



Factors of E-service Quality among Malaysian Millennial Streaming Service Users

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ABSTRACT

This study aimed to understand consumers of streaming services (i.e. Music) across a cross-section of Malaysian Millennials in order to identify the underlying relationships between the quality dimensions of the six services: web design, performance, personalisation, trust, satisfaction and repurchase intention. This study uses an e-service quality measurement and a quantitative research methodology. Questionnaires were distributed and collected from 400 Malaysian millennials at local private colleges and universities, who are heavy users of streaming music. Data analysis was performed using descriptive analysis and partial least squares for structural modelling. The results of this study revealed that web design and customisation variables were significantly associated with re-purchase intention. Reliability and responsiveness, expressed as performance, were significant to satisfaction, and the relationship between satisfaction and re-purchase intention was also established. Trust was not significantly influenced by their purchase intention. The findings of this study contribute to and could be applied to other e-services to develop quality metrics to assess the effectiveness of customer-centred focus. Further studies should be conducted on different types of e-services with different choices of e-services quality dimensions that can be examined and compared.

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INTRODUCTION

The global music industry experienced technological upheavals in the late 1990s and early 2000s. The shift from CDs and other physical media to digital downloads left the industry in crisis. With peer-to-peer file sharing on services such as Napster, in the five years between 2000 and 2005, CD sales in the United States fell by 25% (Recording Industry Association of America, 2006). In fifteen years, the revenues of the music industry have decreased by 40% (IFPI, 2017). By examining historical trends in music sales before and after the broadband Internet penetration period, Zentner (2010) found that file-sharing accounted for half of the industry's revenue losses.

Fast forward to 2015-16: Music industry rebounded with first consecutive year-on-year growth (IFPI, 2017). After 2017, total revenues increased by 8.1% (IFPI, 2018). The digital share in global revenues increased by 54%, and streaming music revenues increased by 41.1% in the same year (IFPI, 2018). In contrast to previous trends, 96% of current music consumption goes through licit channels, 45% of which are through streaming music (IFPI, 2017). The industry reversed its downward trend with innovative streaming music services that convinced users who had learned to expect free music to pay a nominal subscription fee or to accept ads. In return, consumers have received an almost infinite choice of music anywhere, anytime and on any platform with curated playlists and algorithmic learning, which emphasises the discovery of music and the integration of social media. We can say that music streaming is the present and the future of the record industry. In 2017, Spotify had 100 million active users, at least half of whom are paid users (Nair, 2017). Piracy still exists, through search engines (such as Google) and "stream ripping" (i.e. Unlawful copying of legal streaming content). Since streaming music provides music content that consumers are seeking legally and affordably, piracy will likely continue to grow in popularity.

The target respondents for this study are the Malaysian Millennials, aged 20 to 39 in 2018. Malaysian Millennials accounted for 12 million of a total population of 32 million (Department of Statistics Malaysia, 2017). The differences of this generation compared to other generations are their origin in the technological revolutions of the 1980s and 1990s. Therefore, we can assume that they are technically active and capable and that they spend a great deal of their time on electronic devices such as laptops and smartphones (EY, 2016). However, the study on the satisfaction or loyalty of Malaysian Millennials to streaming services is still lacking.

This research proposes a modified SERVQUAL model to examine the quality factors of e-services, with dimensions of website design, reliability and responsiveness (expressed in performance), trust and personalisation, to discover their influences on consumers' expectations, satisfaction, re-purchase intention and relevant dimensions for success in the category of e-services. It is important to know the critical drivers of e-services, which will lead to a better e-services platform and improved service outcomes for targeted Malaysian Millennials. They are more active in music streaming than in non-millennials, accounting for 72% of all Spotify streaming in 2016 (Cummings, 2016).

LITERATURE REVIEW

Zeithaml, Parasuraman and Berry, first developed the SERVQUAL model for capturing and measuring customer perception of the quality of service in 1988. Perceived quality of service is related to satisfaction as the consumer's evaluation of an organisation's overall merit differs from the objective measures. It also concerns the attitude of the customer's, which is related but does not amount to satisfaction and therefore results from a comparison between expectations and perceptions of performance (Parasuraman et al., 1985). Grönroos' basic research (1982) was the first to shift the perceptions of "conformance to requirements" to "expectations" in the quality of service literature. However, separating the technical quality (service outcomes, "what" is delivered) from the functional quality (service process, "how" it is provided) has created unresolved divisions in the perspectives (Kettinger and Lee, 1994). Kang (2006) argued that the technical quality of services is easily copied and therefore does not confer any competitive advantage. The SERVQUAL model is intentionally functional in its approach and is therefore subject to criticism (Kang, 2006; Yarımoğlu, 2014). Cronin and Taylor (1992) suggested that evidence supports the use of performance-only measures to measure the quality of service and presented their model (SERVPERF) as the best alternative to SERVQUAL. The combination of reliability and responsiveness in a single performance measure takes into account functional and technical quality factors.

This study develops a variant of the SERVQUAL model and its perceived service gap compared to that expected. All first order variables are derived from SERVQUAL's five dimensions: tangible, reliability, responsiveness, empathy and trust. In this context, reliability and responsiveness are considered performance and differ from other constructs in that they relate to satisfaction prior to re-purchase intention. This distinction is based on research that recognises both quality of service and satisfaction as unique but linked concepts, but one may wonder if the service quality measures are antecedent to satisfaction (Bolton and Drew 1991, Cronin and Taylor 1992, 1994, Parasuraman et al., 1994); Teas, 1993, 1994, cited in Kettinger and Lee, 1994). Rajeswari et al. (2017) have shown that satisfaction determines the quality of service and loyalty in their study of Internet services. Caruana (2002) further argues, however, that the current definitions of satisfaction are inadequate, making satisfaction the post-decisive customer experience while the quality of the service is not, and supporting the research framework linking performance to satisfaction, re-purchase intention and the connection with the web design, trust and personalisation with re-purchase intention (Bolton and Drew, 1991; Boulding et al., 1993; Cronin and Taylor, 1994; Oliver, 1980 1993; Parasuraman et al, 1988 cited in Caruana, 2002).

It is necessary to adapt the quality of service models for e-services. Yarimoglu (2014) identified SERVQUAL as the most widely used model for measuring the quality of service but found that before the 2000s, most models lacked interest in the quality of websites and online services. In addition, Carlson and O'Cass (2010) highlighted the lack of previous research on non-e-commerce and content-driven websites that deal with online transactions. Conventional services have become automated, self-served and simulated transactional environments (Li and Suomi, 2009), devoid of both the usual personnel and tangible elements (Carlson and O'Cass, 2010). Parasuraman and Grewal (2000) recommended investigating whether "the definitions and relative importance of SERVQUAL dimensions change when customers interact with technology rather than with service personnel" (171).

It is also necessary to introduce another service quality model to support the current framework. To contextualize how consumers evaluate websites and their behavioural intentions to reuse and re-patronise them. Loiacono et al. (2007) developed WebQual based on Reasoned Action Theory and Technology Acceptance Model (TAM). Lai (2017) undertook a study exploring single-platform electronic payment systems and showed that the TAM attributes, such as security, perceived usefulness and ease of use, were significant to digital payment adoption. WebQual encompasses, "Information Quality, Functional Fit-To-Task, tailored information, trust, response time, ease of use, intuitive operations, visual appeal, consistent image, relative advantage, and customer service" (Loiacono et al., 2007) (p. 59). A comparison can be made between WebQual and the current dimensions of web design, trust and personalisation, and how they correlate with to re-purchase intention.

The intention of re-purchase is a manifestation of loyalty. Oliver (1997) defines loyalty as "a deep commitment to rebuy or re-patronise a preferred product/service in a consistent way in the future, thereby provoking repetitive purchases of the same brand or set of brands, despite situational influences and marketing efforts having the potential to cause switching behaviour"(page 392). Loyalty intentions are reflected in the quality models of E-S-QUAL and E-RecS-QUAL e-services of Parasuraman et al. (Quoted in Parasuraman et al., 2005). Other studies have been conducted on the quality of service, satisfaction and loyalty to demonstrate that service quality is an antecedent construct where loyalty is an outcome of satisfaction (Caruana, 2002, Hsu, 2008). Oliver (1999) supports satisfaction-led research's study critique in which loyalty is the ultimate goal. Customer retention is in itself important for businesses: by industry, customer loyalty costs 5 to 25 times less than attracting new customers and, with an increase in retention rates of 5%, it is shown that profits increase from 25% to 95% (Gallo, 2014). As a result, the research by Santoso and Aprianingsih (2017) linked the perceived service and e-service quality directly to re-purchase intention, and other hypotheses corroborating the correlations with satisfaction.

The need and the shortcomings of this research lie in the combination of quality, satisfaction and loyalty of e-services. Although studies have been done to clarify the relationship between these three constructs in business-to-consumer e-commerce (Swaid and Wigand, 2007; Bai et al., 2008; Chang et al., 2009; Kim et al., 2009; Ting et al., 2016; Santoso and Apianingsih, 2017) and e-services (Behjati et al., 2012). These previous studies combine the quality of e-services, first with satisfaction, then with the loyalty/purchase intention or directly to loyalty/purchase intention selectively. The current intention is to link quality measures of e-services to re-purchase intention (as an aspect of loyalty and behavioural intention), with only performance-related satisfaction, in particular aspects of reliability and responsiveness of the service. The research by Carlson and

O'Cass (2010) confirms this choice and establishes a direct link between measures of re-purchase service quality, satisfaction, and behavioural intentions. In this study, the reason given is that because of the high volume of transactions and the low price paid by consumers, customer satisfaction ratings have little impact on the web design, personalisation and trust.

Performance

For the current purposes, performance has two dimensions: reliability and responsiveness. Reliability refers to the provision of consistent service, in which transactions between the site and users are always followed to the end and with timely and accurate billing (Parasuraman et al., 2005, Li and Suomi, 2009; Zavareh et al., 2012). As a result, the website/application must be accessible 24 hours a day, 7 days a week, and service disruption and errors are rare. Kettinger and Lee's (1994) research on the information service function (ISF) of organisations confirmed that reliability was a strong indicator of user satisfaction. In studies of e-commerce and online shopping, Bauer et al. (2006) and Omar et al. (2015) found that reliability was an important factor that had a direct positive effect on satisfaction. Responsiveness is expressed by the belief that the music streaming service provider provides fast and efficient customer service (Lee and Lin, 2005), through diversified contact methods and clearly defined customer policies (Chang et al., 2009). Zhu et al. (2002) confirmed that the responsiveness of IT-based services have positive effects on satisfaction. Studies of e-commerce and e-shopping have also confirmed the link between responsiveness and satisfaction (Lee and Lin 2005, Bauer et al., 2006, Ting et al., 2016). Hammoud et al. (2018) found that reliability and responsiveness were significant to the satisfaction of Lebanese e-banking services. As expressed in terms of performance in this study and where satisfaction is a factor of reliability and responsiveness, satisfaction follows cumulative customer ratings of all transactions. This distinction between cumulative and transactional perspective in satisfaction is emphasised in Kuo et al. (2009) study on mobile value-added services. In a nutshell, when customers perceive that streaming music services are working well, customer satisfaction with these services is expected to increase. This leads to the development of the following hypothesis:

H₁: The performance of music streaming services has a positive effect on satisfaction.

Web Design

Web design refers to the website and applications that allow users to manage their tasks properly, with a well-organised graphical interface, appropriate, attractive, non-intrusive, and non-distracting graphics, simple web pages, and text that are easy to read; and being easy to learn and navigate (Parasuraman et al., 2005, Swaid and Wigand, 2007, 2009; Carlson and O'Cass, 2010). The hypothesis of this study is corroborated by Wolfenbarger and Gilly (2003), who found that web design was a better predictor of loyalty intentions than measures of the quality of e-services and their satisfaction with e-commerce. In short, when music streaming services offer customers a seamless experience through well-designed user interfaces, web pages, graphics, and text, with easy navigation, the intention to re-purchase increases. This leads to the second hypothesis:

H₂: The web design of music streaming services have a positive effect on re-purchase intention.

Satisfaction and Re-purchase intention

Satisfaction is the evaluative belief that customers have the choice to use and buy streaming music on a website/app that is good, that it was the right choice and that the service provided what they needed (Cronin et al., 2000). Subsequently, the intention to re-purchase is measured by assessing the customers' belief that they will, in the future, make efforts, plan and expect to use any streaming music website/application (Cheng et al., 2011). The positive relationship between satisfaction and purchase intentions (related to re-purchase intentions) is corroborated by e-commerce studies (Lee and Lin 2005; Bai et al., 2008) and websites in the hotel industry (Jeong et al., 2003). E-commerce research has shown that satisfaction is associated with loyalty in B2C e-commerce in Malaysia (Ting et al., 2016) and Indonesia (Hidayat et al., 2016). As a result, when customers are satisfied with their choice of a streaming music service, loyalty to these services will likely increase. This leads to the previous hypothesis:

H₃: Satisfaction with music streaming services have a positive effect on re-purchase intention.

Personalization

Personalization refers to the customer's belief that music streaming services convey personal attention to the customer, understand their specific needs, and provide them with an individualised service consistent with their tendencies (Swaid and Wigand, 2007, 2009). Personalisation's relationship to re-purchase intention is identified in the research by Parasuraman and Grewal (2000) in which customization or personalization is positively correlated with behavioural intentions (cited in Parasuraman et al., 2005). Tong et al. (2012) demonstrated that the personalisation of the service was positively correlated with e-loyalty in internet banking. Pappas et al. (2012), research on online shopping has shown that personalisation has a positive effect on purchase intentions. In a nutshell, if customers feel that their individual needs are met by a streaming music service, it is expected that the re-purchase intention will increase. This follows the following hypothesis:

H₄: The personalisation of music streaming services have a positive effect on re-purchase intention.

Trust

Trust is the belief that customer transactions are safe and secure and that the personal data stored by the service provider is protected (Chang et al., 2009, Van Riel et al., 2003) and consists of having privacy policies clearly defined on the web site (Van Riel et al., 2003). Studies by Loiacono et al. (2014), Santoso and Aprianingish (2017) and Thamizhvanan and Xavier (2013) support the link between trust and re-purchase intention (reuse, re-purchase and online purchase intention respectively). Hsu (2008) found that trust was a positive indicator of loyalty (related to re-purchase intention). As a result, Loiacono et al. (2014) assumed that more experience and more online purchases made users more suspicious of unreliable websites. Therefore, if customers feel safe sharing their personal information with streaming music services, the level of re-purchase intention will be higher. This leads to the development of the final hypothesis:

H₅: A customer's trust in music streaming services has a positive effect on re-purchase intention.

METHODOLOGY

This study's research design sought to find links between factors of e-service quality, satisfaction and re-purchase intention through a survey of Malaysian Millennial private college and university students in the Klang Valley. Respondents used music streaming web sites and/or apps more than once or twice a week and were disqualified if they did not meet all of the aforementioned conditions. Both descriptive and quantitative research method was applied, and data collection proceeded through convenience sampling for reasons of simplicity and time constraints.

Previous enquiries gave validation to sample sizes of 300-400 respondents (Chang et al., 2009; Spreng et al., 1995). Barclay et al., (1995) argued that sample size considerations for partial least squares should follow the rule of thumb of 10 times the highest sum of formative indicators or structural paths to any single construct (as cited in Hair et al., 2017). With respect to these two considerations, a target sample size of 400 was found to be adequate and maintained a statistical power of 80% for identifying R² values of at least .10 at 95% level of confidence (Hair et al., 2014).

Scale of Measurement

Following the SERVQUAL questionnaire of Parasuraman et al. (1985), a 7-point Likert scale was adopted. Measurement items ranged from 1 ("Disagree Most") to 7 ("Agree Most"). All measurements items have been taken and confirmed by previous research. Among the quality factors of adapted e-services: Web design, four items by Swaid and Wigand (2007); reliability, four items by Zaverah et al. (2012); responsiveness, three items by Lee and Lin (2005); trust, three items by Chang et al. (2009); personalisation, three items, Swaid and Wigand (2007); satisfaction, three items by Cronin et al. (2000) and the re-purchase intention, three items of Cheng et al. (2012). All of the measures were chosen because they exceeded Cronbach's alpha (α) and composite

reliability values threshold of 0.7, as recommended by Kline (1999) and Hair et al. (2010). The details of the measurement items are given in Table 1.

Pilot Study – Reliability Analysis

A pilot study was conducted prior to the main data collection to identify possible errors in the questionnaire and perform reliability tests for the internal consistency of the measurement items used. The pilot study included 39 respondents who met all of the criteria previously mentioned in the methodology section. All constructs, except web design, reached the threshold of 0.7 to 0.8 for Cronbach's alpha (α) set by Kline (1999). However, the study was continued because the correct assumption was made that once the major sample was taken, the reliability scores would reach the tolerance threshold.

Data Analysis Process

A preliminary analysis was conducted with Statistical Packages for Social Science Version 23 (SPSS). Firstly, the data were cleaned to eliminate the outliers, then a descriptive analysis was done to develop an average respondent profile. The analysis of the main data was performed with SmartPLS version 3.2.7 for partial least squares and hypothesis testing.

Profile of Respondents

Of the 444 surveys distributed, 400 were considered acceptable for analysis, a response rate of 90%. An average profile of respondents can be established: 56.5% were male and 43.5% were female; 57.4% were 18 years of age or younger, and 35.5% were between the ages of 19 and 22, 84.5% earned 1,000 RM or less per month; 45.5% at most have obtained a Malaysian Education Certificate or Sijil Pelajaran Malaysia (SPM), a Malaysian Graduate Certificate or Sijil Tinggi Persekolahan Malaysia (STPM), a General Certificate of Ordinary Education or an O Level or a high school diploma; and 88.8% and 58.3% streamed music on YouTube and Spotify, respectively.

Model Assessment Using Partial Least Squares Structural Equation Modelling (PLS-SEM)

Structural modelling describes the relationships between different constructs and latent variables. In a reflective measurement model, the measures represent the effects of the significant construct and when the causal link exists between the construct and the measurements themselves (Hair et al., 2017).

Assessment of Measurement Model

Table 1 presents the evaluation of the construct reliability and convergent validity of the constructs of this study. The indicator of outer loads for most items exceeded the recommended value of 0.708 (Hair et al., 2014). However, the WD4 model was removed from the model because it did not achieve satisfactory reliability of the indicator. The WD3 (0.528), PERS1 (0.696) and REL2 (0.600) indicators were retained because the average variance extracted (AVE) result of 0.5 was reached (Ramayah et al., 2018). In addition, the composite reliability (CR) values for all dimensions indicate that these constructs have internal consistency, since they were greater than the threshold of 0.7 (Hair et al., 2010), with the exception of the web design construct (0.600). The web design construct items were not removed because they reached the minimum value of the AVE of 0.5 (Ramayah et al., 2018). In addition, Table 1 shows that the construct of this research also reached the minimum threshold value of 0.5 for AVE, which implies that the items loaded in the corresponding constructs account for more than 50% of the variance of the constructs (Hair et al., 2014).

Table 1 Reflective Measurement Model: Factor Loadings, CR and AVE

Construct	Indicator	Loadings	CR	AVE
Re-purchase Intention	RP1	0.876	0.933	0.823
	RP2	0.933		
	RP3	0.912		
Web Design	WD1	0.859	0.600	0.600
	WD2	0.849		
	WD3	0.528		
	WD4	0.461		
Satisfaction	SAT1	0.802	0.864	0.679
	SAT2	0.869		
	SAT3	0.800		
Personalization	PERS1	0.696	0.818	0.601
	PERS2	0.799		
	PERS3	0.825		
Trust	TR1	0.784	0.857	0.668
	TR2	0.863		
	TR3	0.802		
Reliability	REL1	0.767	0.827	0.548
	REL2	0.600		
	REL3	0.796		
	REL4	0.781		
Responsiveness	RES1	0.769	0.830	0.619
	RES2	0.842		
	RES3	0.747		

Note: WD4 was deleted due to low loadings; AVE= Average Variance Extracted and CR= Composite Reliability

Table 2 presents the evaluation of the discriminant validity. This refers to the extent to which the construct is unique and distinct from all others and does not measure the phenomenon explained by other constructs in the framework (Hair et al., 2017). The Heterotrait-monotrait (HTMT) ratio is a method to determine if there is high multicollinearity and to establish discriminant validity. This survey applied the HTMT ratio (Hensler et al., 2015), showing that all constructs are significantly different at HTMT_{0.90} (Gold et al., 2001) and HTMT_{0.85} (Kline, 2011). This implies that the discriminant validity has been established.

Table 2 Discriminant validity of the measurement model: Heterotrait-Monotrait (HTMT) criterion (2015)

	PERS	RP	REL	RES	SAT	TR	WD
PERS							
RP	0.446						
REL	0.501	0.487					
RES	0.699	0.431	0.897				
SAT	0.648	0.539	0.496	0.474			
TR	0.557	0.320	0.591	0.741	0.441		
WD	0.542	0.507	0.851	0.855	0.512	0.593	

Note: HTMT < 0.85 (Kline, 2011), HTMT < 0.90 (Gold et al., 2001). PERS=Personalization; RP=Re-purchase Intention; REL=Reliability, RES=Responsiveness; SAT=Satisfaction; TR=Trust

Assessment of Formative Second Order Constructs

Table 3 presents the evaluation of formative second-order constructs. The performance problems of collinearity have been evaluated. Collinearity assessment is important to ensure that variables or factors do not measure the same constructs. As shown in Table 3, the values of the variance inflation factor (VIF) for each of the formative constructs are below the threshold value of 3.3 (Diamantopoulous and Sigauw, 2006), demonstrating that collinearity did not attain critical levels in any of the formative constructs and that these constructs are distinct and evaluate different aspects of the performance factors. Thus, estimating the partial least squares path model is not a concern.

Table 3 Collinearity Assessment for Formative Second Order Construct

	PERFORMANCE
RELIABLE	1.729
RESPONSIVENESS	1.729

The significance and relevance of the outer weights of the formative constructs were also evaluated. Table 4 describes the bootstrapping results, showing the weights and the path coefficient for each of the formative constructs (Hair et al., 2011). The bootstrapping results reveal that all formative indicators are significant.

Table 4 Path Co-Efficient Assessment for Outer Weights on Second Order Constructs

	Direct Effect (β)	Standard Error	T-statistic	P-value
REL \rightarrow PERF	0.634	0.130	4.892**	0.000
RES \rightarrow PERF	0.455	0.138	3.366**	0.001

Note: ** $p < 0.01$, * $p < 0.05$ (one-tailed) PERF=Performance; REL=Reliability, RES=Responsiveness

Assessment of Structural Model

Before evaluating the structural model, it is essential to ensure that there is no problem of lateral collinearity in the inner model of the study. Table 5 presents the results of the lateral collinearity test of the model. All inner VIF values for each construct are below the threshold value of 3.3 (Diamantopoulous and Siguaw, 2006), which means that lateral multicollinearity is not a problem in this study.

Table 5 Collinearity Assessment

	RP	SAT
PERF		1.000
PERS	1.425	
SAT	1.361	
TR	1.349	
WD	1.321	

Note: PERF=Performance; PERS=Personalization; RP=Re-purchase Intention; SAT=Satisfaction; TR=Trust

Figure 1 shows the structural model of this current survey. Five direct hypotheses have been developed in this study. To evaluate the significance levels of hypothetical relationships, path coefficients were measured using bootstrapping techniques. Table 6 shows that performance ($\beta = 0.403$, $p < 0.01$) is positively related to satisfaction. Therefore, H1 is supported. Similarly, the results also show that Web design ($\beta = 0.232$, $p < 0.01$), satisfaction ($\beta = 0.306$, $p < 0.01$) and personalisation ($\beta = 0.117$, $p < 0.05$) have a significant positive relationship with the intention to re-purchase. Therefore, H2, H3 and H4 are supported. However, confidence ($\beta = 0.024$, $p > 0.05$) was not significantly related to re-purchase intention. Thus, H5 is not supported.

Table 6 Path Co-Efficient Assessment

	Direct Effect (β)	Standard Error	T-statistic	P-value	Decision
PERF \rightarrow SAT	0.403	0.043	9.402**	0.000	Supported
WD \rightarrow RP	0.232	0.047	4.917**	0.000	Supported
SAT \rightarrow RP	0.306	0.053	5.754**	0.000	Supported
PERS \rightarrow RP	0.117	0.052	2.251*	0.025	Supported
TR \rightarrow RP	0.024	0.043	0.549	0.583	Not Supported

Note: ** $p < 0.01$, * $p < 0.05$ (one-tailed). PERF=Performance; PERS=Personalization; RP=Re-purchase Intention; SAT=Satisfaction; TR=Trust; WD=Web Design

The coefficient of determination (R^2) suggests the magnitude of the variance in an endogenous construct that can be explained by all associated exogenous constructs. Table 7 shows that the R^2 value of the re-purchase intention is 0.275, which indicates that web design, satisfaction, personalisation, and trust, account for 28% of the variance in re-purchase intentions. In addition, the R^2 value of satisfaction is 0.163, which suggests that performance accounts for 16.3% of satisfaction variances. Subsequently, the predictive relevance (Q^2) is evaluated to study the predictive power of exogenous constructs compared to endogenous constructs. A Q^2 value is greater than 0 means that the exogenous constructs have a predictive capability for endogenous constructs (Hair et al., 2014). Table 7 presents the Q^2 values for re-purchase intention (0.212) and satisfaction (0.102), which exceed value 0, indicating that the model has sufficient predictive relevance. Finally, the effect size (f^2) aims to determine whether an exogenous construct has a major influence on an endogenous construct based on its single variance rather than its shared variance (Hair et al., 2010). Table 7 shows the effect sizes of the exogenous variables on the endogenous variable, where the performance ($f^2 = 0.194$) has a medium effect size on satisfaction. Web design ($f^2 = 0.056$) and satisfaction ($f^2 = 0.095$) have a small effect size, personalisation

($f^2 = 0.013$) has a medium effect size and trust ($f^2 = 0.001$) also has a small effect size on re-purchase intention. These results suggest that performance is important to explain satisfaction, and that personalisation is more important than web design, satisfaction, and trust to explain and predict re-purchase intention.

Table 7 Determination of C0-efficient (R^2), Effect size (f^2) and Predictive Relevance (Q^2)

	Determination Co-efficient		Predictive Relevance		
	R^2	Q^2	RP	SAT	Effect Size
RP	0.275	0.212			
SAT	0.163	0.102			
PERF				0.194	Medium
WD			0.056		Small
SAT			0.095		Small
PERS			0.013		Medium
TR			0.001		Small

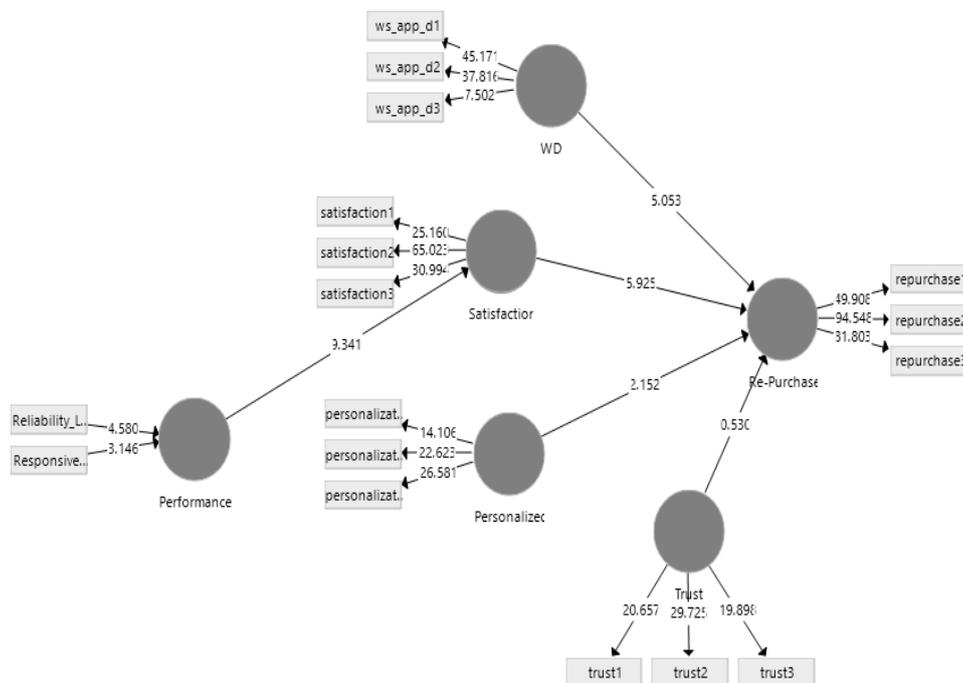


Figure 1 The Structural Model

DISCUSSION

The current research has found a positive relationship between performance and satisfaction, where performance is the expression of reliability and responsiveness. The research supports the positive relationship between satisfaction and reliability includes the study of Kettinger and Lee (1994) on the ISF organisations and studies on e-commerce and online shopping (Bauer et al., 2006; and Omar et al., 2015). Research that supports the positive relationship of responsiveness with satisfaction in IT-based services (Zhu et al., 2002) and e-commerce and online shopping (Lee and Lin, 2005; Bauer et al., 2006; Ting et al., 2016) also corroborate the correlation between satisfaction. Therefore, e-services, reliable service and adequate levels of customer service are positive indicators of satisfaction.

In addition, this study has highlighted a positive relationship between web design and re-purchase intention. This is consistent with the study by Wolfinbarger and Gilly (2003) that website design is the most significant indicator of loyalty intentions in e-commerce. It can be concluded that information systems (IS) perspectives and user-centred design issues are important aspects of user acceptance (Ahn et al., 2004).

In addition, this study found a positive relationship between satisfaction and repurchase intention. This is supported by research on e-commerce (Shankar et al., 2003; Lee and Lin, 2005; Bai et al., 2008; Ting et al.,

2016. Hidayat et al, 2016)., post-purchase intentions regarding mobile value-added services (Kuo et al., 2009) and purchase intentions of websites in the hotel industry (Jeong et al., 2003). Therefore, confirmation of the correlation between satisfaction and re-purchase intention confirms previous studies on service quality, satisfaction and loyalty, that the quality of service was a precursor to the satisfaction and loyalty (Caruana, 2002; Hsu, 2008).

The current study revealed a positive relationship between personalisation and re-purchase intention. This is consistent with the research by Parasuraman and Grewal (2000) in which customisation / personalisation corresponds to behavioural intentions (cited in Parasuraman et al., 2005). It also confirms the research findings on Internet banking (Tong et al., 2012) and online shopping (Pappas et al., 2012). The confirmation of the correlation between personalisation and re-purchase intention underscores the importance of personalised services and offers. In e-services, such personalisation could involve localised content. Therefore, music streaming services should provide music that is current and relevant to the language and culture of the customer.

This study revealed that there was no significant positive relationship between trust and re-purchase intention. In the case of streaming music, subscription prices are relatively low and at least 60% of the respondents did not pay for the service, thereby minimising the customers' feelings about potential losses due to unsecured transactions or risks for their personal data. As a result, there is no significant correlation between trust and loyalty to streaming music services.

THEORETICAL IMPLICATIONS

This study adds to current knowledge about streaming music services and its Malaysian Millennium users. It is based on the service quality literature of e-services. Drawing on elements of Servqual and WebQual models, it suggests appropriate factors related to behavioural intentions which researchers, marketers and students can refer, debate and build on these.

Music streaming, as a category of e-services, is discussed in the context of the dimensions of the quality of e-services and their underlying relationships. Web design, personalisation, and satisfaction have been shown to directly influence re-purchase intention. Performance, consisting of elements of reliability and responsiveness and as opposed to other measures, leads to satisfaction, which relates to the intention to re-purchase. As a result, the higher the perception of the customers, the more satisfied they are with their choice of streaming music service. In the context of high volume transactions at a relatively low cost to customers, customer performance evaluations are determined by meeting users' expectations, as opposed to Web site design and personalisation, where direct correlations between customers re-purchase intention and customer loyalty can be demonstrated. This suggests that online behaviour research may need to take into account the types of transactions involved in purchasing behaviour.

PRACTICAL IMPLICATIONS

This current research and its framework could support a marketing plan for a similar type of customer-focused e-service. Online service companies should recognise the importance of creating satisfaction and re-purchase intentions by improving the quality of online services and offering superior value and benefits to their customers (Natalia et al., 2016). Streaming music services and other e-services could certainly apply the constructs of this study to improve their service offerings. Web design should focus on creating graphics and interfaces that provide the proper utility while making navigation easier. For personalisation, users should be offered music or other service offerings that match their preferences, habits, and custom profiles. Understanding that the perception of user performance has a positive effect on satisfaction and repurchase intentions, e-service providers must always follow the basic needs of their customers to provide functional and reliable customer services. While web design, trust, and satisfaction produced small effects, performance and re-purchase design had medium-sized effects and thus are more significant; Therefore, the results suggested-services focus on the development of reliable services and habit-forming services.

LIMITATIONS AND RECOMMENDATIONS FOR FUTURE STUDY

This research is different from e-service quality models that rely on e-commerce and evolve to pure e-services. Early models such as E-S-QUAL and E-RecS-QUAL from Parasuraman et al. and eTailQ from Wolfinbarger and Gilly (2003) focused on online shopping and formed the basis of many studies on the quality of e-services. This study focuses on streaming music services as a category of e-services. Its framework is based on both theories (quality of electronic service) and models (SERVQUAL and WebQual). Studies should be conducted in a larger number of e-service industries (e.g. video streaming, social media platforms, news portals, e-learning websites, etc). Future research on e-services should focus on models to assess the quality of websites and service delivery. Examples include E-SERVQUAL, WebQual and SITEQUAL. The quality of service in information technology and information systems must also be taken into account. All of the variables presented in this study had only weak or medium predictive power, and much more needs to be learned from the relevant concepts. Therefore, frameworks with different sets of variables should be proposed and examined more closely. Potential variables to consider include the value perceived by the customer, including their profit and cost. In this study, performance is the only variable related to satisfaction, and satisfaction plays a role in re-purchase intentions. However, relationships of other variables such as web design, personalisation, and trust in satisfaction have not been tested. This framework could be the result of a weakness in the development of the literature review. Future research should consider simplified or direct relationships between e-service quality factors and purchase intentions.

CONCLUSION

This study began by identifying streaming music services and Malaysian Millennials as viable research topics. By examining the quality of e-service to develop a research framework, developing a methodology, and then collecting and analysing data from 400 Millennials in Malaysian colleges and private universities in the Klang Valley, the study aimed to determine whether customer expectations were met and users were exposed to satisfaction and loyalty to streaming music service providers. This was accomplished by determining the validity of relevant factors in the quality of e-service and by looking for the existence of relationships among six variables: web design, performance, trust, personalisation, satisfaction and repurchase intention. As a result, the data analysis revealed significant relationships between web design and re-purchase intention, personalization and re-purchase intention, performance (containing measurements of reliability and responsiveness) and satisfaction as well as a significant relationship between satisfaction and repurchase intention. This research complements current knowledge of the Malaysian millennium generation and streaming music services and could complement future research on e-services.

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APPENDIX

Table 8 Measurement Table

Construct	Items	Adapted Scale Measurement	Adapted/adopted from
Web Design	WD1	It is important that music streaming web sites / apps are well organised.	Swaid & Wigand (2007)
	WD2	It is important that navigation in music streaming web sites / apps is consistent and standardised.	
	WD3	It is important that scrolling through pages in music steaming web sites / apps is kept to a minimum.	
	WD4	It is important that graphics and animation in music streaming web sites / apps do not detract from use.	
Performance :Reliability	REL1	It is important that service is delivered quickly through the music streaming web sites / apps.	Zavareh et al. (2012)
	REL2	It is important that the music streaming part of web sites / apps is always available for business.	
	REL3	It is important that when the music streaming web sites / apps promise to do something by a certain time, they do so.	
	REL4	It is important that transactions are done quickly through the music streaming web sites / apps.	
Performance: Responsiveness	RESP1	I think that music streaming web sites / apps should give prompt service.	Lee & Lin (2005)
	RESP2	I believe that music streaming web sites / apps should always be willing to help customers.	
	RESP3	I believe that music streaming web sites / apps should never be too busy to respond to customer requests.	
Trust	TR1	I feel that my privacy should be protected at music streaming web sites / apps.	Chang et al. (2009)
	TR2	I should feel safe in my transactions with music streaming web sites / apps.	
	TR3	Music streaming web sites / apps should have adequate security features.	
Personalization	PERS1	Music streaming web sites / apps should give me personal attention.	Swaid & Wigand (2007; 2009)
	PERS2	Music streaming web sites / apps should enable me to choose music in a way that meets my needs.	
	PERS3	Music streaming web sites / apps should understand my specific needs.	
Satisfaction	SAT1	So far, my choices of music streaming web sites / apps were wise ones.	Cronin et al. (2000)
	SAT2	So far, I think I did the right things when I used music streaming web sites / apps.	
	SAT3	So far, the facilities were exactly what I needed from my music streaming web sites / apps.	
Re-purchase Intentions	RP1	I will make effort to use music streaming web sites / apps by next week.	Cheng et al. (2011)
	RP2	I will plan to use music streaming web sites / apps by next week.	
	RP3	I will expect to use music streaming web sites / apps by next week.	