

The impact of mobile telecommunication service quality on tourists' destination satisfaction in Sarawak

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Abstract | Although Sarawak is a state in Malaysia with numerous interesting tourist destinations, tourist satisfaction is crucial for Sarawak's tourist destinations and is generally affected by the service quality. Generally, mobile telecommunication is essential for individuals nowadays. Therefore, the study aims to identify the impact of mobile telecommunication service quality on tourists' destination satisfaction in Sarawak. The service quality model (SERVQUAL) was used to measure the service quality of mobile telecommunication. The Statistical Package for the Social Sciences (SPSS v.26) was also applied to access the research model enveloped. Besides, the study used a simple random sample technique and collected 200 questionnaires from respondents who were local and foreign tourists visiting Sarawak. The results showed that reliability, assurance, tangible, empathy, and responsiveness of mobile telecommunication service quality have significantly influenced tourists' destination satisfaction in Sarawak. The results also indicated that Sarawak tourism destinations should be improved to increase tourists' tendency to revisit.

Keywords | Destination satisfaction, mobile telecommunication, SERVQUAL, service quality, tourism

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1. Introduction

Service quality is a factor influencing tourist satisfaction, comprising hospitality, accessibility, infrastructure, and environment. Hayati and Novitasari (2017) stated that services have a significant effect on satisfaction. Essentially, the service quality provided at a destination determines tourists' destination satisfaction. Besides, a subject of concern by people nowadays is the use of mobile networks.

Due to the massive use of mobile networks, mobile telecommunication services are vital, such as making calls, using short message service (SMS), and mobile data access. Consumers of today's generation that mostly have a digital lifestyle are greatly concerned about the quality of mobile networks. Because location affects mobile telecommunication performance, consumers are also concerned about the mobile telecommunication services at their current location. Tourism activities that require mobile networks, especially mobile data access to surf the Internet, will affect the tourist experience at the destination.

Presently, tourism businesses face challenges identifying critical aspects of service improvement, such as prioritising service improvement to obtain the maximum satisfaction with the destination services and tourist satisfaction to provide the best investment return. The tasks of mobile telecommunication services at a destination include extending the customer base, keeping customer's data secure, and providing a better customer experience. Even though researchers in the past have confirmed the link between service quality model towards consumer behaviour (Lee, 2022; Abd-Elrahman, Hassan, El-Borsaly, & Hafez, 2020; Wang, Ou, & Chen, 2019), the irregularity in previous studies of mobile telecommunication service quality model predicting tourist behaviour specifically in tourism context is still anecdotal. Therefore, this study intends to bridge the empirical and contextual gaps by examining the relative impact of mo-

bile telecommunication service quality (e.g., reliability, assurance, tangible, empathy, and responsiveness) on tourists' destination satisfaction in Sarawak. The remaining of this paper is as follows: The next section depicts the conceptual variables used to build the research framework, model constructs, as well as hypotheses. The third section depicts the methodology and statistical design applied to empirically test the model. The fourth section portrays the statistical analysis and results. The final section outlines the research implications, drawbacks, and future endeavours.

2. Literature Review

2.1. Tourist Satisfaction

Bae and Lee (2019) mentioned that satisfaction is a psychological process involving the perception of experienced products to gain a pleasurable degree of consumption-related fulfilment. Additionally, Choi and Kim (2021) defined satisfaction as the perceived difference between previous anticipation and perceived performance post-consumption, whereby performance varies from expectation, and there would be a disappointment. Rahman, Bag, Hassan, Hossain, and Singh (2021) discovered that satisfaction is the extent to which a person believes that an experience provides positive feelings.

Customer satisfaction is critical in theory and practice. Essentially, satisfaction is also described as a customer's feeling or attitude towards a service after using it. According to Folgado-Fernández, Duarte, and Hernández-Mogollón (2021), most satisfaction definitions involve an evaluation, affective, and emotional response. Moreno-Lobato, Hernández-Mogollón, Pasaco-Gonzalez and Di-Clemente (2021) also defined satisfaction as an emotional response to the discrepancy between what customers expect and what they get, or a

total customer behaviour about fulfilling a goal, need, or desire towards the service provider.

Tourist satisfaction happens when the tourists obtain satisfaction towards the products and services served at tourism destinations, encouraging them to return and spread the favourable word of mouth (Bhuiyan & Darda, 2021; Baker & Crompton, 2000). Generally, tourists are satisfied if the experiences are better than expectations. Conversely, Bae et al. (2019) reported that tourists would be dissatisfied if the result of their experiences is displeasure. Based on Choi et al. (2021), tourist satisfaction is a comparison between “a tourist’s experience at the destination visited and the tourist’s expectation about the destination”.

Furthermore, the preference of destinations, products and services demanded and decision to revisit is critical. According to Baker et al. (2000), tourist satisfaction is one of the consumer’s main decisions in measuring the tourism service. Folgado-Fernández et al. (2021) view that customer satisfaction that increases concentration is one of the best ways leisure firms apply to obtain a competitive edge. Rahman et al. (2021) also agree that tourist satisfaction affects the destination preference, the revisit attention, and the consumption of services and products. Hence, higher tourist satisfaction improves the reputation of tourism service providers and the destination, reduce price elasticities, increase consumer loyalty, improve productivity, and lower the cost of future transactions.

Researchers have also shown that customer satisfaction commonly creates good behavioural intentions among consumers, such as repurchases and giving recommendations (Bajs, 2015). Similarly, satisfied tourists tend to return, recommend the destination to others, or positively comment about the destination. Meanwhile, dissatisfied tourists may not revisit the same destination nor recommend it to others, giving bad comments about the location, which will affect its market reputation.

Tourism managers would attempt to increase tourist satisfaction by improving their services, which attracts loyal visitors. Rahman et al. (2021) explained that the quality of tourists’ perception significantly impacts tourists’ satisfaction. Moreover, the intention to revisit and recommend the destination is highly affected by service quality. According to Bajs (2015), an overall good service quality and service production and delivery enrichment can produce customer satisfaction that contributes to revisit intention.

Tourism organisations should not ignore service quality to improve the satisfaction of tourists. Hence, the organisations involved need to consider consumer expectations and how they can meet those expectations. Significantly, Wang et al. (2019) stated that customer satisfaction would help customer retention and loyalty.

2.2. Service Quality

Service quality is also vital for the company’s tangible products (Lupo & Delbari, 2018). Shonk (2006) explained that service quality is related to customer satisfaction, customer loyalty, value, and repurchase intention. Additionally, Hussain, Baruah, Dutta, Mandal, Mondal, and Nath (2018) mentioned that service quality measures the service level given, which corresponds to the customer’s expectations and delivers quality service that is used to confirm customer expectations. Based on Lupo et al. (2018), service is an activity of benefits that relate to satisfaction, also regarded as an action to differentiate between the customer’s expectation and perception of the service performance (Sin, Yusof, & Sin, 2018). Thus, the higher the customer expectation, the lower the customer satisfaction. Ghasemi (2019) stated that service quality focuses on meeting the needs and matching the given service with customer expectations.

Service quality in the tourism industry is a key

factor to maintain the competitiveness of the destination. The image of a destination needs to be improved to achieve excellent service quality, differentiated from other destinations, and having loyal tourists form a certain post-visit behaviour, such as wanting to revisit the destination and positive word of mouth.

Commonly, service quality has different definitions but with the same outline. Research defined the term as the consumer's subjective judgement of a service given by the provider based on the gap between customers' expectations and the realistic perception of service (Brady & Cronin, 2001; O'Neill, Williams, MacCarthy & Groves, 2000; Hussain et al., 2018).

Studies on service quality are crucial in the tourism industry as the industry is related to people-oriented service delivery. Nevertheless, delivering consistent quality and services for visitors based on the expected standards is a major challenge for destination management in the tourism industry. Abd-Elrahman et al. (2020) emphasised that service quality has become an important predictor of results such as customer satisfaction. Thus, measuring service qualities with tourist satisfaction allows the destination management to find ways to provide high service quality to build tourist satisfaction. The numerous studies investigating service quality and tourist satisfaction prove that service quality directly impacts tourist satisfaction (Baker & Crompton, 2000; Wang et al., 2019).

2.3. SERVQUAL Model

The most used instrument to evaluate service quality is SERVQUAL, created by Parasuraman. The model involves a multiple-item scale to measure the comparison between consumers' expectations and perceptions of services. Ten dimensions were introduced: (Parasuraman, Zeithaml, & Berry, 1988) reliability, tangible, responsiveness,

credibility, security, competence, access, courtesy, communication, and understanding the customers. Later, the dimensions were improvised into five dimensions called RATER (reliability, assurance, tangible, empathy, and responsiveness), as stated by Prayag (2009) and Almutawa, Muenjohn, and Zhang (2018). The five-dimension SERVQUAL model has been theoretically and empirically studied by many researchers worldwide across different cultural backgrounds (Ladhari, 2009; Pantouvakis, 2010; Chin & Tsai, 2013; Chen, 2014).

2.4. Mobile Telecommunication Service Quality

Service quality has been conceptualised in different ways in mobile telecommunication literature. Although some researchers measured the mobile telecommunication service quality as customers' overall evaluation of their experience with the service provider, they did not consider service quality as a multidimensional construct (Aydin & Özer, 2005; Edward et al., 2010; Akroush et al., 2011; Wang et al., 2019; Abd-Elrahman et al., 2020). Nevertheless, most researchers view it otherwise.

In telecommunication industries, SERVQUAL is generally used with high reliability and validity in distinct cultural contexts. Van der Wal et al.'s (2002) study on mobile telecommunication in South Africa applied SERVQUAL with some changes, whereby the finding scale reliability was 0.95. Meanwhile, Ward and Mullee (1997) used security, availability, flexibility, simplicity, assurance, and reliability as the criteria of service quality in their study.

The current study used the improvised SERVQUAL model, i.e., the RATER dimensions (reliability, assurance, tangible, empathy, and responsiveness) as the RATER model is more refined than the SERVQUAL model. Besides, the ten dimensions of the SERVQUAL model overlap within the

dimensions. Thus, the RATER model was used to get a higher quality of measurement.

2.4.1. Reliability

Reliability is the most important in the service quality dimension (Parasuraman et al., 1988). Almutawa, Muenjohn, and Zhang (2018) also stated that reliability is required to provide a quality atmosphere and delivery system that can work together with a good personal service attitude, experience, and skills. Parasuraman, Zeithaml, and Berry (1988) described reliability as the ability to get the job done dependably and accurately. The customer expects a reliable service quality, whereby the service finishes on time without errors whenever the service is done. Besides, reliability is dependable in managing customers' service problems, performing service accurately at the first time, and providing service promptly.

Reliability has various definitions, described as a combination of commitments and the correct performance of the service (Negi, 2009). Lee (2022) classified reliability as conducting services correctly and presenting knowledge to increase the reliability and performance. Furthermore, the reliability aspect relates to customer satisfaction. Rahhal (2015) explained that in predicting overall customer satisfaction, the reliability factor tended to be in the third significant position. Thus, the service provider must concentrate on delivering the service correctly for the first time and offering the services at the promised stage. Negi (2009) reported reliability as the most important dimension in determining telecommunications SQ similar to Leisen and Vance (2001). Additionally, Ali and Raza (2017) stated that the service provider should be reliable to the customer by providing loyalty programmes as a message to the customers.

2.4.2. Assurance

According to Abdel-Rahman (2012), assurance

is the willingness to conduct the service, display politeness and respect for the clients, maintain good customer contact, and a general attitude that the best interests of customers are always at heart. Thus, assurance contributes to customer satisfaction, involving workers gaining customers' trust and feeling secure when communicating with them. Assurance is employee awareness and manner, and how they express confidence while making the customer feel comfortable during transaction (Parasuraman et al., 1988).

Assurance includes visitor's security and safety and handling complaints or problems effectively. Courtesy can be defined as politeness in employees' behaviour, treating with dignity and respect to the customers. For example, the medical service in a hotel offers a high quality of assurance. Abdel-Rahman (2012) reported that overall SQ including assurance was found out positively and significantly affecting overall relationship quality (ORQ) and customer satisfaction. Alnsour, Abu Tayeh, and Alzyadat (2014) stated that assurance is a significant contributor of Jordanian telecommunication sector to overall customer loyalty. Nonetheless, Sattari, Sangari, and Peighambari (2015) identified network quality, empathy, assurance and reliability are strong determinants of SQ in Iran's mobile telecom market based on a modified SERVQUAL model.

2.4.3. Tangible

Tangible refers to the appearance of the facilities, equipment, communication materials, attraction, staff uniforms, natural beauty, transportation at tourist destinations, and others (Lupo et al., 2018). Furthermore, tangible commonly applies to the tangible aspects of services, which are the appearance of the physical facilities, tools and equipment, communication materials, personnel, other physical features used for service, the goods used while performing the service, and physical support (Sattari et al., 2015). Specifically, tourists were

highly satisfied with the tangible dimensions of service quality, which is the destination cleanliness as the main important destination attraction. Lupo et al. (2018) examined those tangible aspects represent the fundamental key mobile telecommunication services quality features. Nevertheless, Alnsour et al. (2014) found that tangibility had the lowest correlation with loyalty within Jordanian telecommunication sector. Similarly, Sattari et al. (2015) found out that tangibles and responsiveness are weak ones and are not salient dimensions in forming SQ perceptions.

2.4.4. Empathy

Empathy has three features: approachability, sensitivity, and effort to understand consumer needs. Santouridis and Trivellas (2010) explained that service provider needs to include empathy as a vital determinant of service quality and customer satisfaction. Significantly, customer satisfaction is affected by how they were treated. Parasuraman et al. (1988) described that empathy involves providing caring, individual attention to customers, and it expresses an understanding of customer needs.

Parasuraman et al. (1988) also stated that empathy is the degree to which caring and individualised service is given. Besides, Santouridis et al. (2010) mentioned that empathy comprises cognitive aspects, affective aspects, and a behavioural dimension- an action based on cognitive and affective aspects. Thus, Almutawa et al. (2018) defined empathy as a customisation of the communication and the service provider's awareness of the customer's personal needs. Abdel-Rahman (2012) found out a significant and positive effect of empathy on relationship quality with the customers and their loyalty to the service provider. In the same vein, Alnsour et al. (2014) assessed the quality of service of Jordanian telecommunication sector and determined that empathy can positively affect customer loyalty. Besides, Sattari et al. (2015) presented that network quality, em-

pathy, assurance and reliability are strong determinants of SQ. In contrast, Almutawa et al. (2018) examined the mediating effect of employees' citizenship behavior on the relationship between affective commitment and SQ and the result portrayed that employees' citizenship behavior significantly and positively affects SQ dimensions except empathy.

2.4.5. Responsiveness

Awareness and response to customer needs are essential to gain customer satisfaction (Leisen & Vance, 2001). Additionally, responsiveness is a vital determinant of quality to obtain customer satisfaction. Responsiveness has a significant positive effect on customer satisfaction (Van der Wal, Pampallis, & Bond, 2002). Accordingly, the responsiveness dimension is rated the highest in terms of importance at cellular retail outlets in the South African environment (Van der Wal et al., 2002). Similarly, Alnsour et al. (2014) discovered that service quality has a substantial relationship with customer satisfaction in which responsiveness showed the highest positive correlation with customer loyalty. On the other hand, Sattari et al. (2015) disclosed that responsiveness is weak ones among SQ dimensions and is not salient dimension in forming SQ perceptions.

Principally, responsiveness is defined as the ability to perform the promised service accurately and dependably (Parasuraman et al., 1988). In order to optimise customer satisfaction and reduce customer dissatisfaction, the service provider should be conscious of the inconveniences in the services they offer to customers. According to Leisen et al. (2001), responsiveness includes friendliness, helpfulness, willingness, warmth, and openness. Parasuraman et al. (1988) added that willingness in helping customers and giving prompt service is a part of responsiveness. Rahhal (2015) highlighted that responsiveness and managing complaints is vital in predicting overall customer satisfaction.

Hence, the providers of mobile telecommunications services should invest in encouraging and offering

fulfilling tools for the contract workers to take timely action on customer queries.

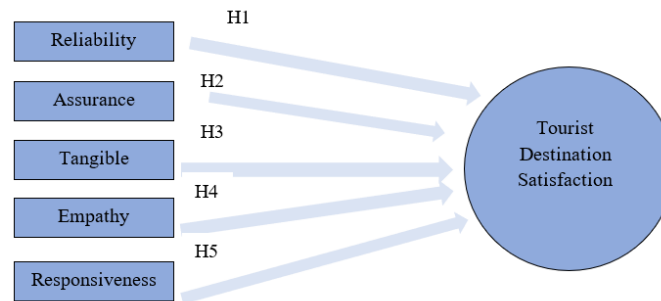


Figure 1 | Conceptual Framework based on Khan (2013) SERVQUAL Model

H₁: The reliability of mobile telecommunication service quality significantly related to tourist destination satisfaction.

H₂: The assurance of mobile telecommunication service quality significantly related to tourist destination satisfaction.

H₃: The tangible of mobile telecommunication service quality significantly related to tourist destination satisfaction.

H₄: The empathy of mobile telecommunication service quality significantly related to tourist destination satisfaction.

H₅: The responsiveness of mobile telecommunication service quality significantly related to tourist destination satisfaction.

3. Research Methodology

The study examined the relationship between reliability, assurance, tangible, empathy, and responsiveness with tourists' destination satisfaction. According to Zikmund, Babin, Carr, and Griffin (2013), in order to determine the nature of potential relationships between independent variables and dependent variables, numerical calculation and

analysis needs to be carried out in which quantitative research is to "explain a phenomenon by using objective measurement and statistical analysis of numeric data". The quantitative method was applied in this study, as it is focused on the variable of mobile telecommunication service quality that affect the tourist satisfaction. Thence, the questionnaires were distributed to local and foreign tourists who visit Sarawak, using simple random sampling. Probability sampling in which simple random sampling will be adopted in this study as it has slightest bias and tenders the most generalizability. Moreover, the number of sample subjects were 150 based on Sekaran and Bougie (2009). Nevertheless, more than 150 questionnaires were distributed in the actual survey as a precaution, with 200 questionnaires returned upon completion. The 5-point Likert-type scale was also used in the questionnaire. Next, the data were analysed using an analytical instrument which is Statistical Package for the Social Sciences Version 26.0 (SPSS V.16). The research data is analyzed using reliability analysis, descriptive analysis, correlation analysis as well as multiple regression analysis to explain how a change in the value of an interdependent variable can affect the dependent data.

4. Results and discussion

As there were no errors in the items, the original form of the questionnaire remained the same.

4.1. Pilot Study

A pilot study was conducted among 30 respondents in Malaysia who were given a brief explanation before completing the questionnaire. All completed questionnaires were gathered with the results showing that all the variables (reliability, assurance, tangible, empathy, responsiveness, and tourists' destination satisfaction) scored above 0.7.

4.2. Reliability Analysis

Based on Table 1, the value of Cronbach's Alpha fell within the range of 0.718 to 0.900. Thus, all items were kept and remained the same as they satisfied the requirement to exceed 0.70 (Davies, 1997).

Table 1 | Summary of Reliability Test

Variables	Items	Cronbach's Alpha	Remarks
Reliability	I get a good mobile network coverage at the destination.	0.900	Excellent
	I get a satisfying mobile network performance at the destination.		
	When I faced network problem, the telco service provider shows a sincere interest in solving it.		
	The quality of call is satisfying at the destination.		
Assurance	The employee at the mobile telecommunication service centre at the destination have the knowledge to answer my question.	0.718	Good
	I feel safe to do transaction at any mobile telecommunication service centre or via online.		
	I feel confident after being served by the service providers' behaviour at the destination.		
	I get a consistently courteous by the mobile telecommunication service provider at the destination.		
Tangible	I can reach the mobile telecommunication service centre building easily.	0.798	Good
	The mobile telecommunication service centres are visually appealing.		
	The employees of the mobile service centre are neat appearing.		
	The destination has the shop of the telco that I am using (<i>Celcom, Digi, Maxis, Umobile, etc</i>).		
Empathy	The mobile telecommunication service provider understands my specific needs.	0.804	Very good
	The service provider has a convenient operating hour at the destination.		
	I get a customer personal attention when I have business with the service provider.		
	The mobile telecommunication service centre is at a convenient location.		
Responsiveness	I get prompt service from service provider when I have a network problem.	0.866	Very good
	The mobile service provider always willing to help.		
	The mobile service provider never be too busy to respond to my request.		
	I will be informed by the service provider that my network has problem.		
Tourist Destination Satisfaction	I am satisfied with the mobile telecommunication service at the destination.	0.870	Very good
	The mobile telecommunication services provided make tourist experience best mobile network performance.		
	All services covered all tourists' need.		
	I have a pleasant tour in Sarawak.		
	This type of experience is what I need.		

4.3. Pearson Correlation

The correlation coefficient between reliability, assurance, tangible, empathy, and responsiveness

with tourists' destination satisfaction was 0.615, 0.691, 0.642, 0.675, and 0.580, respectively, indicating a strong relationship between the variables. Thus, any changes in independent variables will

affect the tourists' destination satisfaction, proven by the level of statistical significance with the p-value, which is 0.000 less than 0.001 ($p < 0.001$).

Table 2 | Correlation Analysis Result

Relationship	Correlation Coefficient, r	p
Reliability and tourist's destination satisfaction	.615**	.000
Assurance and tourist's destination satisfaction	.691**	.000
Tangible and tourist's destination satisfaction	.642**	.000
Empathy and tourist's destination satisfaction	.675**	.000
Responsiveness and tourist's destination satisfaction	.580**	.000

** . Correlation is significant at the 0.01 level (1-tailed)

4.4. Multiple Regression

Table 3 shows the relationship between the multiple independent variables (reliability, assurance, tangible, empathy, and responsiveness), whereby the standard coefficient was 0.615 for reliability; 0.691 for assurance; 0.642 for tangible; 0.675 for empathy; and 0.580 for responsiveness. R-square, also named as the coefficient of determination, is the scheme of the variance in the dependent variable (tourists' destination satisfaction), which could be expected from the independent variables (reliability, assurance, tangible, empathy, and responsiveness). The adjusted R-square produces a more reliable value to determine the R-square for the population. The results indicated that 41.2% of the variation in the extent of the

tourists' destination satisfaction could be predicted from the independent variables. whereas 58.8% of the variation in the extent of tourists' destination satisfaction were not described in this regression model. Meanwhile, the adjusted R-square of this study was 0.409.

Furthermore, the analysis revealed that all independent variables (reliability, assurance, tangible, empathy, and responsiveness) showed a statistically significant relationship with tourists' destination satisfaction. Thus, the hypotheses were supported as the p-value was less than 0.01 for all the independent variables. The findings indicated that reliability, assurance, tangible, empathy, and responsiveness could be used to predict the tourists' destination satisfaction reliably.

Table 3 | Multiple Regression Analysis Result

Serial	Independent Variable	Dependent Variable (Tourist Destination Satisfaction)	Significance Value (Sig.)
1	Reliability	0.615	0.000
2	Assurance	0.691	0.000
3	Tangible	0.642	0.000
4	Empathy	0.675	0.000
5	Responsiveness	0.580	0.000
R ² = 0.412 Adjusted R ² = 0.409 F Change = 141.184 Sig. = 0.000 ^b			Model Summary
			ANOVA ^a

Note: Significance levels: **p<0.01

4.5. Hypothesis Testing Results and Discussions

Table 4 presents a positive and significant relationship between reliability, assurance, tangible,

empathy, and responsiveness of the mobile telecommunication service and tourists' destination satisfaction ($p < 0.01$). Thus, all the hypotheses are accepted.

Table 4 | Summary of Hypothesis Result

	Hypothesis	Significant	Result
H1	The reliability of service quality of telecommunication significantly related to tourist destination satisfaction	P=0.000	Accepted
H2	The assurance of service quality of telecommunication significantly related to tourist destination satisfaction	P=0.000	Accepted
H3	The tangible of service quality of telecommunication significantly related to tourist destination satisfaction	P=0.000	Accepted
H4	The empathy of service quality of telecommunication significantly related to tourist destination satisfaction	P=0.000	Accepted
H5	The responsiveness of service quality of telecommunication significantly related to tourist destination satisfaction	P=0.000	Accepted

The reliability of the mobile telecommunication service has a significant positive impact on tourists' destination satisfaction in Sarawak as they have a good network performance. Besides, the tourists expect a reliable service quality that includes the service finishing on time without any errors whenever the service is performed. The results confirmed Negi (2009), whereby the reliability dimension of service quality of telecommunication had a positive relationship with customer satisfaction.

Higher service reliability was associated with increased overall customer satisfaction. According to Lee (2022), reliability of the mobile service is the second most important in predicting overall customer satisfaction. Moreover, Leisen et al. (2001) stated that the reliability dimension of telecommunication service has a positive significance on customer satisfaction. If the reliability of the service given is satisfactory, then the tourist becomes content with the service quality and vice versa.

The assurance of the mobile telecommunication service has a significant positive impact on tourists' destination satisfaction in Sarawak as tourists want a service that generates trust, confidence and courtesy, which greatly affects customer satisfaction, making them feel safe to do transactions at the destination. The findings coincide with Abdel-Rahman (2012), whereby assurance of the network quality on customer satisfaction is significant. The assurance dimension is also the most critical driver of service quality in Iran's mobile telecom market (Sattari et al., 2015). Furthermore, Alnsour et al. (2014) found a significant relationship between assurance and customer loyalty.

According to Anantha & Abdul Ghani (2013), tangible has a positive and significant impact on customer satisfaction on cellular telecommunication in Malaysia. The results coincide with Lupo et al. (2018), whereby the influence of tangible in mobile telecommunications service quality features is significant, indicating that the visitors will feel more comfortable and safer at a place if the technology equipment, facilities, and communication materials are in good shape. However, this result is in contrast with Alnsour et al. (2014) and Sattari et al. (2015) in which both of these research output reported a low correlation between tangibility and customer satisfaction.

Empathy in mobile telecommunication services has a significant positive impact on tourists' destination satisfaction in Sarawak. The results parallel Abdel-Rahman (2012), who found a significant relationship between empathy and customer loyalty. As well, Alnsour et al. (2014) stated that one of the dimensions that have a significant positive effect on customer loyalty is empathy. Additionally, empathy was one of the strong determinants of overall service quality (Sattari et al., 2015). The study findings show that providing caring, individualised attention and understanding personal needs will also provide a good travelling experience and satisfaction.

The responsiveness of mobile telecommunication services has a significant positive impact on tourists' destination satisfaction in Sarawak. Therefore, tourists have long-lasting satisfaction and revisit intention when service providers provide prompt and effective services at the respective des-

tinations that offer friendliness, willingness, helpfulness, warmth, and openness. According to Van der Wal et al. (2002) cited in Abd-Elrahman et al. (2020), responsiveness is the most prevalent dimension in predicting overall customer satisfaction, in line with Rahhal (2015) and Alnsour et al. (2014).

5. Conclusion

The study aims to identify the impact of mobile telecommunication service quality on tourists' destination satisfaction in Sarawak. The results proved that the citizens of Malaysia were satisfied with the mobile telecommunication service quality at the tourism destinations in Sarawak. Furthermore, all the independent variables (reliability, assurance, tangible, empathy, responsiveness) had a significant relationship with tourists' destination satisfaction in Sarawak.

The SERVQUAL model was applied to identify tourists' destination satisfaction towards mobile telecommunication services in Sarawak. Essentially, five components were measured to determine tourists' destination satisfaction in Sarawak, namely reliability, assurance, tangible, empathy, and responsiveness. The SERVQUAL model was adopted to assess the tourists' perceptions of service quality on mobile telecommunication, influencing tourist satisfaction at the tourist destination. The results validated the findings between reliability, assurance, tangible, empathy, responsiveness, and tourists' destination satisfaction.

The findings also provided several managerial implications for individuals, organisations and the industry. Moreover, marketers can enhance information on consumer behaviour, particularly tourists. Information is crucial for marketers to analyse the market and develop better strategies and marketing plans. Ultimately, the marketers could market the telcos in Malaysia, such as Digi,

Maxis, Celcom, Tune Talk, Umobile, and others. Secondly, every telco service provider could improve their services towards their customers, mainly the tourists. The results help the telco service providers identify which service quality they need to improve. Summarily, service quality of mobile telecommunication is important in predicting overall customer satisfaction, improving which could increase their revenue and attract loyal users.

6. Limitations and Recommendations for Future Research

The first study limitation is the total number of samples used, which is insufficient to determine the level of satisfaction. The total of 200 samples from Malaysian citizens is not sufficient to represent the whole populations' attitude accurately towards the tourist's destination satisfaction in the mobile telecommunication service quality in Sarawak. Thus, a bigger sample size of at least 300 respondents is needed to obtain better and more accurate results, represent the population better, and produce reliable results.

The study is also limited to the SERVQUAL dimensions for the independent variables. The only factors to connect tourists' destination satisfaction are reliability, assurance, tangible, empathy, and responsiveness of the mobile telecommunication service quality. The tourist satisfaction level was identified by using these factors, which could not explain all the factors of tourists' destination satisfaction in Sarawak. Therefore, future research should include other factors, such as the cost of the services and other related variables, to better understand tourists' destination satisfaction in Sarawak.

Lastly, the questionnaire used English, which affects the behaviour of the respondents in answering the questionnaire. The respondents might not be interested in answering the survey as they

might not understand English or fill out the survey without fully understanding the content. The findings could be affected by this occurrence. Therefore, future research should provide the survey questionnaire in multi-language to help the respondents fully understand the content and provide reliable opinions.

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