

## SER-QUAL To Lib-QUAL: Is the Difference Provides New Horizons of Customer's Satisfaction

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### Abstract

There are several studies that are conducted to highlight the understanding factors responsible for higher (tertiary level) education. However, very few of these studies are focused on the impact of library services although the importance of these services cannot be ignored. Similar points are reflected through literature as well as through standards of quality education. However, the relationship of libraries with the level of quality education provided by tertiary level institutions in Asia as well as in Pakistan is relatively under-explored. These lacking became much more severe when it is related to the state-owned universities and therefore the study has been conducted purposely to investigate the role of libraries at tertiary level organizations in Karachi on the quality of education. SMART-PLS has been incorporated to balance the criterion linked with theory building and generalization which indicated that SER-QUAL model with bit of modification is highly correlated with perceived level of customer's satisfaction in government sector universities.

**Key Words:** SER-QUAL, Lib-QUAL, Library services, Quality of Education & Government Sector Universities.

### 1. Introduction

Today in the 21st century every organization must have two things: one, brand which distinguishes it from others; second, the customers which continuously buy its products and services, which help companies to stay in the business landscape and earn its ultimate objective i.e., Profit (Farooq et al., 2019). Academic libraries are purposely built service-oriented institutions for fulfilling academic needs of the community. In recent times the importance of university libraries has increased significantly. The major reasons for the increase of significance are increase of awareness, cost and competitive pressure. Therefore, these institutions are now becoming more user centric in order to avoid competitive pressure (Alam, 2021).

Hence, the library is the heart of the university' (Virkus & Metsar, 2004). Similar points are indicated by Muthanna and Sang (2019) that there is no doubt that the presence of a library at a higher education institution is essential: one of the main missions of any higher education institution is conducting scientific studies which always depend primarily on reading existing studies on any given subject matter. In fact, in international universities, the library is located in a well-designed and suitable building over several floors, with every floor designed for and

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dedicated to a particular domain or domains. Therefore, it is legitimate to believe it is imperative for any university to improve its library users' footfall that can be increased by providing the best library services to students (Farooq et al., 2019).

### **1.1 Statement of Problem**

Continuous change in information and communication technologies (ICT) is also creating significant impact upon libraries. Due to which libraries are getting massively dependent upon user satisfaction (Partap, 2019). On the other hand, Vasishta (2008) described traditional libraries as 'closed-access' libraries since there are no established ICT. He further elaborated that, "Maintaining tradition for the sake of convenience may be harmful to progress; if we do not modernize, we will lose our competitive edge and can never be up-to date" (p. 286). In fact, in recent times there is a direct relationship between customer satisfaction through library services and the significance & survival of the library. However, academic libraries are required to be experts of information management and must also work proactively for anticipating and meeting customer's expectations (Partap, 2019). Still most of the studies under this vein were focused on the comparison of expected versus perceived quality, which resulted in less focus on the quality of library services. Moreover, previous studies measured customer satisfaction on the bases of individual universities (Farooq et al., 2019). Other studies e.g. Alam (2021) and Arshad and Ameen (2010) use SERVQUAL dimensions with respect to Eastern University Library Bangladesh and libraries of University of Punjab respectively. Both of these studies use modern tools required to assess the impact of ICT and other necessary dimensions on satisfaction of students but the focus is limited.

However, Asogwa et al (2014) used SERVQUAL dimensions to evaluate the effect of library facilities on customer's satisfaction with respect to developing sides of the world. Though study does not highlight the grounds to select users of library services, especially with respect to major eastern countries like India & Pakistan. Therefore, the purpose of this study is to measure the impact of SERVQUAL dimensions on user satisfaction of library services with reference to Pakistan & India. The reason for preferring Pakistan and India is the criteria for sample selection by Asogwa et al (2014), was not clear regarding Pakistan. On the other side of the study of Arshad and Ameen (2010), the number of public sector universities in Pakistan surpasses private sector universities and studies like Arshad and Ameen (2010) focused on libraries under University of Punjab. Hence this study is based on the comparison of SERVQUAL dimensions with reference to public sector universities of Pakistan but under the label of Lib-Qual model that is modified version of SER-QUAL and used for the evaluation of quality in library services (Idowu, 2022)

### **1.3 Theoretical Framework:**

Hernon and Calvert (2005) indicated that it is impossible to devise instruments that might be implemented to all forms of libraries and therefore SERVQUAL dimensions are the best way to evaluate level of customer satisfaction especially from academic libraries (Andaleeb & Simmonds, 1998). SERVQUAL dimensions are used to measure customer's satisfaction for library services as the model was initially implemented for the evaluation of customer's satisfaction for library services e.g., Nitecki (1996) Model of this study is grounded in the parameters given by Alam (2020) and Farooq et al (2019). The model of Alam (2020) is much enhanced to reflect SERVQUAL dimensions on customer's satisfaction. However, there is a need to relate empathy

as the major predictor (Farooq et al., 2019) than demeanour (Alam, 2020), as quick and positive response might only be given after understanding users. In fact, responsiveness is based on expectations of customers related to promptness of library staff (Andaleeb & Simmonds, 1998). That are also required to increase their skills are abilities to address customer's needs and requirements in a more desired manner (Idowu, 2022).

Therefore, transforming to Lib-QUAL dimensions this study uses responsiveness as the mediator between Lib-QUAL dimensions & customer's (user's) satisfaction (Farooq et al., 2019). Therefore, on these bases the research model has four IVs, one mediator and one DV.

## **2. Literature Review**

Quality is an assessment tool for excellence in resources & services. The measure is helpful in assessing the level of customer's satisfaction (Alam, 2021). However, there is no single accepted definition of quality and according to the literature the term "Quality" may be defined differently under different circumstances. Although quality must be supplemented attributes like, "Value", "Excellence", & "Conformance to Specification", as customers are the only and legitimate evaluator of quality. Increase in the difference of performance & user's expectations significantly will be the level of quality and vice versa (Arshad & Ameen, 2010).

Level of excellence will lead to an increase in the customer's satisfaction and satisfaction is associated with the customer's feeling of excitement, delight, relief and happiness. However, in library services especial importance has been placed upon customer's experience with material, staff as well as environment. The effectiveness of experience is required as the library is not only providing information and books but the advice from library staff (Suki & Suki, 2013). Though with respect to historical perspectives, the quality of the academic library has been reflected through its collections in the form of library's holdings and contents. However, with the advancement of technology and digitization of the world the size of the library contents is not included in the list of quality criterion. Regardless of these changes academic libraries are termed as legitimate elements in quality of any higher education institution or university. Therefore, it is required to pay attention towards this element of quality so to assure institutional quality Literature also evidences the relationship between quality of library services and customer's satisfaction that was initially measured through output produced by libraries in the form of number of items borrowed (Dimitriadis et al., 2013).

Although in recent times quality of library services is measured by meeting customers' needs and expectations through emphasizing on missing elements like lack of interaction between faculty, students and library staff (Dimitriadis et al., 2013). However, it is not possible to develop a single instrument that might be applicable to all the academic libraries under any circumstances (Hernon & Calvert, 1996). On the other hand, studies also indicated that there is no library that can satisfy all of its customers, especially when there is a large customer base. However, a library that is providing better services would be able to satisfy more customers as compared to the counterparts. Therefore, researchers proposed higher the perceived quality of library resources greater will be the level of customer satisfaction (Andaleeb & Simmonds, 1998). Hence the instrument developed by Parasuraman et al (1985) that is termed as SERVQUAL is a multi-item scale is a modern method to measure customers' expectations regarding service quality. The instrument is also

related with service quality in academic libraries and the purpose of the instrument is to compare customer's expectation of quality with the quality received (Dimitriadis et al., 2013).

The upcoming points will discuss the dimensions of SERVQUAL with reference to the points mentioned in the theoretical framework.

### **2.1 Resources:**

Resources are important as academic problems and needs make users use library services frequently. Although in contemporary times the environment is associated with information & communication technology (ICT) hence library services may not only hang upon physical resources (Alam, 2021). Therefore, resources are perceived as one highly rated factor in SER-QUAL dimensions for affecting the level of customer's satisfaction. Hence one may not only include size of collection at library and items related to information but must also include recent, updated, sufficient and modern technologies (Hossain, 2016). Hence libraries must also try to capitalize on e-resources in order to gain competitive advantage through online services. Other than these resources there is a need to provide diversified information access to users which require the positive role of library authorities and their inclination towards users' demand (Alam, 2021).

### **2.2 Empathy:**

It is the measure for individual care and attention that library staff provides to customers (Sajna & Haneefa, 2016). In fact, if users perceive that they are gaining individual attention then there will be high chances that customers will prefer company over the others in future activities (Reddy, 2017). In fact, empathy is considered as the most important dimension among the criteria of SER-QUAL dimension but results of one of the initial studies reflected that empathy is one of the least concentrated characteristics from SER-QUAL Dimension (Coleman et al., 1997).

### **2.3 Competency:**

Competency is the part of the SER-QUAL model that does not act as the primary dimension for all of the industries (Alam, 2021). Most of the time competency emphasized on proficiency of staff in delivery of services. Thus, depends upon sincerity to the job, ability to provide thorough guidance & ability to understand the issues at user end (Hossain, 2016). The competency is required in academic libraries as it makes customers' inclined towards the services of academic libraries (Alam, 2021).

### **2.4 Tangibles:**

Tangibles are the characteristic that is based on equipment, facilities, personnel and even communication. In short it is the combination of all the components that are required to provide a firsthand impression. It is the wish of every company to create an everlasting first hand impression to make their customer will prefer them again & again (Reddy, 2017). One of the initial studies by Cohen (1996) that tangibles are one of the most powerful tools to assess the impact of library services on customer's satisfaction.

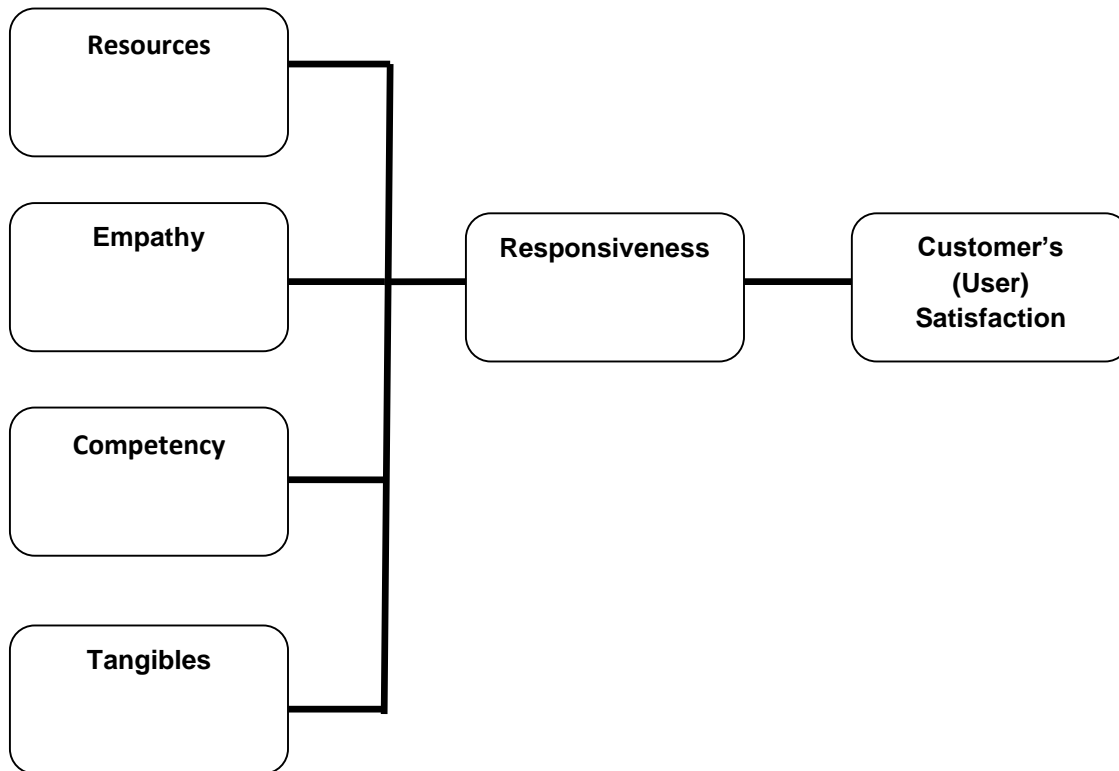
## 2.5 Responsiveness:

Responsiveness is defined as the willingness of the staff to help customers through adequate services (Sajna & Haneefa, 2016).

This is significantly important as the characteristic is required to make the user more important and therefore it depends heavily upon willingness and readiness of the employee to deliver a bit extra. Timeliness of services and prompt replies from library personnel are the common examples of the characteristic (Reddy, 2017). Therefore, this characteristic of library services is perceived as challenging in the sector. Hence it is required that library staff must render sufficient responsiveness in order to make their customers satisfied (Alam, 2021).

## 2.6 Research Model

Figure 1: Model Lib-QUAL



## 2.7 Research Hypotheses

**H<sub>1A</sub>:** There is a relationship between library resources at government sector universities and Customer's Satisfaction.

**H<sub>2A</sub>:** There is a relationship between empathy of library personnel at government sector universities and Customer's Satisfaction.

**H<sub>3A</sub>:** There is a relationship between competency of government sector universities and Customer's Satisfaction.

**H4A:** There is a relationship between tangibles at government sector universities and Customer's Satisfaction.

**H5A:** Responsiveness mediates between library resources at government sector universities and Customer's Satisfaction.

**H6A:** Responsiveness mediates between empathy of library personnel at government sector universities and Customer's Satisfaction.

**H7A:** Responsiveness mediates between competency of government sector universities and Customer's Satisfaction.

**H8A:** Responsiveness mediates between tangibles at government sector universities and Customer's Satisfaction.

### **3. Research Methodology**

Study is one of the cross-sectional studies that are often used in social sciences (Farooq et al., 2019). However, due to its application towards developing and eastern sides of the world the philosophy related with this study is epistemology. The link is effective as the purpose of study is not only to reflect application of Lib-QUAL Dimension in the context of Pakistan but also with respect to academic libraries of government sector universities. Hence, the study is one of the rich sources of knowledge building as indicated by Saunders Lewis and Thornhill (2007) for epistemology. Moreover, the study is associated with development of a unique research model and quantitative technique and hence the philosophical stance associated with the study is post-positivism.

On the other side of the research design is sampling design and in consideration with the prior studies the sampling frame is all the students of government sector universities of Karachi as students are perceived as valid indicators to measure customer's satisfaction (Nadiri & Mayboudi, 2010).

Although the sample size is composed of graduate and post graduate students of government sector universities as Yamane (1967), uses a sample of 390 bachelor level students to evaluate the satisfaction of customers. Although for bachelor level students the major attraction of the library is as the source of thesis formulation & in recent times SERVQUAL dimensions are treated as the major tool to evaluate the quality of the website (Alam, 2021 & Farooq et al., 2019).

#### **3.1 Questionnaire**

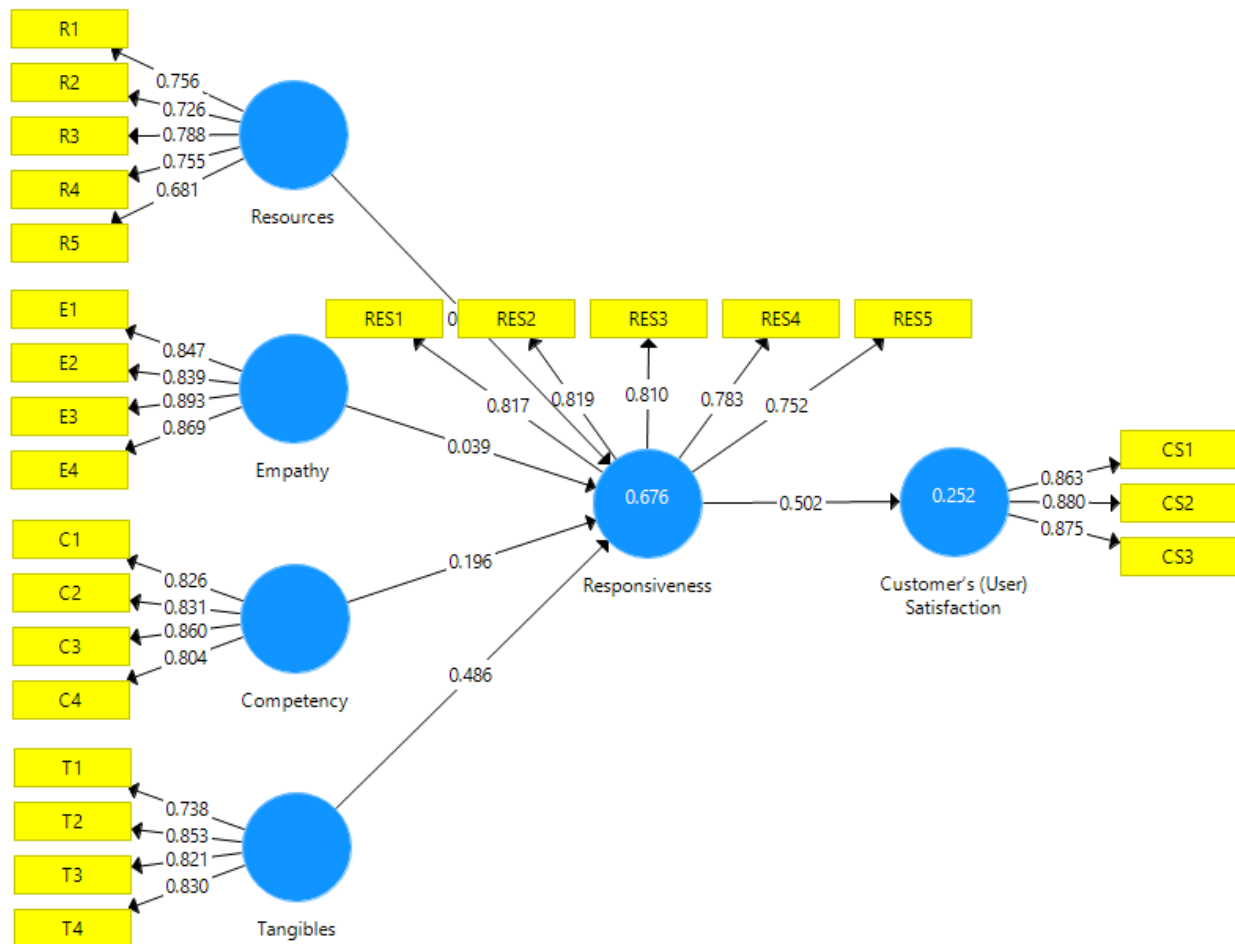
Study of Alam (2021) was based on an adapted closed ended questionnaire on seven points Likert for measuring customer's satisfaction. However, study mentioned that most of the studies on SEQUAL dimensions of website quality uses five points Likert scale. Therefore, this study also uses an adapted version of questionnaire based on studies of Alam (2021); Coleman et al (1997); Farooq et al (2019); Hossain (2016) and Idowu, (2022). Although the instrument for this study uses five points Likert scale as compared to Hossain (2016) that use seven-point Likert scale. However, all the above-mentioned studies are included in the design of the questionnaire.

#### 4. Statistical Testing & Analysis

Suki and Suki (2013) used multiple regression in order to analyze the impact of SERVQUAL measures on the level of customer's satisfaction. Although there is a difference in the research model that has been used in prior versions of SERVQUAL dimensions on customer satisfaction. Therefore, in order to test mediation effects with the dimension of SERVQUAL multiple regression has been implemented in the form of structural equation modeling through using SMART-PLS. The software is perceived as the best alternative for the CB-Based SEM & the most suited for analysis when researchers have lesser knowledge about the relevant theory (Wong, 2013).

Figure 2 is indicating that outer loading for most of the indicator is more than 0.708 that is the criterion for acceptance of any indicator in the research process given by Hair et al (2012). However, any indicators having values of 0.6 might be included in the process of research if the inclusion is not affecting the overall reliability of the variable (Afthanorhan, 2014). Hence in the light of these indicators all the indicators are significant and must be retained in the process of research.

Figure 2: Outer Loading and CFA



#### 4.1 R Square

**Table 1** Quality Criteria (Predictive Accuracy)

	<b>R Square</b>	<b>R Square Adjusted</b>
<b>Customer's (User) Satisfaction</b>	0.352	0.347
<b>Responsiveness</b>	0.676	0.668

Table 1 is indicating values of  $R^2$  i.e. predictive accuracy through the variance caused by 1% change in independent variable (Ringle, Da Silva & Bido, 2015). The method for the determination of variance is termed as (OLS) Ordinary Least Square (Beniteze et al., 2020) and minimum value required to validate the model through OLS is 0.25 (Hair, Ringle & Sarstedt, 2011). Hence in the light of these criterion the model is fit for the analysis as the change in independent variables are causing 67.6% change in the mediator while the change in dependent variables is also higher than the lowest acceptable value of  $R^2$ .

#### 4.2 Construct Reliability and Validity

**Table 2** Construct Reliability & Convergent Validity

	<b>Cronbach's Alpha</b>	<b>rho_A</b>	<b>Composite Reliability</b>	<b>Average Variance Extracted (AVE)</b>
<b>Competency</b>	0.850	0.853	0.899	0.690
<b>Customer's (User) Satisfaction</b>	0.844	0.847	0.905	0.762
<b>Empathy</b>	0.885	0.889	0.920	0.743
<b>Resources</b>	0.800	0.810	0.860	0.551
<b>Responsiveness</b>	0.856	0.856	0.897	0.635
<b>Tangibles</b>	0.829	0.845	0.885	0.659

Table 2 is indicating construct reliability and convergent validity and three initial columns are indicating reliability indicators. Although column four is legitimizing the convergent validity through AVE with values of 0.551 or above. Statements are adequate as according to Ab Hamid, Sami and Sidek, (2017), AVE alone has the tendency to reflect convergent validity if the value has the threshold value of 0.5 or above (Mohd Dzin & Lay, 2021)

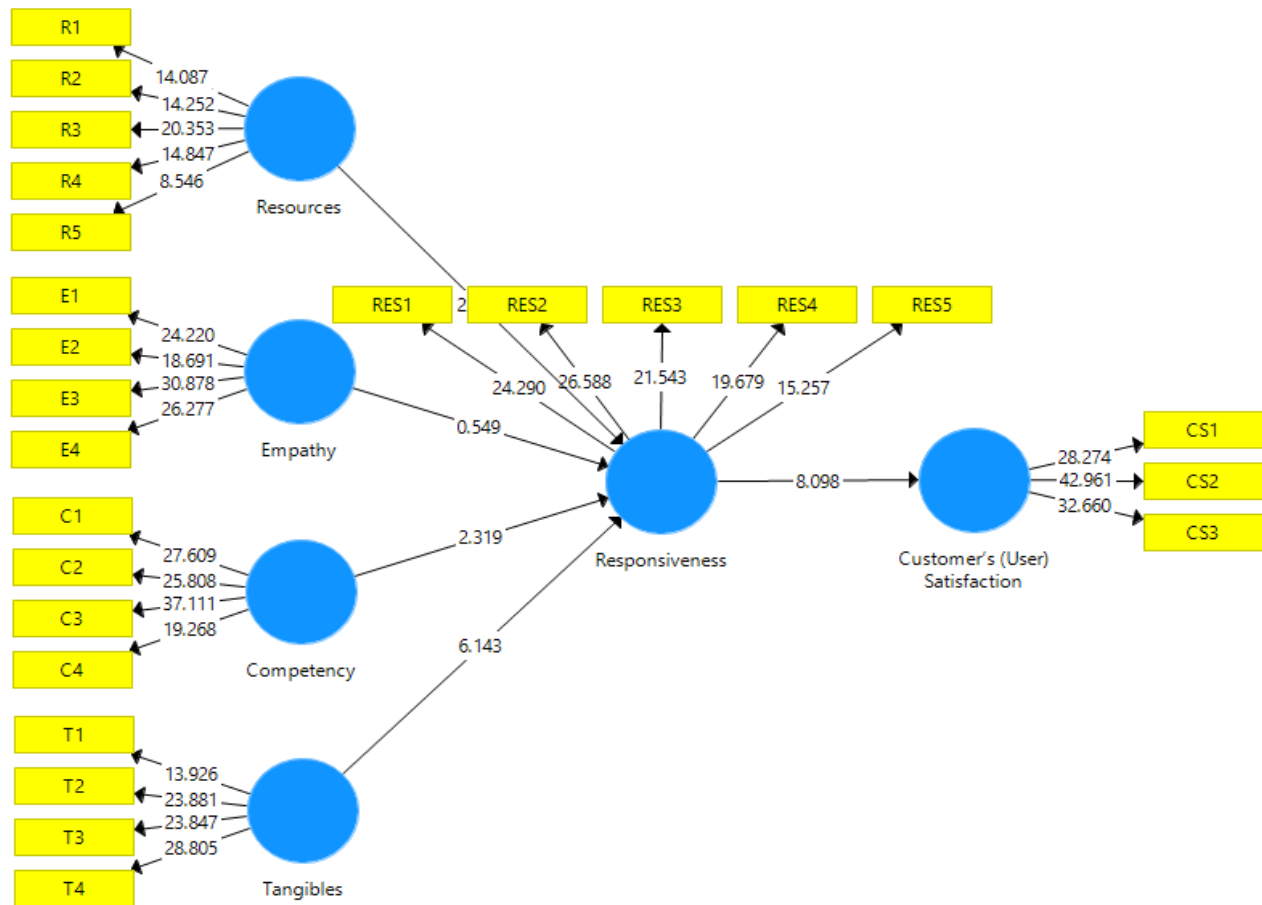
Table 3 is indicating the discriminant validity through Heterotrait-Monotrait Ratio that is treated as the best method for determination of discriminant validity (Henseler, Ringle & Sarstedt, 2015). Moreover, none of the junctions in table 3 is indicating a value that is higher than 0.85 in fact the largest value reflected at any junction of table 3 is 0.843. That is consistent with the criteria of fit with respect to the discriminant validity through Heterotrait-Monotrait Ratio given by Henseler Hubona and Ray, (2016).

### 4.3 Heterotrait-Monotrait Ratio (HTMT)

Table 3 Discriminant Validity

	Competency	Customer's (User) Satisfaction	Empathy	Resources	Responsiveness	Tangibles
Competency						
Customer's (User) Satisfaction	0.555					
Empathy	0.733	0.523				
Resources	0.748	0.548	0.645			
Responsiveness	0.813	0.589	0.640	0.777		
Tangibles	0.843	0.626	0.692	0.782	0.832	

Figure 3: Path Coefficient



**Table 4** Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values
Competency -> Responsiveness	0.196	0.191	0.084	2.319	<b>0.021</b>
Empathy -> Responsiveness	0.039	0.044	0.071	0.549	<b>0.583</b>
Resources -> Responsiveness	0.210	0.212	0.080	2.635	<b>0.009</b>
Responsiveness -> Customer's (User) Satisfaction	0.502	0.499	0.062	8.098	<b>0.000</b>
Tangibles -> Responsiveness	0.486	0.483	0.079	6.143	<b>0.000</b>

Table 4 is indicating path coefficient for indicating impact of variables on each other. The table is termed as Path Coefficient and it refers to t-statistics and p-values for assuring the impact of variables on others. The criteria for the impact of IV over the DV are 1.97 for t-value (Duarte & Amaro, 2018) and 0.05 for p-value (Hair et al., 2011). Therefore, in the light of these criteria there is only one relationship i.e. **Empathy -> Responsiveness that is found to be ineffective.**

**Table 5** Specific Indirect Effects

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values
Competency -> Responsiveness -> Customer's (User) Satisfaction	0.098	0.096	0.046	2.156	<b>0.032</b>
Empathy -> Responsiveness -> Customer's (User) Satisfaction	0.020	0.022	0.035	0.552	<b>0.581</b>
Resources -> Responsiveness -> Customer's (User) Satisfaction	0.105	0.106	0.044	2.417	<b>0.016</b>
Tangibles -> Responsiveness -> Customer's (User) Satisfaction	0.244	0.241	0.047	5.234	<b>0.000</b>

Table 5 is indicating specific indirect effects through p-values and t-statistics. However, the criteria for accepting the impact is the same for t-statistics and p-value highlighted in table 4. Therefore, in the light of the criteria given by Duarte and Amaro (2018) & Hair et al (2011) the mediation of responsiveness is not valid only for the case of **Empathy-> Responsiveness -> Customer's (User) Satisfaction.**

## 5. Conclusion & Discussion

Analysis of data indicated that Lib-QUAL dimensions have significant impact on the customer's (user) satisfaction at academic libraries of government sector universities of Pakistan. The mediation of responsiveness as an innovation in the Lib-QUAL Model also has the significant impact upon customer's (user) satisfaction.

Mediation proves to be significantly worthy for the relationship of competency and customer satisfaction & partially valid for all the other cases except for empathy and customer's satisfaction. Hence in the light of the detailed analysis it is realistic and desirable to indicate the study is unique to use responsiveness as the mediation as it is the ability of the staff to provide something extra and to make users feel more important (Reddy, 2017 & Sajna & Haneefa, 2016). Thus, leveraging the Lib-QUAL model with the mediation is appropriate as according to Alam (2021) it is the most challenging characteristic of SER-QUAL dimension. Hence the model is taking a unique in comparison to the previous studies e.g. Alam (2021); Arshad and Ameen (2010); Farooq et al. (2019) and Hossain (2016) as this study takes impact of major dimensions of SER-QUAL on responsiveness and create impact on customer (user) satisfaction through the mediation (Lib-QUAL). However, mediation proves to be worthy for all the cases except empathy and therefore it is required to mention that the findings are different from Reddy (2017) and aligned with Coleman et al. (1997).

### 5.1 Managerial Implications and Area for Future Research

The study is fruitful for the management and policy makers of academic libraries situated at government sector universities as the study is indicating the importance of responsiveness. This might be added through adding more and skilled staff to deal with traffic of customers. Moreover, digitization of resources might also aid in providing prompt and adequate response to the needs of customers. On the other had study also pinpointed the need for research that may compare the Lib-QUAL Dimensions with respect to the government and private sector academic libraries. Similarly, studies might also compare academic libraries at state owned institutions working in other provinces and cities. These sorts of studies might also be fruitful for evaluating the new form of SER-QUAL dimensions and provide significance to managers, researchers, academicians & students.

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