

Operations Management Decision in Shopping Malls

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Abstract

Various studies have looked at the operations management field in shopping malls but the impact of strategic decision areas on shoppers' wellbeing in malls has not been explored. Since the operations management is one of the three vital departments (Operations Management, Marketing, Finance) of most organizations, it is important to examine how this decision in operations management of shopping malls impact shoppers' wellbeing. This paper examines the structural and infrastructural decision areas made by shopping malls in the Kurdistan Region of Iraq to see how they impact on shoppers' wellbeing. A survey questionnaire was administered on 575 shopping mall customers. The IBM SPSS 23 was used in order to propose exploratory factor analysis and hierarchical regression analysis. Further, IBM AMOS 23 was used to conduct structural equation modeling. Results indicate that both the structural and infrastructural decision areas of the operations management are significantly important in determining shoppers' wellbeing. The variance of the shoppers' wellbeing in each strategic decision area is further explained. The findings of this study consist of implications for researchers and especially for practitioners. The study constructs a framework for the future studies about how the operations strategic decision areas impact the shopper wellbeing in malls. Further, this study is useful for practitioners to use the findings of this study while they state their strategic planning.

Keywords: Operations strategy, Structural decisions, Infrastructural decisions, Shopping malls, Shoppers' wellbeing

Introduction

Shopping malls have brought tremendous changes and advantages to the lives of many societies throughout the world since the second half of the 20th century. These malls have become very popular locations for customers as a place to shop, entertain, socialize, relax and interact (Feinberg & Meoli, 1991). Such places have become an entity for most modern societies as people shop and socialize at the same time, simultaneously creating recreational activities for themselves (Graham, 1988). From this point of view, how these shopping malls are managed and operated is an important issue in making the shoppers or customers feel more relaxed during their visits as this can lead to future visits.

Various dimensions of the shopping mall have been studied (Lehew, Burges & Wesley, 2002; Keng, Huang, Zheng & Hsu, 2007). These studies have focused on shopping malls and social diversities (Michon & Chebat, 2004), social and psychological aspects of shopping (Roy, 1994; Bloch, Ridgway & Dawson, 1994), age effects and shopping (Anselmson, 2006), gender effects and shopping (Chebat, Ge´linas-Chebat & Therrien, 2005; Hu & Jasper, 2004; Raajpoot, Sharma & Chebat, 2007), excitement and shopping (Wakefield & Baker, 1998, Ok Kim & Jin, 2001, Tsai, 2010), designs of shopping malls (Dogu & Erkip, 2000; Turley & Chebat, 2002; Chebat & Morrin, 2007) and others. Although these are important aspects on shoppers or mall customers, no study has attempted to look at the operational strategic decision areas as aspects which may impact on mall shoppers' wellbeing.

Operational strategic decisions are required for all managers in their capacity to perform their planning, organizing, staffing, leading, and controlling during the managerial process. In total, there are ten main strategic decisions subscribed by the operations management (Heizer & Render 2011). This includes service and product design, quality management, capacity design, location, layout design, human resources and job design, supply-chain management, inventory management, scheduling, and maintenance. Some of these decisions made by the managers, nevertheless, need to be applied with caution because the outcome directly impacts on the customers. In that regard, those aspects which need to be carefully planned and implemented are sequenced as service and product design, quality management, capacity design, location, layout design, and finally, human resources and job design. Due to the discussions with the practitioners and researchers in this field during the planning time of this study, it was concluded that rather than all ten strategic decision areas, these six can be directly perceived by the shopping mall visitors. Thus, only these six strategic decision areas have been taken into consideration in this research.

Shopping malls have been on an emerging rise in the Kurdistan Region of Iraq particularly after the end of the United Nations Embargo in 2003 (Demir, Ozmen & Rashid, 2014). Among these are some of the biggest shopping malls like the Majidi Mall and the Family Mall which were opened in Erbil and the Sulaimani cities of the region after 2010. Observations show that there has been an increasing number of customers patronizing and selecting these malls for their retail shopping due to the designs of the malls.

This study aims to examine various shopping malls that are located in the Kurdistan Region of Iraq. There are 7 shopping malls have been taken into account because they have been visited by thousands of customers. Moreover, they are the most popular shopping malls in the region. It aims to explore and understand the impact of the malls' operational strategic decision areas on the shoppers' wellbeing.

2.1. Operations Management in Service Sector

Service production is increasing rapidly all over the world. For this reason, operations management studies are significantly predisposed to the service production field (Harvey, 1990; Hyer et al., 2009; Messner, 2016; Subramanian & Ramanathan, 2012; Ren & Huang, 2017; Patel, Guedes & Pearce, 2017; Soren & Reiner, 2017). In this regard, the operations management department plays an important role in the service sector. Although the service operations management is similar to the manufacturing operations to some extent, there is one critical difference. This involves the role of the customers who can either increase customer volume or decrease their visits to the malls. Thus, the strategic source of variation in the service delivery process of shopping malls needs to be given some attention (Mohar, Abdullah & Hoo, 2016).

There are three vital departments in each organization including shopping malls and they include the operations management, the marketing department and the finance department (Collier & Evans, 2014). As one of the vital departments, the operations management is responsible for processing every step of the operations which converts input into a goods or service output.

The operations management department needs to deal with ten strategic decision fields which account for the planning, programming, and controlling of those processes. These decision fields include product and service designs, location, layout, quality management, capacity design, human resources and job design, supply chain management, inventory management, scheduling, and maintenance (). These decision fields or areas can be evaluated within two phases: structural decisions and infrastructural operation decisions (Hayes & Wheelright, 1984; Hill, 1993, Heineke, 1995; Diaz-Garrido, Martin-Pena & Garcia-Muina, 2007; Fan et al., 2017).

2.1.1. Structural Decision Areas

Structural decisions in the service system is referred to as the allocation of physical and tangible resources which are meant to offer optimal convenience in service delivery (Fan et al., 2017). This type of decision relies on the managers' resource planning capacity, an ability that may help the managers to conform to the demands of various operational activities (Roth & Van Dierdonck, 1995; Li, Benton & Leong, 2002). In this regard, the structural decision areas which can be experienced by the customers in the shopping malls include the location, layout, capacity, and design of the malls concerned.

2.1.1.1. Location

As it is the shopping mall operators' responsibility to select the most critical and convenient place in the market to provide service to their customers, the location of the specific sectors of the mall hold

very important roles in offering services in the industry. These services are outstanding comparatively, such that they are unavailable online, or they are so people oriented that similar services would encourage shoppers to return to the same mall repeatedly. The importance of the location comes from the requirement for businesses to be close to the markets of demand (Goldstein et al., 2002). In some service industries, survival may significantly depend on the location strategy alone (Hudson, 1995; Henry, 1994). To further dwell on this, it has to be understood that location decision options include (1) expanding the facility instead of moving it; (2) maintaining current sites while adding facility elsewhere, or (3) closing the facility and moving it to another location (Jay & Render, 2011). In this study, the location strategy is evaluated by focusing on the shopping malls operations' decision in how they locate their facilities. Thus, the hypothesis formulated for this area is:

H1- Strategic location decisions impact the quality perceptions of shopping mall customers.

2.1.1.2. Layout

A layout is defined as the designing workplace which is conveniently designed for an appropriate service provision. This strategy may be used in warehouses or manufacturing and service fields (Ivanov, Tsipoulanidis & Schonberger, 2017). The layout of an organization is a highly important and strategic decision area because it impacts the efficiency of the operational activities in the long run. This has been endorsed by Jay and Render (2011) who stated that, "An effective layout can help an organization to achieve a strategy that supports differentiation, low cost, or response". In the current study, the layout strategy of the shopping malls being examined are evaluated for their ease in enabling shopping customers to find the relevant stores, restaurants, restrooms and all other facilities, at their convenience and in accordance to the layout decisions. Based on this, the hypothesis formulated for this decision area is:

H2- Strategic layout decisions impact the quality perceptions of shopping mall customers.

2.1.1.3. Capacity

Capacity is another structural decision area. It refers to the number of units that can hold, receive, or serve customers. If a facility is too small, customers will probably not prefer the service (). On the other hand, the actual capacity is usually lower than the planned capacity (Ivanov, Tsipoulanidis & Schonberger, 2017). In this regard, the designed capacity of the mall serves as the peak where a system can provide a particular service. In the current study, capacity is evaluated as the spaces of shops inside the malls such as the dining and entertainment areas, or the parking capacity of the respective shopping malls. Based on this, the hypothesis formulated is:

H3- Strategic capacity planning decisions impact the quality perceptions of shopping mall customers.

2.1.1.4 Service and Product Design

Products and service designs are undisputedly, important key-success factors (Hermann, Huber & Braunstein, 2000) in any organization. Designing a service is generally a difficult issue due to the fact that it needs to include some unique characteristics in every sector and business. The right dose of service should be able to generate more customer interactions in the shopping mall business as compared to the manufacturing sector (HeizerFine & Render, 2011). In this study, the structural decision area is evaluated as the design or architecture of the shopping malls. This is because the design is the key driver of the performance of the malls. In relation to firms, shopping malls also have a substantial latitude in choosing a product architecture which is important for managerial decision making (Ulrich, 1995). In this study, the designing strategy is evaluated based on how the mall looks architecturally; how suitably it is decorated, and whether or not the design appears nice to the customers. Based on this, the hypothesis formulated is:

H4- Strategic product design decisions impact the quality perceptions of shopping mall customers.

2.1.2. Infrastructural Decision Areas

Following the structural decision areas is the infrastructural decision areas of shopping malls which need to be examined. This is because the latter can be considered as having an operative effect on current costs with short-term effects on the company's performance. Infrastructural elements do not necessarily require as large investments as structural elements (Diaz-Garrido, Martin-Pena & Garcia-Muina, 2007). Moreover, despite the less interest in infrastructural decisions (Swink et al., 2005, Narasimhan et al., 2005), it is believed that the factor carries high importance in the service sector. Infrastructural decision areas may include other aspects such as quality management (Krajewsky & Ritzman, 2000; Platts & Gregory, 1992) and human resources management (Skinner, 1969; Fine & Hax, 1985).

2.1.2.1. Quality Management

Another aspect that shopping malls need to take in their strategic decisions is quality management. This aspect includes policies, processes, procedures, and other related instructions of a system. Quality management is measured by gathering and analyzing data, and then using the outcome derived from the data to plan for further development (Crosby, 1979; Deming, 1982; Juran, 1988). In the service sector, customers have some expectations in mind. They usually compare the actual service provisions of one company to an alternative firm (. In the current study, quality management is evaluated through its continued improvement, the goodness of the management, and customer service in the shopping malls. Based on this, the formulated hypothesis is:

H5- Strategic quality management decisions impact the shopping wellbeing in shopping malls.

2.1.2.2. Human Resources

Human resources is a strategic field in management. It refers to utilizing human resources capably. It is an ultimately important department of any organization as an effective human resources department can help the organization to manage its human resources capital more effectively (Youndt et al., 1996). The management of human resources requires many activities including the planning of work schedules for employees (Heizer & Render, 2011). Such a planning can ensure that there will be sufficient number of workers at the service location at any one time to serve the customers. In the current study, human resources management refers to a number of elements including the existence of a sufficient number of employees each time, the professionalism of the employees, the human resources level of wellbeing, their level of being well-trained, their level of friendliness to the customers, their level of helpfulness and how professionally attired they are in the shopping malls. In that regard, the formulated hypothesis of this area is:

H6- Strategic human resources management decisions impact shoppers' wellbeing in shopping malls.

2.2. Shoppers' Wellbeing

Shoppers' wellbeing can be defined as consumer satisfaction within different consumer life subdomains (Day, 1987). From this point of view, it can be said that shoppers' wellbeing contributes to their various kinds of satisfaction in life. Lee et al., (2002) stated that "to measure consumer well-being, one needs to specify the subdomains of consumer life". This is endorsed by Sirgy, Meadow, and Samli (1995) who noted that there are no specific consensus which have emerged in this field yet. El Hedhli et al. (2011) and Dick and Basu (1994) have likewise found that shoppers' wellbeing contributes to their loyalty by a positive spread through word of mouth.

Methodology

A survey was conducted and a questionnaire which includes six of ten operational strategic decision areas were administered on 575 shopping mall customers. The data have been obtained by students of the operations management class. They have been already experienced from the previous projects conducted in the past years. The students have been divided into the sub groups and collected the data from different 7 shopping malls. Shopping mall customers have been selected randomly. The visitors have answered questions one by one asked by the students. Most of those visitors were locals. The questionnaire has been conducted during the afternoon until the night times due to it was the most crowded hours of the malls.

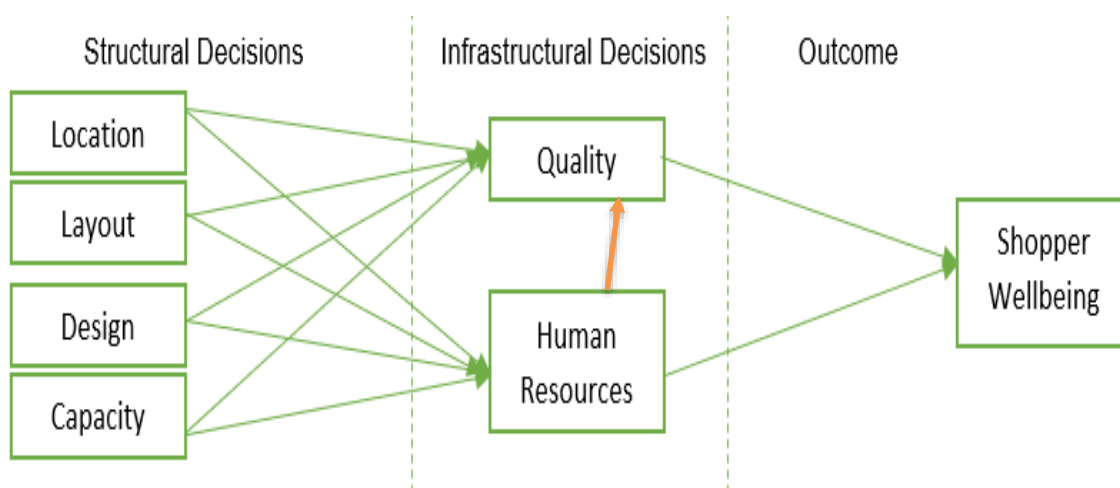
Survey questionnaire have been designed by discussing with the practitioners and researchers in this field. Moreover, as a result of discussion with them, it was concluded that supply-chain management, inventory management, scheduling, and maintenance strategic decision areas might not be directly

perceived by the customers so only service and product design, quality management, capacity design, location, layout design, human resources and job design variables have been taken into consideration. These six decision areas were divided into two parts - structural decisions and infrastructural decisions. Data were obtained from the survey and analysis was conducted by using IBM SPSS 23 for exploratory factor analysis and hierarchical regression analysis and AMOS 23 software for structural equation modeling. Structural equation modeling analysis was employed in order to elaborate on the impact of the path coefficients of each variable. This is followed by a hierarchical regression analysis which is used to elaborate on the explained variance of the shopping wellbeing of customers according to each variable. Finally, the results were used to determine some strategic advice and recommendations for shopping mall business investors.

The conceptual model of this study is shown in Figure 1. The questions noted in the questionnaire were extended to two experts in the operations management field and four directors of shopping malls in the Kurdistan Region of Iraq. This was to ensure that the questions were relevant and appropriate. All the respondents answered all the questions in the questionnaire. Likert scale was selected for the responding where 1 had meaning of “strongly disagree” and 5 “strongly agree”.

In the initial stage, the questionnaire was administered on 700 participants. Approximately 100 respondents who were also customers were approached in each shopping mall. However, 125 of the answers were eliminated due to incompleteness in their responses. Consequently, only 575 of the questionnaires were suitable for use in further analysis. Since it was hypothesized that strategic decision areas of operations management can have a significant impact on the shoppers’ wellbeing, the current study did not test the consequences of the shoppers’ wellbeing. Only the impact of the strategic operations management decisions on the shoppers’ wellbeing is being assessed. In that regard, the model of the study is designed as noted in Figure 1 below

Figure 3 Model of the study



3.2. Validity and Reliability

Before the structural equation modeling was proposed, the validity and reliability of the survey questionnaire was first tested. The internal reliability was tested by Cronbach's Alpha (Cronbach, 1951). Each value of the dimensions was above 0.70 (Nunnally, 1978; Khine, 2013).

Following the above, the exploratory factor analysis was proposed to reduce dimensions which may reflect the number of latent constructs. It was observed that the Kaiser-Meyer-Olkin's measured result was 0.941 which is well above 0.50 and Barlett's test of sphericity was significant at $p < 0.01$ (Field, 2000). This was then followed by another parameter of measurement which is the Eigen value of each factor. Here, it was observed that the Eigen value of each factor must be equal to or above one so that the concerning cluster of questions can be considered as a factor (Field, 2000). According to the results noted in the current study, there were seven dimensions which had an Eigen value of above one. In addition, those factors were able to explain 69 percent of the variance. The remaining factor loads, Cronbach's Alpha values, and the dimension names of the questions are illustrated in Table 1 below

Table 18 Results of exploratory factor analysis

Components								
	Locatio n	Desig n	Human Resource s	Qualit y	Shopping Wellbein g	Layou t	Capacit y	Cronbach' s Alpha
Q1		0.771						
Q2		0.793						0.876
Q3		0.772						
Q4				0.601				
Q5				0.746				
Q6				0.767				0.816
Q7				0.659				
Q9							0.596	
Q13							0.581	0.744

Q14								0.835
Q15	0.716							
Q16	0.747							0.844
Q17	0.753							
Q18	0.811							
Q19						0.547		
Q20						0.554		0.800
Q21						0.825		
Q22						0.569		
Q23		0.767						
Q24		0.777						0.862
Q25		0.679						
Q26		0.727						
Q27					0.522			
Q28					0.736			0.734
Q29					0.758			
Eigen Values	10.225	2.115	1.988	1.824	1.352	1.094	1.054	Total Variance Explained
Extracted	13.358	13.044	11.875	10.295	7.681	6.307	6.787	69.348
Variance								

3.3. Confirmatory factor analysis

This study also proposed using the confirmatory factor analysis to test whether a group of measures can construct a dimension adequately (Straub et al., 2004; Saunders, 2000). To accomplish this, the IBM SPSS 23 and IBM AMOS 23 software were employed. Further to this, two main types of model fit values such as comparative fit and absolute fit were also applied. The absolute fit values noted in this study was represented by chi-square (χ^2), root mean square error of approximation (RMSEA), goodness of fit (GFI), and adjusted goodness of fit (AGFI). In contrast, the comparative fit values (CFI) were evaluated using Tucker-Lewis' coefficient (TLI), and the incremental fit index (IFI). In this study, the χ^2/DF was 2.403 which is an acceptable value since it is below 5 (Marsh & Hocevar, 1988).

The root mean squared error approximation is the discrepancy between the population covariance matrix and the covariance matrix of the hypothesized model. In the current study, the concerning value was 0.49 which shows a good fit (Byrne, 2013). The GFI values and the AGFI values were 0.92 and 0.90 respectively. The results also show a good model fit (Khine, 2013).

The comparative fit indices result also showed the goodness of the hypothesized model. Here, the IFI, TLI, and CFI values were observed as 0.95, 0.94, and 0.95 respectively. These results likewise, showed a good fit of the model (Ong & Van Dulmen, 2007; Olobatuyi, 2006). Table 2 further illustrates

Table 19 Model fit indices of CFA

Model								
Fit								
Indices	Chi-Square	Chi-Square/DF	RMSEA	GFI	AGFI	IFI	TLI	CFI
Measurements	598.285	2.403	0.049	0.92	0.9	0.95	0.94	0.95

The factor loads of each question under each dimension must hold a value that is equal or above 0.5 (Hair et al., 2006; Kim, 2014). In this study, it was observed that all the questions have been above the concerning values except for questions 8, 10, 11, and 12. Consequently, these questions were excluded from the analysis. A detailed table is attached in Appendix A.

In this study, all the variables survived the discriminant and convergent validity. Discriminant validity tests the uniqueness of a variable by calculating the distinctness while convergent validity tests whether the concerned underlying questions are strongly correlated with each other (Khin, 2013). Convergent validity can be assessed by the average variance extracted (AVE) which must have a value above 0.50 and the composite reliability (C.R.) must have a value above 0.70 (Furnell & Larker, 1981). Table 3 demonstrates the discriminant and convergent validity result.

Table 20 Convergent and Discriminant Validity

	CR	AVE	Capacity	Quality	Location	Layout	HR	Design	Shopping Wellbeing
Capacity	0.833	0.678	0.891						
Quality	0.876	0.639	0.734	0.800					
Location	0.888	0.667	0.745	0.600	0.816				
Layout	0.844	0.577	0.871	0.761	0.795	0.86			
HR	0.916	0.732	0.752	0.760	0.684	0.817	0.856		
Design	0.901	0.753	0.792	0.776	0.569	0.749	0.698	0.868	
Shopping Wellbeing	0.814	0.594	0.821	0.769	0.566	0.76	0.776	0.702	0.87

3.4. Structural equation modeling (SEM)

The SEM model was developed from the seven variables where four of them were structural strategic decision areas and two of them were infrastructural strategic decision areas variables. The last variable was the shoppers' wellbeing which has been considered as the outcome of other independent variables. The IBM AMOS 23 software was employed for the analysis.

It is known that the SEM tests direct and indirect effects of the independent variables on the dependent variables. In this study, a maximum likelihood model of the SEM is engaged. Here, it can be said that in the operations management field, the SEM is the most used covariance structure model (Shah & Goldstein, 2006). It allows for a widely inclusive mean which can be used to evaluate and modify the hypothesized model (Li et al., 2002).

4. Findings

This section presents the overall results and findings derived from the hypothesized model.

4.1. Results derived from the Structural Equation Modeling

This study employed several indices to evaluate the results of the overall model. These indices include the X²/DF, RMSEA, GFI, AGFI, CFI, TLI, and IFI. When the results of these values were considered,

it was observed that the values have been 2.553, 0.51, 0.915, 0.895, 0.93, 0.925, and 0.920 respectively. These results reflect an adequate value of the hypothesized model. Table 4 further demonstrates

Table 21 Model fit statistics

Model Goodness of Fit Statistics		Value
Chi-square/DF		2.553
RMSEA		0.051
GFI		0.915
AGFI		0.895
CFI		0.931
IFI		0.921
TLI		0.925

	Variable Name	Standardized Loading	T value	P value
Q7	Quality	0.731	14.545	<0.01
Q6	Quality	0.723	15.233	<0.01
Q5	Quality	0.733	15.373	<0.01
Q4	Quality	0.756	Scaling	<0.01
Q18	Location	0.800	Scaling	<0.01
Q17	Location	0.724	17.013	<0.01
Q16	Location	0.761	18.912	<0.01
Q15	Location	0.780	18.606	<0.01
Q22	Layout	0.840	Scaling	<0.01
Q21	Layout	0.591	13.361	<0.01

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Q20	Layout	0.803	16.076	<0.01
Q19	Layout	0.790	16.287	<0.01
Q26	Human Resources	0.751	17.239	<0.01
Q25	Human Resources	0.744	17.109	<0.01
Q24	Human Resources	0.789	23.235	<0.01
Q23	Human Resources	0.787	Scaling	<0.01
Q3	Design	0.825	23.631	<0.01
Q2	Design	0.863	Scaling	<0.01
Q1	Design	0.826	23.679	<0.01
Q13	Capacity	0.595	12.134	<0.01
Q9	Capacity	0.679	Scaling	<0.01
Q14	Capacity	0.559	11.482	<0.01
Q27	Shopping Wellbeing	0.722	15.001	<0.01
Q28	Shopping Wellbeing	0.785	Scaling	<0.01
Q29	Shopping Wellbeing	0.672	13.944	<0.01

Dependent Variables	Impact	Independent Variables	Standardized Path Coefficient	T Value	P Value
Quality	<----- <	Location (Not Significant and Excluded from the model)	-	-	-
Quality	<----- <	Layout	0.242	3.38	<0.01
Quality	<----- <	Design	0.373	4.538	<0.01

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Quality	<----- <	Capacity	0.219	1.434	<0.10
Quality	<----- <	Human Resources	0.264	7.159	<0.01
Human Resources	<----- <	Location	0.207	3.910	<0.01
Human Resources	<----- <	Layout	0.253	3.443	<0.01
Human Resources	<----- <	Design	0.128	1.545	<0.10
Human Resources	<----- <	Capacity	0.295	1.962	<0.05
Shopping Wellbeing	<----- <	Quality	0.363	6.179	<0.01
Shopping Wellbeing	<----- <	Human Resources	0.423	7.177	<0.01

4.1.1. Path Coefficients on Quality

In this study, one of the four structural decisions areas were location while one of the infrastructural decision areas was quality. Although both indicators had significant factor loadings, standing at $p < 0.01$, it was observed that location did not have a significant impact on the quality decision of the respondents. This finding indicates that location is not a significant indicator of quality, based on the customers' point of view. Therefore, the path was excluded at the refining phase of the model.

One of the structural decision areas identified was layout. It was used to explain the internal distribution of the shops, dining and entertainment areas, and how easy it was for customers to find them. Based on the results of the factor loadings and the hypothesis, it was observed that the layout strategy had a significant impact on quality management, standing at $p < 0.01$. This shows that the layout variable plays an important role in the quality perception of the shopping mall customers.

An additional structural decision area, design, was also considered. This was based on the architectural fitness and suitability of the shopping malls as design would also depict the visual beauty of the

shopping malls. The results showed that design has a significant factor loading, standing at $p < 0.01$ and it also had a significant impact on quality, standing at $p < 0.01$. This outcome suggests that the design of a shopping mall is important for the quality perception of the shopping mall customers.

Further to the above, capacity was also utilized as another structural decision area. In this study, capacity was considered based on the spaces of the shops, dining, and entertaining areas which were most utilized by the shopping mall customers. The results showed that capacity planning had a significant factor loading, standing at $p < 0.01$. Capacity planning also had a significant impact on quality, standing at $p < 0.10$. This outcome shows that capacity planning decisions are significantly important in increasing the quality perception of the shopping mall customers.

Among all, human resources planning was the only infrastructural decision area that had been tested to observe whether it had any impact on quality or not. Here, it was noted that human resources planning, standing at $p < 0.01$ had a significant impact on the quality perception of the shopping mall customers.

4.1.2. Path Coefficients of Human Resources

In this study, human resources planning was considered an infrastructural decision area. This study found that it had significant factor loadings, standing at $p < 0.01$. It was further noted that location had a significant path coefficient on human resources decision area, standing at $p < 0.01$. In addition, observations showed that design, capacity, and layout also had a significant path coefficient on human resources. Both location and layout strategies had a significant impact, standing at $p < 0.01$ while capacity planning was $p < 0.05$ and design was $p < 0.10$ respectively.

4.1.3. Path Coefficients of Shopping Wellbeing

El Hedhli et al (2011) noted that shoppers' wellbeing can illustrate the emotional state of life's satisfaction which shoppers may experience in relation to their cumulative shopping experiences at a mall. Although shoppers' wellbeing is not equivalent to customers' satisfaction, it can be used to determine how some aspects of a shopping mall can contribute to the life quality of shoppers.

The outcome of this study can be interpreted. First, it showed that the dimensions for determining shoppers' wellbeing all carried a significant factor load of $p < 0.01$. Moreover, it appears that quality in the shopping malls had a significant impact on shoppers' wellbeing, standing at $p < 0.01$. The overall results also indicate that quality decisions made of the shopping malls can significantly and positively impact on shoppers' or customers' wellbeing. Second, decisions made about human resources also had a significant impact on the shoppers' wellbeing, standing at $p < 0.01$. This finding showed that professionalism, helpfulness, and friendliness of behavior and the professional dressing of human resources in the shopping malls contribute to the shoppers' wellbeing positively.

4.1.3. Explained Variance of Shopping Wellbeing

Explained variance is represented by the adjusted R square noted in the analysis. It is used to refer to the reasons why customers behaved in certain ways. Table 5 below further illustrates.

Table 22 Results of Hierarchical Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Design	.532	0.283	0.281	0.83696	0.283	225.795	1	573	0.000
Quality	.608	0.370	0.367	0.78534	0.087	78.798	1	572	0.000
Capacity	.641	0.411	0.407	0.76002	0.041	39.743	1	571	0.000
Location	.652	0.426	0.422	0.75096	0.015	14.874	1	570	0.000
Layout	.667	0.445	0.440	0.73891	0.019	19.741	1	569	0.000
Human Resources	.685	0.469	0.464	0.72311	0.024	26.124	1	568	0.000

The explained variance of the shoppers' wellbeing is portrayed by each dimension. The R square change determines the marginal variance.

Initially, it was observed that the structural and infrastructural decision areas could explain 46.4 percent of the overall variance of the shoppers' wellbeing. Separately, the infrastructural decision areas helped to explain 35.3 percent of the overall variance while the structural decision areas helped to explain only 11.1 percent.

By isolating each variable separately, it appears that design helped to explain 28.3 percent of the overall variance on shoppers' wellbeing (at $p < 0.01$). Following this is quality which explained 8.7 percent of the overall variance on shoppers' wellbeing (at $p < 0.01$). Next was, capacity which helped to explain 4.1 percent of the overall variance of shoppers' wellbeing (at $p < 0.01$). In addition, as a structural decision area, location had impacted the human resources decisions significantly. It helped to explain

1.5 percent of the overall variance of shoppers' wellbeing while layout helped to explain 1.9 percent. Finally, human resources helped to explain 2.4 percent of the overall variance of shoppers' wellbeing.

5. Discussion

The previous section has shown that various studies have focused on other attributes of shopping malls on shoppers' wellbeing, but none had explored how strategic decision areas made by the operations management impacted shoppers' wellbeing. In this regard, this study contributes to literature expansion.

Dogu and Erkip (2000), Turley and Chebat (2002), and Chebat and Morrin (2007) have noted the impact of design in shopping malls on customers' behavior. This study has the similar findings with those researchers and it can be said that the design of shopping malls significantly impacts the customers wellbeing during their visits.

Further to that, El Hedhli (2011) found that location, layout, and (partially) capacity had a significant impact on the shoppers' wellbeing. The outcome of the current study showed that capacity, location, design and layout are significantly important for the wellbeing of shopping mall customers.

Hudson (1995) and Henry (1994) have expressed the impact of location on the organizational success in service industry. This study shows that the location is not a significant impactor of quality that is perceived by the customers. Thus, it might not be that important in shopping malls sector as they have expressed. The results might be because the cities of Kurdistan Region are not very big to consider about the location as how far or close they are. So that the impact of location in shopping malls

Although El Hedhli (2011) have shown that the attributes of the shopping malls play important roles in shaping the shoppers' wellbeing thereby harnessing their loyalty, this study extends on the findings by indicating that the impact of operational strategic decision areas cannot be underestimated. It appears that structural decision areas can be used to explain more of shoppers' wellbeing variance (35.3%) than infrastructural decision areas (11.1%). This result shows that the structural decision areas are more important than the infrastructural strategic decision areas in the shopping malls. Thus, managers need to be careful when they decide about the structural decision areas due to it is either costly or hard to change it after implicating.

6. Conclusion

In organizations, the operations management is one of the three vital departments. This department has ten strategic decision areas which can determine the success of the department (Jay & Render, 2011). These ten strategic decision areas can further be divided into two parts: structural decision areas and infrastructural decision areas. This study notes that only some of these structural decision areas and some infrastructural decision areas (design, layout, location, capacity, human resources, and quality

management) are perceptible by customers while some others (inventory control, maintenance, supply-chain management, and scheduling) cannot be perceived by them.

The outcome derived from this study has shown the impact of shopping malls' operational strategic decision areas on the shoppers' wellbeing. Based on the outcome, it is believed that this area of investigation, the operations management field, remains to be an underestimated factor in determining shoppers' wellbeing in the Kurdistan Region of Iraq. Since this element can be used to explain about 46 percent of the reasons why shoppers project quality perceptions of those shopping malls, they need to be taken into consideration in future studies.

Like most research, this study is limited to only one region, that is the Kurdistan region of Iraq. In that regard, results and findings cannot be generalized for the whole of Iraq. Moreover, this study had only considered six variables as structural and infrastructural decision areas. Future studies may want to consider inventory control, maintenance, supply-chain management, and scheduling as variables in investigating their impact on shoppers' wellbeing. In addition, this study had only evaluated shoppers' wellbeing and not customer satisfaction and loyalty. Thus, they need to be clearly distinguished when considering future studies.

As it was discussed in the discussion section, Hudson (1995) and Henry (1994) have expressed the impact of location on the organizational success in service industry. This study shows that the location is not a significant impactor of quality that is perceived by the customers. So that the impact of location in shopping malls sector should be reinvestigated in other regions and may be in bigger cities.

Appendix A: Constructs and Scales

Design					
This mall architecturally looks beautiful	1	2	3	4	5
This mall has been decorated suitably	1	2	3	4	5
Overall design of the mall looks nice	1	2	3	4	5
Quality					
I can see the continuous improvement of facilities in this mall	1	2	3	4	5
I think the management of this mall is good	1	2	3	4	5
This shopping mall provides me good customer services	1	2	3	4	5
I can say that the quality of this mall is high	1	2	3	4	5
Capacity					
Spaces of shops inside the mall are sufficient	1	2	3	4	5
Space of the dining and entertainment facilities inside mall are sufficient	1	2	3	4	5
Capacity of the garage is sufficient	1	2	3	4	5
Location					
I can easily reach the location of this mall	1	2	3	4	5
There are various ways to reach this mall	1	2	3	4	5
Generally, there is no traffic jam while driving to this mall	1	2	3	4	5
The location of this mall has been selected well	1	2	3	4	5
Layout Design					
In this mall, it is easy to find the shopping stores	1	2	3	4	5
In this mall, it is easy to find the food and entertainment areas	1	2	3	4	5
In this mall, it is easy to find the restrooms	1	2	3	4	5
Overall, this layout of this mall is very convenient	1	2	3	4	5
Human Resources					
In this mall, employees are very friendly	1	2	3	4	5
In this mall, employees are very helpful to the customers	1	2	3	4	5
In this mall, employees are professionally dressed	1	2	3	4	5
In this mall, employees are behaving professionally	1	2	3	4	5
Shopper well-being					
This mall satisfies my overall shopping needs El Hedhli et al. (2011)	1	2	3	4	5
This mall plays a very important role in my social well-being El Hedhli et al. (2011)	1	2	3	4	5

This mall plays a very important role in my leisure well-being El Hedhli et al. (2011)

References

Adkins Lehew, M. L., Burgess, B., & Wesley, S. (2002). Expanding the loyalty concept to include preference for a shopping mall. *The International Review of Retail, Distribution and Consumer Research*, 12(3), 225-236.

Anselmsson, J. (2006). Sources of customer satisfaction with shopping malls: a comparative study of different customer segments. *The International Review of Retail, Distribution and Consumer Research*, 16(1), 115-138

Baker, J., & Wakefield, K. L. (2012). How consumer shopping orientation influences perceived crowding, excitement, and stress at the mall. *Journal of the Academy of Marketing Science*, 40(6), 791-806.

Bloch, P. H., Ridgway, N. M., & Dawson, S. A. (1994). The shopping mall as consumer habitat. *Journal of retailing*, 70(1), 23-42.

Byrne, B. M. (2013). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. Routledge.

Chebat, J. C., G elinas-Chebat, C., & Therrien, K. (2005). Lost in a mall, the effects of gender, familiarity with the shopping mall and the shopping values on shoppers' wayfinding processes. *Journal of Business Research*, 58(11), 1590-1598.

Chebat, J. C., & Morrin, M. (2007). Colors and cultures: exploring the effects of mall d ecor on consumer perceptions. *Journal of business Research*, 60(3), 189-196.

Collier, D. A., & Evans, J. R. (2014). *OM 5*. Nelson Education.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *psychometrika*, 16(3), 297-334.

Crosby, P. B., & Free, Q. I. (1979). *The art of making quality certain*. New York: New American Library, 17.

Demir, A.,  zmen,  ., & Rashid, A. (2014). An Estimation of Turkey's Export Loss to Iraq. *Procedia-Social and Behavioral Sciences*, 150, 1240-1247.

Deming, W. E., & Edwards, D. W. (1982). *Quality, productivity, and competitive position* (Vol. 183). Cambridge, MA: Massachusetts Institute of Technology, Center for advanced engineering study.

Díaz Garrido, E., Martin-Pena, M. L., & Garcia-Muina, F. (2007). Structural and infrastructural practices as elements of content operations strategy. The effect on a firm's competitiveness. *International Journal of Production Research*, 45(9), 2119-2140.

Dick, A. S., & Basu, K. (1994). Customer loyalty: toward an integrated conceptual framework. *Journal of the academy of marketing science*, 22(2), 99-113.

Dogu, U., & Erkip, F. (2000). Spatial factors affecting wayfinding and orientation: A case study in a shopping mall. *Environment and behavior*, 32(6), 731-755

El Hedhli, K., Chebat, J. C., & Sirgy, M. J. (2013). Shopping well-being at the mall: Construct, antecedents, and consequences. *Journal of Business Research*, 66(7), 856-863.

El Hedhli K, et al, (2011). Shopping well-being at the mall: Construct, antecedents, and consequences, *J Bus Res*

Fan, Y., French, M. L., Duray, R., & Stading, G. L. (2017). Service strategy to improve operational capabilities in the public sector. *The Service Industries Journal*, 1-23.

Feinberg, R. A. and Meoli, J. (1991). A Brief History of the Mall. *Advances in Consumer Research*. Vol (18)

Field, A. (2000). *Discovering statistics using SPSS for Windows: Advanced techniques for beginners* (Introducing Statistical Methods series).

Fine, C.H. and Hax, A.C., *Manufacturing strategy: a methodology and an illustration*. *Interfaces*, 1985, 15, 28-46
Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 39-50.

Goldstein, S. M., Ward, P. T., Leong, G. K., & Butler, T. W. (2002). The effect of location, strategy, and operations technology on hospital performance. *Journal of Operations Management*, 20(1), 63-75.

Hang Ren, Tingliang Huang, *Modeling Customer Bounded Rationality in Operations Management: A Review and Research Opportunities*, *Computers and Operations Research* (2017), doi: 10.1016/j.cor.2017.11.002

Hayes, R. H., & Wheelwright, S. C. (1984). Restoring our competitive edge: competing through manufacturing (Vol. 8). New York, NY: John Wiley & Sons.

Heineke, J. (1995). Strategic operations management decisions and professional performance in US HMOs. *Journal of Operations Management*, 13(4), 255-272.

Herrmann, A., Huber, F., & Braunstein, C. (2000). Market-driven product and service design: Bridging the gap between customer needs, quality management, and customer satisfaction. *International Journal of production economics*, 66(1), 77-96.

Heizer Jay, and Barry Render. *Operations Management*, 10th edition, US New Jersey: Prentice Hall, 2011.

Henry, W. F. (1994). Reinventing rural hospitals. *Trustee: the journal for hospital governing boards*, 47(8), 22.

Hill, T. (1993). *The essence of operations management*. FT Prentice hall

Hu, H., & Jasper, C. R. (2004). Men and women: A comparison of shopping mall behavior. *Journal of Shopping Center Research*, 11(1), 113-131.

Hudson, T. (1995). Rural priorities. Hospital links and managed care contracts top the list. *Hospitals & health networks*, 69(4), 40-42.

Hyer, N. L., Wemmerlöv, U., & Morris Jr, J. A. (2009). Performance analysis of a focused hospital unit: The case of an integrated trauma center. *Journal of Operations Management*, 27(3), 203-219.

Ivanov, D., Tsipoulanidis, A., & Schönberger, J. (2017). *Layout Planning*. In *Global Supply Chain and Operations Management* (pp. 279-300). Springer International Publishing.

Jean Harvey, (1990), "Operations Management in Professional Service Organisations: A Typology", *International Journal of Operations & Production Management*, Vol. 10 Iss 4 pp. 5 – 15

Juran, J. M. (1988). *How to use the handbook. QUALITY HANDBOOK*.

Keng, C. J., Huang, T. L., Zheng, L. J., & Hsu, M. K. (2007). Modeling service encounters and customer experiential value in retailing: An empirical investigation of shopping mall customers in Taiwan. *International Journal of Service Industry Management*, 18(4), 349-367.

Kim, H. K. (2014). *The effect of authentic leadership on employees' attitudes, behaviors, and performances in a Korean context* (Doctoral dissertation, Oklahoma State University).

- Khine, M. S. (2013). Application of structural equation modeling in educational research and practice. Sense Publishers.
- Krajewsky, L.J. and Ritzman, L.P., Operations Management. Strategy and Analysis, 2000 (Adisson Wesley: New York).
- Lee, D. J., Sirgy, M. J., Larsen, V., & Wright, N. D. (2002). Developing a subjective measure of consumer well-being. *Journal of Macromarketing*, 22(2), 158-169.
- Li, L. X., Benton, W. C., & Leong, G. K. (2002). The impact of strategic operations management decisions on community hospital performance. *Journal of Operations Management*, 20(4), 389-408.
- L.W. Turley & Jean-Charles Chebat (2002) Linking Retail Strategy, Atmospheric Design and Shopping Behaviour, *Journal of Marketing Management*, 18:1-2, 125-144
- Marsh, H.W. & Hocevar, D. (1988) A New, and More Powerful Approach to Multi trait multimethod Analyses: Application of Second-order Confirmatory Factor Analysis. *Journal of Applied Psychology*, Vol. 73, No. 1, pp. 107-117.
- Messner, M. (2016). Does industry matter? How industry context shapes management accounting practice. *Management Accounting Research*, 31, 103-111.
- Michon, R., & Chebat, J. C. (2004). Cross-cultural mall shopping values and habitats: A comparison between English-and French-speaking Canadians. *Journal of Business Research*, 57(8), 883-892.
- Mohar, A., H., A., Abdullah, F., and Hoo, B., v., (2016). Development and Validations of a Holistic Service Operations Management Instrument. *Procedia - Social and Behavioral Sciences* volume 224, Pages 429-436
- Narasimhan, R., Swink, M. and Kim, S.W., An exploratory study of manufacturing practice and performance interrelationships. Implications for capability progression. *Int. J. Ops. Prod. Mgmt.*, 2005, 25, 1013–1033
- Nunnally, J. (1978). *Psychometric methods*.
- Ok Kim, J., & Jin, B. (2001). Korean consumers' patronage of discount stores: domestic vs multinational discount store shoppers' profiles. *Journal of consumer marketing*, 18(3), 236-255.
- Olobatuyi, M. E. (2006). *A user's guide to path analysis*. University Press of America.

- Ong, A. D., & Van Dulmen, M. H. (Eds.). (2007). Oxford handbook of methods in positive psychology (pp. 111-125). New York: Oxford University Press.
- Patel, P. C., Guedes, M. J., & Pearce, J. A. (2017). The Role of Service Operations Management in New Retail Venture Survival. *Journal of Retailing*, 93(2), 241-251.
- Platts, K.W. and Gregory, M.J., A manufacturing audit approach to strategy formulation. In *Manufacturing Strategy, Process and Content*, edited by C.A. Voss, pp. 29–55, 1992 (Chapman and Hall: London)
- Raajpoot, N. A., Sharma, A., & Chebat, J. C. (2008). The role of gender and work status in shopping center patronage. *Journal of Business Research*, 61(8), 825-833.
- Roth, A. V., & DIERDONCK, R. (1995). Hospital resource planning: concepts, feasibility, and framework. *Production and operations management*, 4(1), 2-29.
- Roy, A. (1994). Correlates of mall visit frequency. *Journal of Retailing*, 70(2), 139-161.
- Shah, R., & Goldstein, S. M. (2006). Use of structural equation modeling in operations management research: Looking back and forward. *Journal of Operations Management*, 24(2), 148-169.
- Sirgy, M. J., Meadow, H. L., & Samli, A. C. (1995). Past, present, and future: An overview of quality of life research in marketing. *New dimensions in marketing/quality-of-life research*, 335-364.
- Skinner, W., *Manufacturing. The Formidable Competitive Weapon*, 1985 (John Wiley: USA)
- Søren Halkjær, Rainer Lueg, (2017) "The effect of specialization on operational performance: a mixed-methods natural experiment in Danish healthcare services", *International Journal of Operations & Production Management*, Vol. 37 Issue: 7, doi: 10.1108/IJOPM-03-2015-0152
- Swink, M., Narasimhan, R. and Kim, S.W., *Manufacturing practices and strategy integration: effects on cost efficiency, flexibility, and market-based performance*. *Dec. Sci.*, 2005, 36, 427–435
- Swink, M., Narasimhan, R. and Kim, S.W., *Manufacturing practices and strategy integration: effects on cost efficiency, flexibility, and market-based performance*. *Dec. Sci.*, 2005, 36, 427–435.
- Subramanian, N., & Ramanathan, R. (2012). A review of applications of Analytic Hierarchy Process in operations management. *International Journal of Production Economics*, 138(2), 215-241
- Tsai, S. P. (2010). Shopping mall management and entertainment experience: a cross-regional investigation. *The Service Industries Journal*, 30(3), 321-337.

Ulrich, K. (1995). The role of product architecture in the manufacturing firm. *Research policy*, 24(3), 419-440.

Youndt, M. A., Snell, S. A., Dean, J. W., & Lepak, D. P. (1996). Human resource management, manufacturing strategy, and firm performance. *Academy of management Journal*, 39(4), 836-866.

Wakefield, K. L., & Baker, J. (1998). Excitement at the mall: determinants and effects on shopping response. *Journal of retailing*, 74(4), 515-539.