

The Impact of e-services Quality on Consumer Satisfaction: Empirical Study of Georgian HEI

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Abstract

This study seeks to investigate the service quality in online meeting platforms. The research adopts a deductive approach and a quantitative analysis to test the collated model. The model is measured by distributing an online questionnaire and testing the constructs utilizing regression analysis. The findings indicate that efficiency, availability, privacy and fulfilment of e-service quality positively affect customer satisfaction in the noted platforms. The research provides academics and managers in the technology sector with a framework regarding significant elements of e-service quality. Finally, the research limitations and recommendations for future studies are discussed.

Keywords: consumer satisfaction and service quality, e-service privacy, e-platforms

JEL: M31, M37

Introduction

Service quality has always played an important role in customer purchase intention and satisfaction. Throughout the last two decade, the importance of service quality found its way into online businesses prominently. From online retailers to banks and social media, every company seeks to elevate its electronic service quality to operate more efficiently and attract more customers.

The early uses of video-conferencing were recorded in medical and businesses related communications. The main concept of video-conferencing then revolutionized by the introduction of the internet and turned into online meetings according to Knipe and Lee (2002). The use of these online platforms has increased due to faster internet connections and the ability to conduct a meeting without interferences.

Performance of any online platform is highly dependent on its service quality (Aasadpoor and Abolfazli, 2017). Lai et al. (2019) and Nasution et al. (2019) defined overall service quality in determinant factors such as reliability and responsiveness, privacy, ease of use and the design of the platform.

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Breaking the elements in service quality further into its components, Sharma (2017) confirmed e-service quality and trust have direct effect on customer satisfaction which leads to e-loyalty among customers. The findings indicate that raising the level of e-service quality can cut the costs by a higher level of customer retention. Dissecting e-service quality, Ahmed et al. (2017) divided the concept of online service quality into categories including the design of the website, reliability and personalisation. They found that once again these factors combined constitute e-service quality and positively affect customer satisfaction directly and loyalty indirectly.

Confirming the findings of the researches mentioned above, Suhaily and Soelasih (2017) constructed a model to evaluate the effects of price and service quality in online retailers. They determined that service quality has a direct impact on customer satisfaction which results in repurchase intention. Once again customer satisfaction and loyalty can be achieved by strengthening e-service quality.

The significance of service quality rises in the firms operating in the service sector. As Alzoubi et al. (2019) discovered, students perceive e-service quality an added value on their overall educational experience. They indicated the higher the e-service quality, the more students consider receiving added monetary and educational value from their university.

In the service sector, Ezzat Mohammed et al. (2016) Joudeh and Dandis (2018) emphasized the role of e-service quality on customer satisfaction. However, they added the level of awareness to the equation. Their study found that the level of customer awareness of the firm's service quality impacts their perception of the services and leads to customer satisfaction. Therefore, raising the level of awareness about the services is a crucial part in how the customers perceive e-service quality.

In line with the previous study, Singh (2019) divided online service quality into responsiveness, efficiency and perceived credibility of the platforms. Thus, both the actual functionality of online platforms and the image of the brand can influence the level of customer satisfaction.

Soltanian et al. (2018) suggested online meeting platforms can be categorized as software-as-a-service which utilized platform-as-a-service to streamline its development process. They realized providing services on these platforms are dependent on three main factors of development, deployment and management. On the technical level, they asserted the elements such as video and audio mixing and transcoding and maintenance can facilitate the functionality of the website or the application on the part of the developer. As it can be observed, the significance of online meeting platforms has increased dramatically in the last two decades.

Even though, there are a number of studies conducted measuring the service quality in online businesses such as retailers and social media, there is a lack of a research solely focused on service quality in online meeting platforms. With recent expansion in these platforms, this study attempts to collate the variables influencing customer experience and their satisfaction in these platforms and the willingness of customers to pay for these services.

In the next section of this study, the factors influencing the success of online meeting platforms in terms of the quality of services they offer. These elements are classified into efficiency, privacy of measures taken by the platform, availability of them and fulfilment. Utilizing a deductive approach the determinants of customer satisfaction are collated and tested to analyse the impact and testing a model covering main aspects of service quality in online meeting platforms.

Literature Review

For this research, the service quality in online platforms is categorized into four dimensions of efficiency, availability, privacy and fulfilment. As explained in the last section, it is evident that e-service quality affects the level of customer satisfaction and loyalty overall. In this section the service quality is further explained in details and its implications on online meeting platforms are discussed.

Efficiency of the Platform

Logically, the efficiency of the website or meeting platform is an integral part of customer experience. Parasuraman et al. (2005) and Chang et al. (2009) defined efficiency in online meeting platforms as a combination of user friendliness, structure of the platform and minimum information requirement on the part of the user.

In online businesses some of the factors defining efficiency of the website or the mobile application are universal for all businesses. Kasiri et al. (2017), Retno et al, (2019) classified the efficiency of these websites and measured their impact on customer satisfaction. Their model of efficiency included ease of use, design and functional quality of the website. According to their research, when customers evaluate these factors positively overall, they exhibit a higher level of satisfaction and loyalty toward the business. Similarly, Seng and Sayed Mahmoud (2020) defined e-service quality as the ability of the company to solve the issues facing the customers online, aesthetics of the website and customer data protection on the part of the firm.

Efficiency of the online businesses covers the ease of use for a variety of websites. Lu et al. (2020) suggested that in addition to ease of use other aspects such as the structure of the platform, its responsiveness and constant level of operation without crashes should be counted in this category, leading to higher level of e-service quality perception among users.

As explained, all the elements in service quality can be affected by the firm's operation and the perception of the element within consumers (Setiawan and Sayuti, 2017). Delving further into the structure of the platform, Parasuraman et al. (2005) Singh et al. (2020) divided this factor into ease of navigation, responsiveness and content perceptions which related to the efficiency of the website and privacy and fulfilment, explained in the following sections of this study.

The standards for efficiency and customer retention in online platforms changes rapidly due to speedy technological advancements in the field. Nasution et al. (2019) constructed a model for service quality, and particularly efficiency, covering reliability, responsiveness and ease of use. However, they added another factor of adoptability to the construct. It requires online businesses to adapt to changes in their field by updating their services and the information provided to customers.

In continuance of the previous studies, Sundaram et al. (2017) organized the efficiency of the websites into six sub-categories. their model of efficiency includes ease of use and responsiveness while arranging other factors into information, environmental and outcome qualities. Once again it highlights the significance of design, ease of connection and its maintenance throughout the meetings for the online meeting platforms (Torres, 2017). Whereas, Singh (2019) indicated that design and content quality as a function of efficient online platform does not have a significant impact on customer satisfaction. We add to the literature by collating the determinant of an efficient platform and address the conflicting results of the past studies. Hence we propose:

- ***H1: Efficiency of E-service quality has significant impact on the customer satisfaction***

Availability of the Platform

Availability is one of the factors that has contributed to the rapid growth of online businesses. Online retailers, service providers and other platforms have the advantage providing services for 24 hours unlike offline businesses, majority of which are limited to office hours. Two main elements of availability are the platform itself, which is mainly present for all online meeting websites and applications, and the access to the company (Aasadpoor and Abolfazli, 2017). Parasuraman et al. (2005) and Chang et al. (2009) emphasized that the availability of customer services, to assist the users in their everyday use of the platforms and any issues that may arise, through online or help phone lines can impacts customer satisfaction for these platforms.

In terms of online meeting platforms, In this regard, Goutam and Gopalakrishna (2018), Putrianti and Samuel (2018) evaluated e-service quality by elements such as accuracy and security. However, they included 24 hours services

as one of the elements distinguishing service quality in online businesses from traditional ones. For online meeting platform, availability is an easier task compared even to online retailers. Since the company is only offering services, the operation will not be affected by logistics and other human resources issues that can impact online retailers. Furthermore, delegating customer services to online third parties around the world creates a 24 hours access for customers to company representatives.

Availability of the website borders efficiency in some respects which requires exploring. Torres (2017) detailed these two factors and their entanglements in few examples. One can be found in the links and addressed on the website or shared within participants in the meeting or comment sections. In some instances, these links do not work for long periods of time which can reduce the customer perception of efficiency of the platform. Although, if these shared information on the platform can be opened and explored by participants at certain times and unavailable at other time, due to website traffic or any other interferences, it can become an availability issue (Aasadpoor and Abolfazli, 2017). Hence, the platforms need to constantly evaluate and repair the issues with information sharing between the company and the customers or between one user to another (Nasution et al., 2019).

One of the dimensions of SERVQUAL directly influencing the availability variable is reliability. Zeglat et al. (2016), Joudeh and Dandis (2018) defined reliability of internet platforms as accessibility of services throughout the day and a comprehensive customer service. The company needs to be in touch with customers to solve any issues regarding their services at all times. This accessibility of services raises the availability variable in the model and consequently elevates customer satisfaction. Meanwhile, Hashemi and Abbasi (2017) did not find the link between accessibility of the platform and customer satisfaction to be significant. Considering accessibility can be considered a second-order construct in availability of service quality, we attempt to address the conflicting findings of the past studies by positing:

- **H2: System availability of E-service quality has significant impact on the customer satisfaction**

Privacy of the Customers

Nowadays, online privacy has become one of the main topics of discussion among online businesses. With the rise of the number of people working from home, the privacy of online meeting platforms is also in focus more than ever before (Singh, 2019). Parasuraman et al. (2005) and Chang et al. (2009) simply described the privacy of online meeting platforms as the extent to which the platform protects customers' data.

Privacy of online platforms can be categorized in a number of elements, which then combined, contributing to the service quality of the platform. Biswas et al. (2019) explained the element of privacy of customers in the trust and confidence of customers in the website while keeping their personal information secure from external threats. Subsequently concluding that, customers, feeling confident in these measures, are more likely to confirm their satisfaction and loyalty to the website (Aasadpoor and Abolfazli, 2017).

Generally, privacy of the online websites can be endangered from two fronts. Ting et al. (2016) Hashemi and Abbasi (2017) examined the perception of customers toward privacy by measuring the internal and external threats. They uncovered that customers with high level of satisfaction viewed the website's ability to maintain their personal information within the company and avoid selling them to third parties as well as protecting the website from external threats such as hackers (Rita et al., 2019).

Meanwhile, Lestarini and Surendro (2017), Setiawan and Sayuti (2017) viewed privacy from a different perspective and confirmed its impact on customer satisfaction and loyalty. Privacy is considered as one of the elements shaping customer trust in the business and through trust they concluded that privacy indirectly affects customer satisfaction and loyalty (Nasution et al., 2019).

With the rise of social media and the value of customer's data, privacy concerns among users is growing. The business model of social media companies requires them to collect customer information and sell them to third parties

for advertising purposes. Candra and Juliani (2018), Wibowo (2019) pointed out that involvement of third parties to gather the customer data negatively impacts the perception of privacy among customers. Considering the two divergent paths of security and privacy opposing the platform's need to generate advertising revenue, we put forward:

- **H3: Privacy of E-service quality has significant impact on the customer satisfaction**

Fulfilment of e-service Quality

The attitudes of customers toward service quality can be based on two main factors. The main factor is naturally the type and level of the services that the platform provides. Meanwhile, the image of the brand and prior customer perception of the services affects the overall evaluation of the e-service quality in customer's minds. Parasuraman et al. (2005) and Zeglat et al. (2016) and Aasadpoor and Abolfazli (2017) explained the fulfilment of the platforms as the ability of the website to deliver what it has promised.

Moreover, the perception and customers and their level of fulfilment when using the services can be further detailed in factors contributing to them. Chang et al. (2009), Rita et al. (2019) categorized the fulfilment variable into the speed of the services and delivery, accuracy of the services compared to what is advertised and conditions of the delivery. Their studies mainly focused on online retailers; however, these elements can also be applied to platforms and their services. Preventing glitches in the meetings and connections and marketing all features and aspects of the platform accurately, so that the customers know what to expect and personalisation can positively affect the perception of e-service quality (Sundaram et al., 2017).

As mentioned, some of the variables can benefit from common operational policies. Kuo et al. (2016) proposed a model consisting of service quality elements for online businesses. Their study indicated responsiveness and speedy delivery of services can elevate the fulfilment variable and result in customer satisfaction on websites or mobile applications. Moreover, Yang et al. (2019) study that measured the relationship and found that the image of the brand also contributes to customer evaluation and amplify satisfaction of e-service quality.

Another component influencing the fulfilment variable in the e-service quality, according to Aasadpoor and Abolfazli (2017), is the accuracy of promises on the part of the online business. In their research, customer, who scored high on satisfaction and loyalty, indicated the importance of accurate information presented by the online platform. Consumers expect the firm to deliver the benefits and services that they promised. When the expectation gap closes, the fulfilment level rises in customers which lead to satisfaction. Biswas et al. (2019) also determined service quality can directly and indirectly impact customer satisfaction through confirmation of expectations. However, Rita et al. (2019) designed customer service as a second-order construct for service quality, subsequently affecting customer satisfaction, and did not find the relationship significant. This study adds to the literature by addressing the inconsistencies in previous findings and posits:

- **H4: Fulfilment of E-service quality has significant impact on the customer satisfaction**

In summary, e-service quality as confirmed by studies discussed in this section can affect customer satisfaction in the array of different businesses and platforms online. Service quality for online businesses roughly contains the same elements of responsiveness and ease of use and design, which is categorized as efficiency in this study, security and privacy of the customers, availability of the services and the ability of fulfilling the customer needs. All aforementioned studies followed a quantitative approach in measuring the impact of those variables within the e-service quality on customer satisfaction. In the net section, the methodology and the findings of this research is discussed with regards to evaluating the variables of e-service quality in online meeting platforms.

Research Methodology

This research attempts to evaluate the quality of service quality of online meeting platforms and its impact on

customer satisfaction. The study adopts a deductive approach by collecting constructs from previous papers and putting together a model to measure various aspects of service quality.

A questionnaire is then distributed to evaluate the variables in the model (privacy, efficiency, availability and fulfilment of the platform) and test it against customer satisfaction. As a result, the study employs a quantitative methodology to empirically test the aforementioned links.

Research Questions and Objectives

As noted, research questions are designed to test the links between e-service quality and customer satisfaction in online meeting platform. Hence, the main research question is as follows:

- Does e-service quality impact customer satisfaction in online meeting platforms?

The main research question is then divided into sub-questions to detail each element in service quality and link them to customer satisfaction:

- Does efficiency of service quality, in online meeting platforms, impact customer satisfaction?
- Does system availability of online meeting platforms impact customer satisfaction?
- Does privacy of online meeting platforms impact customer satisfaction?
- Does fulfilment of service quality, in online meeting platforms, impact customer satisfaction?

The research questions of the research shaped the objectives of the study formulated as follows:

- To analyse the effect of e-service quality in online meeting platforms on customer satisfaction.
- To find the effect of efficiency of service quality in online meeting platforms on customer satisfaction.
- To discover the impact of the level of privacy in online meeting platforms on customer satisfaction.
- To measure the impact of fulfilment of service quality, in online meeting platforms, on customer satisfaction.

Research Construct:

As noted, this research adopted a deductive and quantitative approach to formulate its research questions, objectives and hypotheses. The research construct is then designed based on the previous studies discussed in the review of literature. The following is the summary of constructs and past papers exploring each construct, utilized in this research.

Table 1. Constructs from previous studies

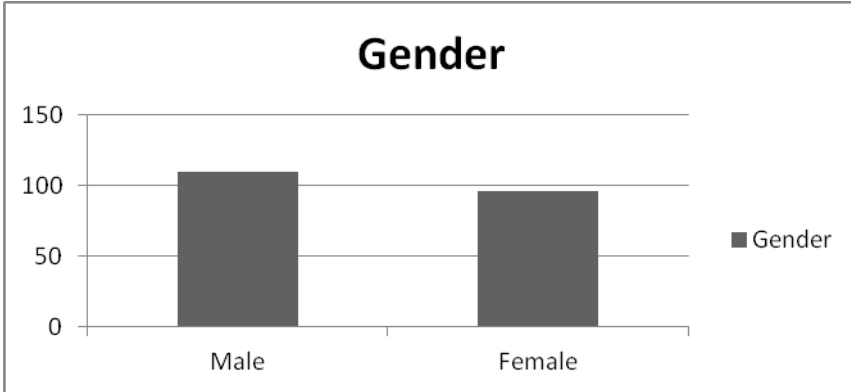
Constructs	Previous studies
Efficiency of service quality	<ul style="list-style-type: none"> • Parasuraman et al. (2005) • Chang et al. (2009) • Nasution et al. (2019) • Seng and Sayed Mahmoud (2020)
System availability	<ul style="list-style-type: none"> • Chang et al. (2009) • Torres (2017) • Goutam and Gopalakrishna (2018)
The level of privacy	<ul style="list-style-type: none"> • Parasuraman et al. (2005) • Aasadpoor and Abolfazli (2017) • Candra and Juliani (2018) • Wibowo (2019)
Fulfilment of service quality	<ul style="list-style-type: none"> • Zeglat et al. (2016) • Sundaram et al. (2017) • Biswas et al. (2019)
Satisfaction	<ul style="list-style-type: none"> • Aasadpoor and Abolfazli (2017) • Hashemi and Abbasi (2017) • Retno et al. (2019)

Sampling and Sample Description

In order to measure the research model and evaluate the links between constructs, a non-probability sampling was utilized. The sample consists of university staff, lecturers from five universities in Georgia. The responses were collected on three months period between October to December 2020 in which Covid-19 Pandemic transformed university lectures and administrative work into an online format.

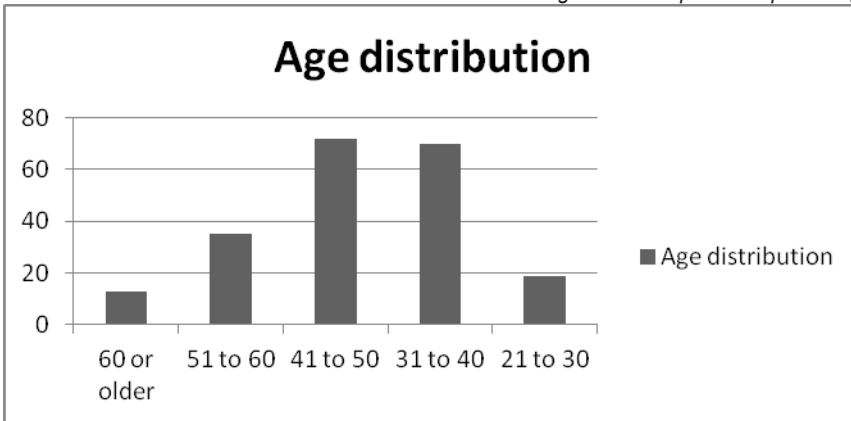
The respondents are then divided by gender, age and academic ranking. Overall 219 responses were collected, in which 110 were male, 96 female and 3 preferred not to mention their genders.

Diagram 1. Sample description - Gender



Respondents age distribution revealed, 13 respondents were 60 years of age or older, 35 respondents between 51 to 60 years of age followed by 72 respondents between 41 to 50 years of age and 70 between 31 to 40 years of age and 19 respondents between 21 to 30 years of age.

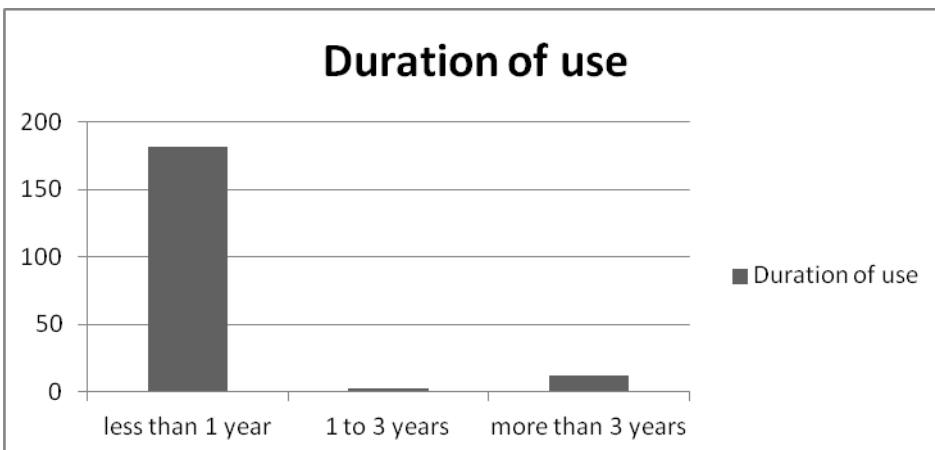
Diagram 2. Sample description - Age



Subsequently, respondents were asked which online meeting platforms they were using for conducting their administrative work or lectures. The results indicated that 60 respondents utilized Zoom platforms while 6 used Microsoft Teams, 13 used Moodle and 72 utilized Google Meets and 58 used Google Hangouts.

Finally, the duration of using online meeting platforms was asked and 12 respondents indicated they have been using online meeting platforms for more than 3 years followed by 15 respondents indicating they have been using online meeting platforms for 1 to 3 years and 182 respondents with less than one year.

Diagram 3. Sample description - Usage



Reliability of Measures

The reliability of the research model and constructs was tested using Cronbach`s alpha. The threshold for accepting the reliability was set at 0.7 (Khoshtaria 2016; Matin 2020; Matin et al. 2020).

Table 2. Reliability alpha for each construct

Research construct	Cronbach`s alpha
Efficiency	• 0.902
System Availability	• 0.771
Fulfilment	• 0.903
Privacy	• 0.884
Satisfaction	• 0.890

Data Analysis and Findings

As it can be observed for the table below, firstly we have checked the correlation coefficients between our variables. It is clear the all the variables are statistically significantly correlated to each other.

Table 3. Summary of correlation analysis between all variables

		1	2	3	4	5
1	Efficiency of E-service	1	.856**	.818**	.776**	.798**
2	Availability of E-service	.856**	1	.841**	.741**	.753**
3	Privacy of E-service	.818**	.841**	1	.707**	.641**
4	Fulfilment of E-service	.776**	.741**	.707**	1	.726**
5	Consumer Satisfaction	.798**	.753**	.641**	.726**	1

As we can see from the Table 4 below, we presented the test results for all hypotheses in one table. Observably, depending on the numbers in the table all four hypotheses are supported.

Table 4. Model summary for bivariate linear regression analysis between all variables

Model	Dependent	R square	F	Beta	t	Sig.
Efficiency of E-service (independent)	Consumer Satisfaction	.636	463.452	.798	438 21.528	.000
Availability of E-service (independent)		.568	347.891	.753	2.623 18.652	.000
Privacy of E-service (independent)		.525	294.939	.726	4.838 17.174	.000
Fulfilment of E-service (independent)		.409	185.136	.641	3.868 13.606	.000

Dependent variable: Satisfaction

For the first hypothesis, the significance of independent variable, which is the efficiency of E-service quality, is high because Sig coefficient at 0.00. Also, the percentage that explains the change in the dependent variables (customer satisfaction) is high 63.6%. Additionally, we have significantly high F value.

For the second hypothesis, which is system availability (independent) of E-service quality has significant impact on the customer satisfaction (dependent) we can observe the same scenario. The change percentage is 56.8% with high F value. As the rest two hypotheses:

- H3: Privacy of E-service quality has significant impact on the customer satisfaction
- H4: Fulfilment of E-service quality has significant impact on the customer satisfaction

We have privacy and fulfilment of E service as an independent variables and the same customer satisfaction as a dependent. Therefore, at 52.5% and 40.9% respectively independent variables explain the change in dependent one, that at high F values.

Conclusion

This study is designed to explore the characteristics of online meeting and conferencing platforms. The research focuses on service quality of the noted platforms and its impact on customer satisfaction. The research adopted a deductive approach by reviewing previous literature published in the field and arriving at a research model.

The model is then measured, utilizing a quantitative method, by distributing a set of questionnaire. The sample consists of administrative and academic staff in higher education institutions in Georgia. The responses are analysed and empirically confirms the model collected by collating the element of e-service quality in online meeting platforms from previous studies.

Therefore, the study confirms the positive impacts of efficiency, fulfilment, availability and privacy of e-service quality on customer satisfaction. Hence, the aforementioned four dimension of service quality can elevate satisfaction and further use by staff and lecturers in higher education institutions.

Theoretical and Practical Values

This study provides a framework, for technology companies involved in online meeting and conferencing platforms, regarding the most significant elements of service quality and user responses to the noted elements. Thus, the research can be utilized for future studies detailing each element and deconstructing each measure and diving into detailed evaluation of each item.

The study confirms the construct, regarding efficiency of e-service quality, covering user friendliness, platform structure, reliability and user information requirements (Parasuraman et al. 2005; Chang et al. 2009). The study then links the noted measures to customer satisfaction and confirms the positive impact of the construct on the users (Retno et al, 2019).

Moreover, this research explores the degree of availability of the platforms by collating a construct from previous studies. The construct covers flexibility of the platform, number of meeting allowed in a given time period, accessibility of the platforms with regards to invited users and time limits (Chang et al. 2009). Subsequently, this research then tests and confirms the link between the availability of e-service quality on customer satisfaction (Hashemi and Abbasi, 2017).

This study also collated another construct covering the ability of the platform to keep user data safe from outside threats while minimizing the sale of user information to third parties. The noted elements were classified under privacy of e-service quality in the platform (Biswas et al. 2019). Once again, the construct was tested against customer satisfaction, Aasadpoor and Abolfazli (2017), and confirmed the positive link between the two.

Finally, the research confirms the reliability of fulfilment of e-service quality construct consisting of speed and accuracy of services compared to what is advertised (Zeglat et al. 2016). The study then measures the construct and confirms the link between the fulfilment of e-service quality and customer satisfaction.

As mentioned, the research provides a foundation for managers in the technology sector concerning the factors crucial for users in terms of service quality with regards to online conferencing platforms. Considering the Covid_19 pandemic and its effect on creating a hybrid working and studying environment. The study also presents a framework for higher education institutions regarding the elements to consider when selecting a platform for their staff to communicate with the students online.

Research Limitations and Recommendations for Further Studies

Perhaps the most significant limitation of this study can be found in the sampling and selection of respondents. The sampling method consists of non-probability, convenience sampling which limits generalization of finding to the whole population. Hence, we recommend further studies to adopt a probability sampling, possibly even outside of higher education institutions, to evaluate the model in a larger context and across other sectors.

Furthermore, the data collection was conducted in Georgia which can be considered a limitation geographically. Since the respondents are limited to geographic territory of the country, we recommend future studies to test the constructs in other regions and evaluate whether the model can be supported in other countries.

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