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TESTING THE VALIDITY MODEL FOR MEASURING CUSTOMER SATISFACTION USING (CFA)

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Abstract: - ***The current study aimed to test the validity of a proposed model for measuring customer satisfaction in the Islamic financial institutions in the Libya. The proposed model consisted of the dimensions and standards of service quality evaluation based on the (service quality model). In order to achieve this, used (CFA) through the Amos program (Amos 21.0).The study population of customers of financial institutions consists of (Libyan Stock Market and the Bank of the Republic and the main branches). The findings of the study showed that the proposed model was valid for measuring customer satisfaction in the Islamic financial institutions in Libya.***

Key words: Material, Reactive, Security, Empathy, Reliability

1. Introduction:

Customer satisfaction is considered as an important factor that has a positive impact on the survival of any organization and its continuity in the business world. This is more important especially in an environment where competition is intense and where survival is only for those organizations which have a competitive advantage that is inimitable (Belhassen,2012). Within the changing environmental variables, it becomes necessary for successful organizations not only to suffice with achievement of customer satisfaction, but also to measure and determine the degree of such satisfaction and its continuity in addition to the success of the organization in providing the customer's needs and requirements and making such provided services match their needs and desires in a way that leads to building the customer's loyalty to that organization. This is because it is believed that satisfaction results into customer's loyalty and increases his/her frequency of dealings with that given organization, and consequently enabling the organization to achieve the desired profits Customer stratification has been increasingly acquiring much importance in almost all organizations today (Kurdi,2011). However, the concept of customer satisfaction has raised a great deal of interest and discussion in previous literature because of the difficulties in determining and measuring it especially with the lack of broad consensus among previous researchers and scholars. In spite of this, the quality of service contributes to determine whether the customer is satisfied or not based on his/her accumulated experience in dealing

with organizations that work in the same sector. For example, in Islamic financial institutions, customer's satisfaction is represented through his/her assessment or evaluation of the quality of the service after receiving that service (Rahaman,et al,2011).Therefore, these organizations which are willing to achieve their continued growth in the market need to measure customer satisfaction constantly. Moreover, many pioneers of management believe that the factor of service quality through its dimensions and standards of evaluation according to the (Servqual) is the most important factor by which organizations can measure the levels of customer satisfaction (Darwish, 2009).

2. Research Objectives

The current study aimed to testing a proposed model for measuring customer satisfaction in the Islamic financial institutions in Libya.

3. Method

3.1. Research Instruments

In this regard, it is relied upon the questionnaire as a tool to gather the necessary information for this study as one of the most suitable scientific research tools that achieve the survey study objectives and to obtain information and facts associated with a determined reality, for achieving the study, a questionnaire is made for the purposes of processing the studying test the validity of a proposed model for measuring customer satisfaction.

3.2. Confirmatory Factor Analysis

The Structural Equation Modeling (AMOS) model-fitting program is used to test the validity constructs are to test the validity of a proposed model for measuring Human Resources Development. The overall model fit is assessed by using four indices of the model goodness-of-fit:(1) the comparative fit index (CFI) greater than(0.90) (McDonald & Marsh,1990); (2) the chi-square statistics;(3) the minimum value of the discrepancy between the observed data and the hypothesized model divided by degrees of freedom (CMIN/DF) or normed chi-square (Marsh & Hocevar,1985) described that the minimum fit function for (CMIN/DF) of an acceptable fit is less than (5); (4) in addition (RMSEA) less than (0.08) (Mac Callum et al, 1996).

3.3. Construct Validity

The employment of factor loading composite reliability (CR) and average variance extracted (AVE) were proposed by (Hair, et al,2006) to determine the convergent validity if it equals to or greater than(0.5) (≥0.5) and the composite reliability equals to or greater than (0.7) (≥0.7) if were recommended by (Hair et al,2006). In addition (AVE) reading values should be greater than (0.5) (≥0.5) and greater than (Shared Variance-SV).

4. Results:

4.1. The Modified Model

From Figure (1) that shows the results of the (Confirmatory Factor Analysis-CFA) for the proposed model for measuring customer satisfaction, it is evident that the model is free of the illogical correlation since it reaches or exceeds the integer (1). This also indicates that there is

not any problems in the (Confirmatory Factor Analysis-CFA) used for testing the validity of this model that comprises five factors: The first factor containing the Material quality of the concrete or actual service, the second factor including the Reactive quality of the service, and the third factor including the Security quality, the fourth factor containing the quality of Empathy, the fifth factor containing the quality of Reliability. As seen in Figure (1) and Table (1), the indicators of agreement between the model and the data exceeded the (T-value), thus, implying that there is disagreement between model customer satisfaction and the data of the sample since the value of the (Chi-Square) was (989.406) and the degree of freedom was (289), and the level of significance was (P=0.000). In addition, we can see that the normative (Chi-Square) (Chi-Square /degrees of freedom) was (3.424) less than (5), and the value of relative strength index (CFI) was (0.898) less than the (0.90). The results also show that the value of the index (RMSEA) was (0.080) Equal (0.080). Due to this contradiction between the model and the data, it was necessary to modify the customer satisfaction model in this study.

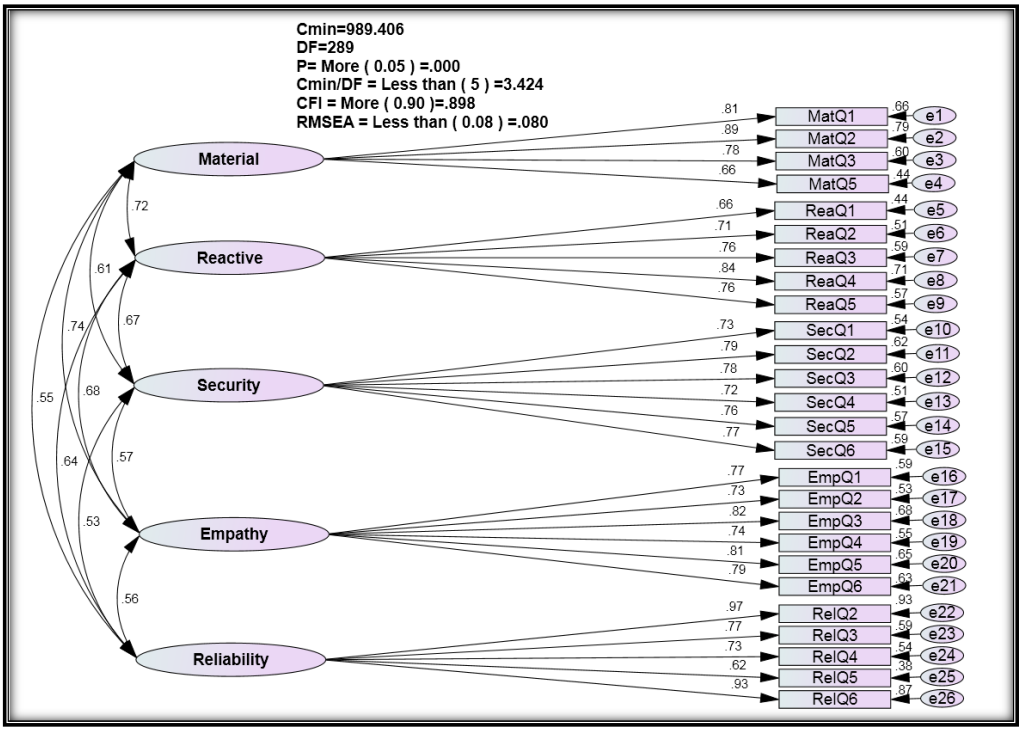

Figure 1: Model customer satisfaction before the amendment

In order to modify this model, we followed was deleting (ReaQ1) Because it was less loading of the other item at the same factor (Reactive), and deleting (SecQ4) where the ratio of saturation or loading this item was the least compared to other items at the same factor (Security), in addition deleting (EmpQ2, EmpQ4) Because it was less loading of the other item at the same factor(Empathy),and (RelQ5) Because it was less loading of the other item at the same factor (Reliability),to what Amos confirmed by analysis of Amos.

Table 1: index value of customer satisfaction model before and after modification

indicators consistency	*index value before modification*	*index value after modification*	*Function value on the quality of conformity*
Cmin	989.406	496.985	---
df	289	179	---
P	0.000	0.000	Non
Cmin/Df	3.424	2.776	Less than (5)
CFI	0.898	0.941	More (0.90)
Rmsea	0.080	0.068	Less than (0.08)

4.2 Confirmatory Factor Analysis of the Customer satisfaction model

The results of the goodness-of-fit of the final revised of the Customer satisfaction model showed that normed chi- square (CMIN/DF) was (2.776) the (Comparative Fit Index-CFI) was (0.941) and (RMSEA) was (0.068). Figure (2) shows the adequacy of the final revised of the Customer satisfaction model.

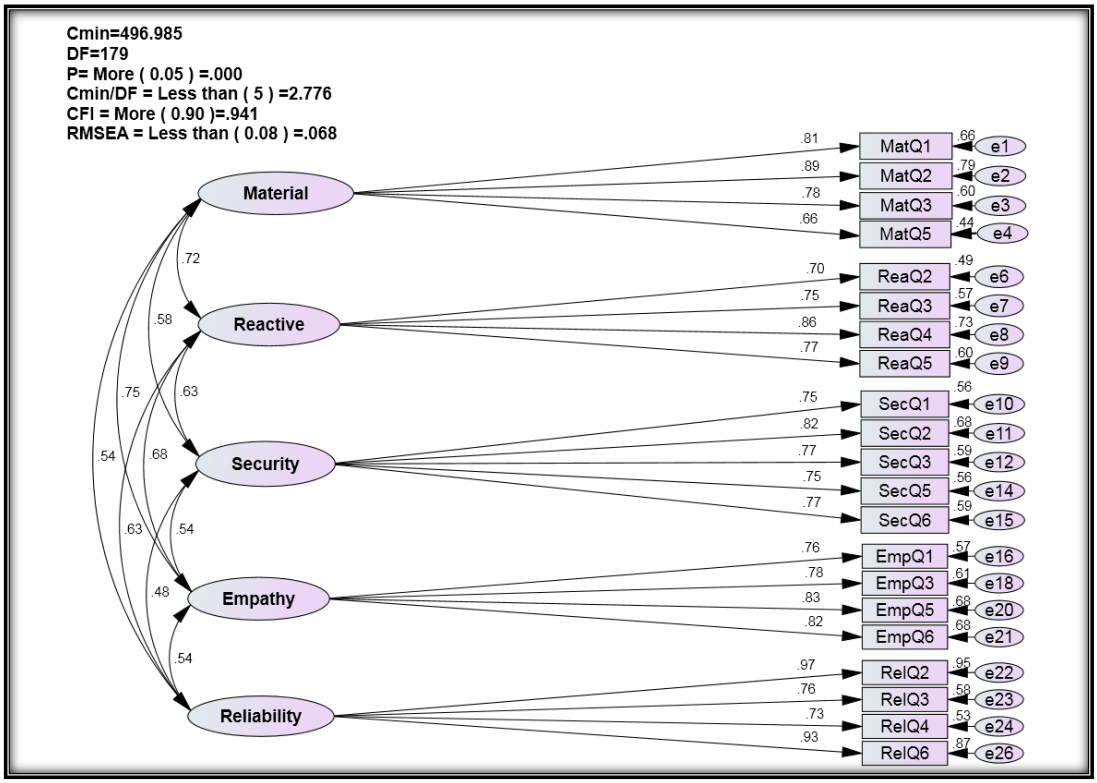

Figure 2: Customer satisfaction model after amendment.

4.3. Construct Validity and Reliability:

In this study, the factor lodging for the parameters ranged from (0.66 to 0.97), with all parameters were above (0.5) (≥0.5). The reliability ranged from (0.93 to0.94), were greater than (0.7) (≥0.7). Furthermore, the (AVE) readings was (0.62, 0.59, 0.59, 0.63, 0.73) where the value was greater than (0.5) (≥0.5) Thus, all results fulfilled the (AVE), and The

reliability discriminant validity of the model. Generally, the measurement model of the Customer satisfaction model was fit and fulfilled the construct as depicted in table (2).

Table 2: ***Construct Validity and Reliability of Customer satisfaction model***

Item code	*variables*	*Items*	*Reliability*	*estimate*	*S. E.*	*C. R.*	*P*	*Loading*	*R*	*AVE*
Mat Q1	*Material*	The need for the Islamic Bank owns modern devices.	0.93	0.929	0.047	19.774	0.000	0.81	0.66	0.62
Mat Q2		The need to have the general appearance of the Islamic Bank attractive.	0.93	1.000	-	-	-	0.89	0.79	-
Mat Q3		The need for the Islamic Bank staff shows a stylish appearance.	0.93	0.875	0.047	18.400	0.000	0.78	0.60	-
Mat Q4		Need to be articles on IDB services attractive appearance.	0.94	0.728	0.050	14.557	0.000	0.66	0.44	-
Rea Q2	*Reactive*	It expects that financial institutions do not take interest on loans.	0.93	0.821	0.055	14.915	0.000	0.70	0.49	0.59
Rea Q3		It expects that financial institutions provide Islamic banking services.	0.94	0.902	0.054	16.553	0.000	0.75	0.57	-
Rea Q4		The need to provide loans and facilities without interest.	0.93	1.000	-	-	-	0.86	0.73	-
Rea Q5		It expects to provide financial institutions with the participation of investment gains and losses.	0.93	0.940	0.045	17.124	0.000	0.77	0.60	-
Sec Q1	*Security*	The need to be the staff's behavior gives the impression of confidence among customers.	0.94	0.908	0.061	14.736	0.000	0.75	0.56	0.59
Sec Q2		Customers need to feel secure in their dealings with the organization.	0.94	0.917	0.056	16.346	0.000	0.82	0.68	-
Sec Q3		The need for the staff enjoys tact when dealing with customers.	0.94	0.902	0.059	15.127	0.000	0.77	0.59	-
Sec Q5		The need for staff to be ready to provide services to the bank's customers immediately.	0.94	0.871	0.059	14.666	0.000	0.75	0.56	
Sec Q6		The need to be the staff's behavior gives the impression of confidence among customers.	0.94	1.000	-	-	-	0.77	0.59	
Emp Q1	*Empathy*	The need to pay Enterprise Manager customers personal attention.	0.94	0.945	0.058	16.172	0.000	0.76	0.57	0.63
Emp Q3		The need for staff pay personal attention to customers.	0.94	0.953	0.056	16.803	0.000	0.78	0.61	-
Emp Q5		The need for the staff understands the specific needs of customers.	0.93	1.000	-	-	-	0.83	0.68	-
Emp Q6		The need to provide employees with bona fide customers.	0.93	0.988	0.054	18.085	0.000	0.82	0.68	-
Rel Q1	*Reliability*	When a customer has a problem on the employee to show interest to resolve.	0.93	1.000	-	-	-	0.97	0.95	0.73
Rel Q2		The need for the employee to provide the service is properly the first time.	0.94	0.739	0.035	21.062	0.000	0.76	0.58	-
Rel Q3		The need for the employee to provide the service deadlines agreed.	0.93	0.723	0.037	19.509	0.000	0.73	0.53	-
Rel Q5		The need to respond promptly to customer requests.	0.93	0.948	0.025	37.507	0.000	0.93	0.87	

5. Conclusion:

The current study aimed to test the validity of a proposed model for measuring customer satisfaction in the Islamic financial institutions in Libya. The proposed model included customer satisfaction as a potential variable that is realized through several apparent factors that are the dimensions and standards of service quality evaluation according to the (Servqual). To achieve this research aim, the researcher carried out a (Confirmatory Factor Analysis-CFA) by using the Amos program (Amos 21.0). This was test the validity of the model that can be used for measuring the degree and level of customer satisfaction. Based on the results of the analysis and the outputs of the Amos in Figure (1) and Table (1), it is evident that there is disagreement between the model and the data, which emphasizes the need to modify the model. After the model modification as illustrated by Figure (2) and Table (2), there was a match between the model and the sample data based on the goodness of fit indices. Moreover, the average variance extracted (AVE) of all the factors was higher than the standard test factors (0.50) and greater than (Shared Variance-SV). Therefore, it can be concluded that the proposed model in this study has both convergent and discriminate validity, which implies that the model is valid and reliable to be used for measuring of customer satisfaction.

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