
Knowledge of the leaders about health system	.58		
Adopting the organizational values to workers	.58		
Analyzing the risks	.55		
Monitoring efficiency indicators	.53		
Monitoring the leaders' performances by each other	.51		
Giving importance to workers' safety by leaders	.44		
Factor 6 - Measurement, Analysis, Knowledge Management		**,95**	**1.97**
Managing of the data and information	.86		
Evaluating the data systematically	.83		
Security of the software and hardware	.79		
Accessing to software and hardware systems in an emergency	.77		
Using the data for development of the organization	.72		
Analyzing the data	.70		
Performance measurement system	.64		

Table 3. Factor Analysis Results (Internal & External Customer)

Internal & External Customer Opinions	Factor Loading	Eigenvalue	Variance Explained
Factor 1- External Customer		**4.03**	**50.39**
Patient satisfaction in our hospital	.97		
Patients' recommendations of our hospital to other patients	.85		
Patient centeredness in our hospital	.72		
Patient safety in our hospital	.54		
Factor 2- Internal Customer		**.88**	**10.95**
Workers' motivation in our hospital	.87		
Occupational safety in our hospital	.82		
Job satisfaction in our hospital	.62		
My commitment to our hospital	.50		

For internal consistency, the reliability tests were conducted on data. The general Cronbach's alpha is found 0.98 for BE, and 0.88 for IaEC data sets, for reliability analysis, over the 0.70 recommended (Nunnally, 1967). Results of reliability analysis for BE and IaEC opinions variables were also shown in Table 4.

In order to analyze the relationship among dimensions of BE and IaEC, correlation coefficient values were calculated. Descriptive statistics and correlation matrix of continuous variables were presented in Table 4. There is a positive relationship between the dimensions. All correlations were moderately strong to strong, ranging between $r = 0.45$, and $r = 0.78$, $p < 0.001$. The Cronbach's alpha coefficient was also calculated for each dimension in order to test the internal consistency reliability. According to reliability analysis, Cronbach's alpha values of dimensions, means and standard deviations are shown in Table 4.

Table 4. Correlation Matrix among the Factors of Business Excellence and Internal and External Customer

	1	2	3	4	5	6	7	8
1. Leadership	1							
2. Strategic Planning	0.78[a]	1						
3. Customer focus	0.55[a]	0.56[a]	1					
4. Measurement, analysis, knowledge management	0.71[a]	0.72[a]	0.52[a]	1				
5. Workforce focus	0.74[a]	0.68[a]	0.45[a]	0.71[a]	1			
6. Process management	0.68[a]	0.65[a]	0.63[a]	0.70[a]	0.69[a]	1		
7. Internal Customer	0.71[a]	0.66[a]	0.47[a]	0.65[a]	0.78[a]	0.68[a]	1	
8. External Customer	0.54[a]	0.55[a]	0.75[a]	0.58[a]	0.48[a]	0.64[a]	0.56[a]	1
Means	3.31	3.21	3.72	3.29	2.85	3.25	3.21	3.63
S.D.	0.74	0.77	0.82	0.83	0.91	0.71	0.83	0.73
Cronbach's Alpha	0.93[a]	0.96[a]	0.94[a]	0.94[a]	0.95[a]	0.95[a]	0.82[a]	0.87[a]

[a] $p < 0.01$

Preliminary analyses were conducted for the assumptions of normality, linearity, and homoscedasticity. Examination of casewise diagnostics with Cook's distance (External Customer, Min = 0.00; Max = 0.88; Internal Customer, Min = 0.00, Max = 0.17) suggested there were no cases exerting undue influence on the models. The Durbin-Watson statistic was computed to evaluate independence of errors and was 1.85 for external customer and 1.97 for internal customer, which is considered as acceptable (Cohen et al. 2003). Tolerance was greater than 0.10 (External customer, Min = 0.43; Internal Customer, Min = 0.38), and the variance inflation factor was less than 10 (External Customer, Max = 2,33; Internal Customer, Max = 2.67).

Regression analysis is applied to determine the importance of independent variables on dependent variables. It is found out that R square values in both regression analyses are in the sufficient level for the researches made in social sciences (Hair et al. 2007). The first regression analysis aims to determine the relative importance of BE dimensions on the "Internal Customer". Using the stepwise method, it was found that the overall model explains 0.68 of the variation in BE (F (3, 455) = 318.90, p<0.001 with R = 0.82, adjusted R^2 = 0.68). The Beta coefficients are presented in Table 5. Workforce focus, process management and leadership were statistically significant and positively related to internal customer. Therefore, hypothesis 1 was accepted for the workforce focus, process management and leadership dimensions.

Table 5. Regression Analysis of the Business Excellence Dimensions Affecting to Internal Customer

VARIABLES	*β*	*95% CI*
Workforce focus	0.49[a]	[0.38, 0.54]
Process Management	0.22[a]	[0.16, 0.34]
Leadership	0.20[a]	[0.13, 0.31]
Constant	0.34[b]	[0.12, 0.57]
R^2	0.68	
F	318.90[a]	

[a] p<0.001, [b]$p \leq 0.05$, n = 410, CI = confidence interval

The second regression analysis aims to manifest comparative importance of BE factors on the "external customer". Using the stepwise method, it was found that the overall model explains 0.62 of the variation in external customer (F (3, 454) = 244.46, p< 0.001 with R = 0.79, adjusted R^2 = 0.62). Customer focus, process management and measurement, analysis, knowledge management were statistically significant and positively related to external customer. The Beta coefficients are presented in Table 6. According to the results of multiple regression, hypotheses

2 was supported for the customer focus, process management and measurement, analysis, knowledge management dimensions.

Table 6. Regression Analysis of the Business Excellence Dimensions Affecting to External Customer

VARIABLES	*β*	*95% CI*
Customer Focus	0.53[a]	[0.41, 0.55]
Process Management	0.22[a]	[0.14, 0.32]
Measurement, Analysis, Knowledge Management	0.13[b]	[0.05, 0.20]
Constant	0,69 [a]	[0.47, 0.91]
R^2	0.62	
F	244.46[a]	

[a] $p<0.001$, [b] $p \leq 0.05$, n = 457, CI = confidence interval

4. Conclusions and Recommendations

BE can improve internal and external customer opinions positively. This study showed that how BE is strikingly important on customer opinions. Business excellence models can be used to ensure occupational and patient safety. If the BE model which was chosen by the organization, fits the organizational culture, it facilitates the processes adopted by the workforce and becomes widespread throughout the organization. BE can create and maintain internal and external customer satisfaction in order to get competitive advantage.

This study takes a micro stand by focusing on the views of healthcare workers on the effects of BE dimensions to internal and external customer opinions. It is limited by the region and it can be carried out in country wide. Moreover, healthcare workers' ideas can be analyzed by considering their profession (physician, nurse, etc.).

In this research, healthcare workers have been included as an internal customer and patients and their companions included as an external customer. Suppliers have not been evaluated as external customer and excluded in the scope of study. Patient and their companions' thoughts, needs and expectations also are important and to serve excellent, their ideas have to be analyzed. By analyzing the both healthcare workers and patients' opinions, necessary action plans should be put into effect by managerial team.

Conflict of Interest: The authors have no conflicts of interest to declare.

Funding: The authors declared that this study had received no financial support.

References

Amin, M. & Nasharuddin, S.Z. (2013). Hospital service quality and its effects on patient satisfaction and behavioral intention. *Clinical Governance: An International Journal,* 18(3), 238-254.

Badri, M.A., Selim, H., Alshare, K., et al. (2006). The Baldrige education criteria for performance excellence framework. Empirical test and validation. Int *J Qual Reliab Manag.* 23, 1118–57.

Berkowitz, B. (2016). The Patient Experience and Patient Satisfaction: Measurement of a Complex Dynamic. *OJIN*. 21, 1, pp. 1.

Bloom, G., Standing, H. & Lloyd, R. (2008). Markets, information asymmetry and health care: Towards new social contracts. *Soc Sci Med,* 66, 2076-2087.

Bou-Llusar, J.C., Escrig AB, Roca V, et al. (2005). To what extent do enablers explain results in the EFQM Excellence Model? An empirical study. *Int J Qual Reliab Manag,* 22, 337–53.

Buttigieg, S,C., Dey P,K. & Cassar, M.R. (2016). Combined quality function deployment and the logical framework approach to improve quality of emergency care in Malta. *Int J Health Care Qual Assur, 29*(2), 123–40.

Caffyn, S. (1999). Development of a continuous improvement self-assessment tool. *Int J Oper Prod Man,* 19, 1138–53.

Castilla, M.J.I. & Ruiz, O.R. (2008). EFQM model: knowledge governance and competitive advantage. *Journal of Intellectual Capital.* 9, 133–56.

Chahal. H. & Kumari, N. (2010). Development of multidimensional scale for health care service quality (HCSQ) in Indian context. *Journal of Indian Business Research,* 2, 4, 230-255.

Chai, K.H., Ding, Y. & Xing, Y. (2009). Quality and customer satisfaction spillovers in the mobile phone industry. *Serv Sci*, 1(2), 93-106.

Cohen, J., Cohen, P., West, S.G. & Aiken, L.S. (2003). *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences,* 3rd ed., Mahwah, NJ, Lawrence Erlbaum.

Corredor, P. & Goñi, S. (2010). Quality awards and performance: Is there a relationship? *The TQM Journal,* 22, 529–38.

Davies, J. (2008). Integration: Is it the key to effective implementation of the EFQM excellence model? *Int J Qual Reliab Manag,* 25, 383–99.

Eskildsen, J.K, (1998). Identifying the vital few using the European Foundation for Quality Management Model. *Total Qual Manage*, 9, 92–5.

Eskildsen, J.K. & Dahlgaard, J.J, (2000). A causal model for employee satisfaction. *Total Qual Manage*, 11, 1081–94.

Ghosh, S., Handfield, R.B., Kannan, V.R., et al. (2003). A structural model analysis of the Malcolm Baldrige National Quality Award framework. *Int J Manag Decis*, 4, 289–311.

Goldstein, S.M & Schweikhart, S.B. (2002). Empirical support for the Baldrige Award Framework in U.S. hospitals. *Health Care Manage R*, 27, 62–75.

Gómez, J.G., Costa, M.M. & Lorente, Á.R.M. (2017). EFQM Excellence Model and TQM: an empirical comparison. *Total Qual Manag Bus*, 28(1-2), 88-103.

Haas-Wilson, D. (2001). Arrow and the information market failure in health care: the changing content and sources of health care information. *J Health Polit Policy Law*, 26, 1031-1044.

Hair, J.F, Black, B., Babin B, et al. (2007).*Multivariate Data Analysis*, 6th ed., Pearson Education Inc, New Jersey, USA.

Hartley, J. & Benington, J. (2010). .*Leadership for healthcare*. Policy Press, Bristol.

Hillman, G.P. (1994). Making self-assessment successful", *The TQM Magazine*, 6, 29–31.

Hines, P.A. & Yu, K.M. (2009). The changing reimbursement landscape: Nurses' role in quality and operational excellence. *Nurs Econ*, 27 (1), 7-14.

Horn, J.L. (1965). A Rationale and test for the number of factors in factor analysis. *Psychometrika*, 30(2), 179–185.

Jabnoun, N. & Rasasi, A.J.A.L. (2005). Transformational leadership and service quality in UAE hospitals. *Manag Serv Qual*, Vol. 15, No. 1, pp. 70-81.

Kim, D.Y., Kumar, V. & Murphy, S.A. (2010). European Foundation for Quality Management Business Excellence Model: an integrative review and research agenda. *Int. J Qual Reliab Manag*. 27,684–701.

Koura, K. (2009). Comparative study of core values of excellence models vis-a-vis human values. *Measuring Business Excellence*, 13(4), 34–46.

Kupfer, J. & Bond, E. (2012). Patient satisfaction and patient-centered care: Necessary but not equal. *JAMA.* 308(2), 139-140. doi:10.1001/jama.2012.7381.

Lee, P, M. & Quazi, H,A. (2001). A methodology for developing a self-assessment tool to measure quality performance in organizations. *Int J Qual Reliab Manag*, 18,118–41.

Lee, S.M., Rho, B.H. & Lee, S.G. (2003). Impact of Malcolm Baldrige National Quality Award criteria on organizational quality performance. *Int J Prod Res*, 41, 2003–21.

Mackerron, G, C., Mason, R. & McGlynn, M. (2003). Self-assessment: Use at operational level to promote continuous improvement. *Prod Plan Control*, 14, 82–89.

Miljkovic, S. (2007). Motivation of employees and behavior modification in health care organizations. *Acta Medica Medianae*. 46, 53-62.

Nabitz, U.W. & Klazinga, N.S. (1999). EFQM approach and the Dutch Quality Award. *Int J Health Care Qual Assur*, 12, 65–70.

Naidu, A. (2009). Factors affecting patient satisfaction and healthcare quality. *Int J Health Care Qual Assur*, 22(4), 366-381.

NIST. (2008). Health Care Criteria for Performance Excellence 2008. available at: http://www.quality.nist.gov/PDF_files/2009_2010_HealthCareCriteria.pdf. (accessed May 26, 2010).

NIST. (2013). 2013-2014 Baldrige Health Care Criteria for Performance Excellence. available at: http://www.nist.gov/baldrige/publications/upload/Category_and_Item_Commentary_HC.pdf (accessed August 16, 2016).

Nunnally. J.C. (1967). *Psychometric Theory*, McGraw Hill, New York.

Pannirselvam, G.P. & Ferguson, L.A. (2001). A study of the relationships between the Baldrige categories. *Int J Qual Reliab Manag*, 18, 14–34.

Peters J. (2000). A quality philosophy. *Measuring Business Excellence.* 4(4), 6.

Price, R., Elliott, M., Cleary, P., et al. (2014). Should health care providers be accountable for patients' care experiences? *J Gen Intern Med*.;30(2), 253-256. doi:10.1007/s11606-014-3111-7.

Pruckner, G.J. (2010). Health economics demand for health capita. available at: http://www.econ.jku.at/members/pruckner/files/lehre/health/demand.pdf. (accessed August 16 2016).

Rad, A.M.M. & Yarmohammadian, M.H. (2006). A study of relationship between managers' leadership style and employees' job satisfaction. *Leadership in Health Services*, 19(2), 11-28. https://doi.org/10.1108/13660750610665008.

Ritchie, L. & Dale, B.G. (2000). Self-assessment using the business excellence model: A study of practice and process. *Int J Prod Econ.* 66, 241–54.

Samuelsson, P.& Nilsson, L.E. (2002). Self-assessment practices in large organisations. *Int J Qual Reliab Manag*, 19, 10–23.

Tutuncu, O. & Kucukusta, D. (2007). Relationship between organizational commitment and EFQM Business Excellence Model: A study on Turkish award winners. *Total Qual Manag Bus.* 18,1083–96.

Tutuncu, O., Cobaner, A.A., Guzelgoz, O. et al. (2014). The effects of health transformation program on patient–healthcare personnel communication and interaction in Turkey. *Qual Quant*, 48, 3433-3446.

Vahey, D., Aiken, L., Sloane, D., et. al. (2004). Nurse burnout and patient satisfaction. *Med Care.* 42(2), 57-66.

Velicer, W.F. (1976). Determining the number of components from the matrix of partial correlations. *Psychometrik*a. 41(3), 321–327.

Zink, K.J. & Schmidt, A. (1998). Practice and implementation of self-assessment. *Int Journal of Quality Science*, 3, 147–70.