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ANALYSIS OF EXHIBITION SERVICE QUALITY DIMENSIONS: A CASE IN INDONESIA

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Abstract: Exhibition management is a complex process which is why it is important to understand the elements of the exhibition that attract potential visitors and exhibitors to create a successful exhibition where there are many visitors and exhibitors. There are many factors, e.g., venue facilities, contractors, ease of access, and recreation around the location that plays an important role that form the basis of a successful exhibition. However, there is no consensus among researchers on this issue. Previous research has different arguments as to which factors are more important, although most agree that overall satisfaction with the quality of exhibition services relates to visitor satisfaction. Visitor satisfaction is hypothetically closely related to the dimensions of SERVQUAL and therefore, this study aims to identify components of service quality extracted from previous research that have a significant influence on the quality of exhibitions and therefore increase the source of revenue for exhibition companies. The unit of analysis in this research are organizer companies and their customers. SPSS software used to analyze data and analyze confirmatory factor analysis using SMART-PLS produces a modified SERVQUAL model which shows that non-tangible has the strongest influence on service quality, followed by cluster effect, other and tangible dimensions.

Keywords: service quality, exhibition, servqual, purchase intention, management

Abstrak: *Manajemen pameran adalah proses yang kompleks, itulah sebabnya penting untuk memahami elemen pameran yang menarik calon pengunjung dan peserta pameran untuk menciptakan pameran yang sukses di mana ada banyak pengunjung dan peserta pameran. Ada banyak faktor, misalnya, fasilitas venue, kontraktor, kemudahan akses, rekreasi di sekitar lokasi yang memainkan peran penting menjadi dasar pameran yang sukses. Namun, tidak ada konsensus di antara para peneliti tentang masalah ini. Penelitian sebelumnya memiliki argumen yang berbeda tentang faktor mana yang lebih penting, meskipun sebagian besar setuju bahwa kepuasan keseluruhan atas kualitas layanan pameran berkaitan dengan kepuasan pengunjung. Kepuasan pengunjung secara hipotetis terkait erat dengan dimensi SERVQUAL dan oleh karena itu, penelitian ini bertujuan untuk mengidentifikasi komponen kualitas layanan yang digali dari penelitian sebelumnya yang memiliki pengaruh signifikan pada kualitas pameran sehingga meningkatkan sumber pendapatan untuk perusahaan pameran. Unit analisis dalam penelitian ini adalah perusahaan penyelenggara dan pelanggannya. Perangkat lunak SPSS digunakan untuk menganalisis data dan tambahan analisis faktor konfirmatori menggunakan SMART-PLS menghasilkan model SERVQUAL yang dimodifikasi yang menunjukkan bahwa non-tangible memiliki pengaruh paling kuat pada kualitas layanan, diikuti oleh cluster effect, others dan tangible.*

Kata kunci: *kualitas layanan, pameran, servqual, niat membeli, manajemen*

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INTRODUCTION

Allen (2011) defines MICE or meetings, incentives, conventions and exhibitions as business events in the form of meetings that bring people together for the purpose of sharing information. MICE is part of the tourism industry (Lau, 2016), the fastest growing and most profitable (Mureșan & Nistoreanu, 2017). Allied Market Research (2019) published a report showing global MICE industry revenue at $752 billion in 2016. It is supposed to increase at a CAGR of 7.5% and reach revenue of $1,245 billion in 2019. In the Asia Pacific region, its revenue reached $229 billion in 2018 and by 2025 it is expected to reach $441.1 billion and grow at a CAGR of 8.6%. The MICE industry has become the most profitable segment of the tourism industry. Exhibitions as part of the MICE industry are defined as events where exhibitors set up a booth, usually an area rented from the organizer and meet potential buyers to display products, services or information.

The exhibition industry suffered badly in light of COVID-19. CEIR (2021) reported that the exhibition industry revenue in the United States decreased rapidly in the first quarter of 2020 by 33.6 percent compared to the corresponding period of the previous year and went down even further in the first quarter of 2021, the industry saw a decline of 79.1 percent. However, recent data from Statista (2021) show a positive trend in visitor spending in the convention and event industry in Europe post COVID pandemic with a forecast until 2027 (in billion euros) can be seen in Figure 1. The report also mentions economic conditions in the domestic market and global economic developments as the two main challenges in the future. Another study by UFI (2021) that surveyed exhibition organizers in various countries during the COVID-19 pandemic period emphasized the importance of face-to-face exhibitions. The study also found that 69 percent of exhibition organizers surveyed believed that conventional (face-to-face) exhibitions would bounce back or recover quickly. More than 50% of respondents to this study do not believe that a "virtual" exhibition will replace a "physical" exhibition. From the Indonesian side, this study found that the exhibition industry in Southeast Asia (including Indonesia) will recover faster after the European region and better than other regions such as North America, Middle East & Africa and Central & South America.

A recent study by UFI (2022) shows that when compared to 2021, there will be a drastic reduction in 2022 (from 29% to 19%) the impact of COVID-19 on exhibition organizations surveyed. Internal management challenges have become a major concern in organizing the exhibition. This finding is similar to another study in Central and South America in early 2022 by Statista which show different challenges to the future exhibition industry (Table 1). Although different issues, the study identified internal management challenges as the most important issue facing all countries. The impact of digitalization mostly ranked second followed by the impact of Covid-19 pandemic.

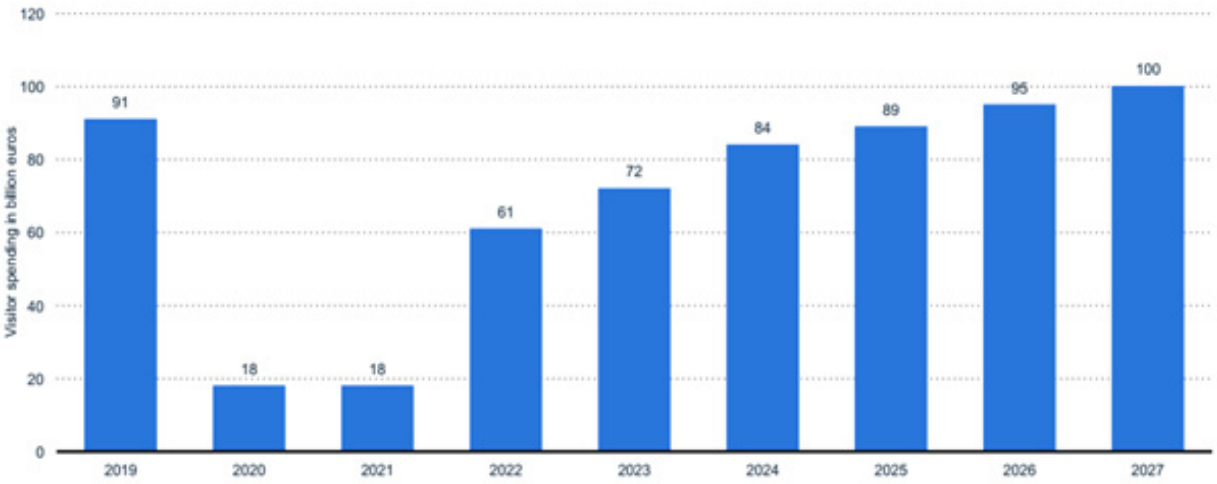

Figure 1. Visitor spending in the convention and event industry in Europe (Statista, 2021)

Table 1. Most important issues facing the exhibition industry in South & Central America in 2022

Factors	Mexico	Brazil	Chile	Colombia	Central America
Internal management challenges	1	1	1	1	1
Impact of digitalization	2	2	4	2	2
Impact of Covid-19 pandemic on the business	5	3	2	5	3
State of the economy in home market	3	5	3	3	5
Competition with other media	4	4	5	4	4
Global economic developments	6	6	6	8	6
Competition from within the exhibition industry	7	7	7	6	7
Others	8	8	8	7	8

Therefore, providing an excellent quality of service to serve potential visitors and exhibitors in an exhibition can be considered as a way to overcome these management challenges because "physical" exhibitions still hold important value after the COVID-19 pandemic. Exhibition visitors usually need an invitation or ticket to enter and large-scale exhibitions can attract and engage a large number of customers. Lee (2019) emphasizes the importance of understanding the elements of the product and service environment of an exhibition that attracts potential visitors and exhibitors to create an exhibition with many visitors and exhibitors. This is because tourist satisfaction affects tourists choosing destinations, consumer products and services and making return visits (Primadi et al. 2021). However, there is no consensus among researchers on this issue. For example, Wang et al. (2014) argue that two factors play an important role, namely the performance of the organizer and how to get quality suppliers (venue facilities, contractors, and related services). These two factors form the basis of a successful and sustainable exhibition.

Jin & Weber (2016) proposed five important exhibition elements, namely ease of access, venue facilities, recreation around the location, the economic level of the destination, and the cluster effect as the indicators that determine the attractiveness of an exhibition. He et al. (2020) also suggest five factors namely, exhibition history, start-up size, trade association connection, relevant industry clusters, and public transportation. Kresse (2005) argues that close coordination between organizers, exhibitors and visitors in event management is necessary to create a successful exhibition. Lee (2019, 2022) hypothesizes emotional value, economic value and social value as keys to successful exhibition. Another study by Tanner Jr (2002), from the perspective of exhibitors, the quality and number of visitors is very important to determine the success of an exhibition.

Customer satisfaction is the key to the success of a service company, often measured by staff service where customer interaction with staff is the key to service (Vidyandari et al. 2021). Atilgan et al. (2003) explained that the measurement of service quality is one of the main subjects in measuring a service. Therefore, the quality of service is the main thing that is the focus for managers to create visitor satisfaction (Primadi et al. 2021). The measurement has been applied in various industries (Souiden et al. 2019). Huang (2016) states that exhibitors have less control over their influence on exhibition marketing and business performance. Conversely, exhibition visitors have a strong influence on business performance. Other researchers (Anderson et al. 1994; Gray & Boshoff, 2004; Tse & Wilton, 1988) showed that overall satisfaction with the exhibition service quality is related to visitor satisfaction. However, the source of revenue becomes a critical factor that refers to justification of the exhibition industry to conduct a particular exhibition. This source of revenue is hypothetically related closely to SERVQUAL (Parasuraman et al. 1988) dimensions and purchase intention of the exhibition stakeholder. SERVQUAL, although it has been used in many studies, still continues to be used today. This is because the service quality measurement method that is often used is the SERVQUAL method (Khalida, 2022; Vidyandari et al. 2021). Many modifications or improvements to the model have been proposed in recent studies; some researchers say that SERVQUAL is still relevant to answer the current problem, through modification and improvement of the model.

This paper aims to identify which components of service quality has an impact on increasing visitor interest in the exhibition industry and which components of service quality has significant value contributing to the success of exhibition events. This study contributes to the literature by going beyond the classic SERVQUAL model by adding factors, building on previous studies

cumulatively, to make the proposed model better and allow better measurement of the effect of service quality on exhibition performance. The results of this research is also aimed to provide valuable reference information for exhibition organizers as well as any business related to the exhibition industry, to manage their service objectives and increase the profitability of existing revenue sources.

METHODS

This study is carried out in stages: first, defining the scope of research relevant to the perspective of the exhibition industry. Second, conducting literature studies to determine the latest research developments. Third, analyze the literature to summarize existing research gaps as an instrument for creating research designs. The fourth stage is conducting research. This study uses a quantitative approach. Quantitative approach is commonly applied in this field of research (event management). Examples of studies that use quantitative approaches are Lee (2022) surveyed Korea Electronics Show (KES) and get 240 respondents, He et al. (2020) who analyzed 656 exhibitions, Wu et al. (2016) surveyed 596 respondents, Ahmed et al. (2017) surveyed 830 respondents, Jin & Weber (2016) surveyed 535 respondents (visitors) or Jung (2005) with a total of 200 surveyed data.

From the literature review discussed in the previous section, a summary of several studies that have been published and described above regarding service quality can be seen in Table 2. These variables are a combination and integration of the original SERVQUAL model (Tangible and Non Tangible Factors) and other service quality variables. Adapting these studies, seven hypotheses have been developed as follows:

H1. Tangible has positive impact on exhibition service quality
H2. Reliability has positive impact on exhibition service quality
H3. Responsiveness has positive impact on exhibition service quality
H4. Assurance has positive impact on exhibition service quality
H5. Empathy has positive impact on exhibition service quality
H6. Cluster Effect has positive impact on exhibition service quality
H7. Others has positive impact on exhibition service quality

Table 2. Summary of SERVQUAL models

Classic Servqual Model	Delphi-fucom Servqual	Modified Servqual Model	Modified Servqual Model	Exhibitions' service quality	HEISQUAL Model
Parasuraman et al. (1988)	Prentkovskis et al. (2018)	Ahmed et al. (2017)	Yoon & Suh (2004)	Wu et al. (2016)	Abbas (2020)
Tangibles	Tangibles	X	Tangibles	Booth Personnel's Conduct	Infrastructure and Facilities
Reliability	Reliability	Reliability	Reliability	Booth Personnel's Ability	Management and Support Staff
Responsiveness	Responsiveness	X	Responsiveness	Ambience	Employment Quality
Assurance	Assurance	X	Assurance	Signs & Cleanliness	Safety and Security
Empathy	Empathy	Empathy	Empathy	Spatial Layout	Students' Development
	Dimension Ranks	Competence	Process	Tangibles	Curriculum
		Online Service	Education	Sociability	Teachers' profile
				Valence	
				Waiting Time	
				Registration	
				Convenience	
				Information	
				Hotel	

Table 3 presents list of the seven latent variables (components), i.e., tangible, reliability, responsiveness, assurance, empathy, cluster effect, and others. For each latent variable, there are several indicators. There are 12 indicators for tangible, 5 indicators for reliability, 5 indicators for responsiveness, 6 indicators for assurance, 4 indicators for empathy, 4 indicators for cluster effect, and 3 indicators for others. Previous studies suggested that all of these latent variables have a positive impact on exhibition service quality. In addition to the list of latent variables and their indicators, a research framework used in this study also presented in the Figure 2.

Data collection techniques in this study use empirical quantitative research, in the form of surveys with the objectives of the study and from the results of literature studies. Survey is a quantitative research method that uses standard format, for example questionnaire, which is used to explain and analyze the relationship between variables (Malhotra & Grover, 1998).

The types and sources of research data are organizer companies, their customers (tenants) and visitors. The same questionnaire will be used for these three respondents, i.e., organizer companies, tenants and visitors, using a non-probabilistic and convenience sampling approach. This approach was chosen to maximize the number of potential respondents, enabling the selection of appropriate respondents and making comparisons during data analysis. The survey was distributed to this three groups of respondents at the international automotive conference (GIIAS, 2019) which took place in the city of South Tangerang which was attended by various levels of society and sectors from industry. This was the last major international exhibition before Indonesia fell into the crisis of the COVID-19 pandemic. GIIAS is the largest automotive exhibition in Indonesia that showcases the latest automotive products and other related automotive industries. The exhibition is attended by hundreds of thousands of visitors every year. Various events, conferences, and product launch events are part of what visitors can enjoy during the exhibition.

SPSS software will be used to analyse the data. A statistics descriptive is used to analyse and present general findings of the data sets, followed by ANOVA to test the difference. Data analysis technique using SMART-PLS (PLS-SEM) is also applied so that critical factors could be identified and a final framework could be developed as the output of the research objectives. As discussed in the study of Lee (2022), PLS-SEM is a suitable technique for testing hypotheses and identifying model fit when there are many complex constructs, which is a requirement in the design of this study.

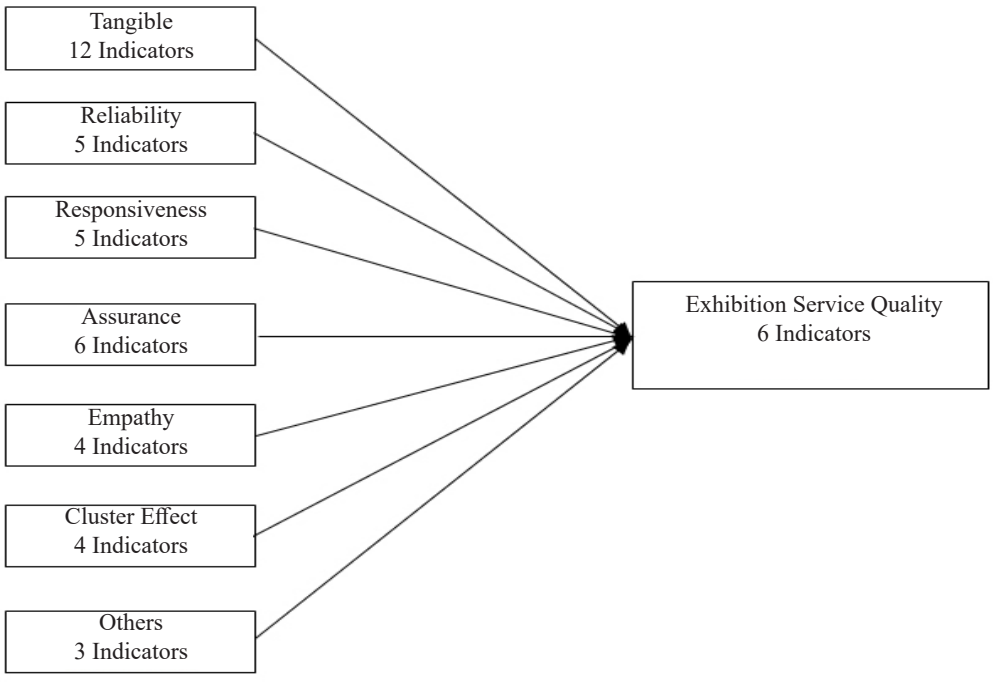

Figure 2. Research Framework

Table 3. Similar research using SERVQUAL for the Service Industry

Component	Code	Sub Component	Reference
Tangible	T1	Physical Facilities	(Parasuraman et al. 1988; Zeithaml et al. 1988)
	T2	Equipment Used To Provide The Service	(Allen, 2011)
	T3	Appearance of Personnel: Provider/Organizer	(Kumar et al. 2010)
	T4	Appearance of Personnel: Staff	(Kumar et al. 2010)
	T5	Physical Representations Of The Service	(Allen, 2011; D. H. Lee, 2019)
	T6	Physical Surrounding	(Bitner, 1992; Kim et al. 2012; D. H. Lee, 2019)
	T7	Cleanliness	(D. H. Lee, 2019; H.-C. Wu et al. 2016)
	T8	Spatial Layout	(M. Jung, 2005; H.-C. Wu et al. 2016)
	T9	Accessibility	(He et al. 2020; M. Jung, 2005; Kim et al. 2012; Shonk & Chelladurai, 2008; H.-C. Wu et al. 2016)
	T10	Size of the exhibition area	(He et al. 2020; Mureșan & Nistoreanu, 2017)
	T11	Facility design that can meet the needs of visitors and tenants	(Munuera & Ruiz, 1999)
	T12	Facility Maintenance	(Munuera & Ruiz, 1999)
Reliability	R1	Perform The Service Dependably And Accurately	(Parasuraman et al. 1988; Zeithaml et al. 1988)
	R2	Perform At Designated Time	(Parasuraman et al. 1988; Zeithaml et al. 1988)
	R3	Consistency Of Performance	(Anderson et al. 1994; D. H. Lee, 2019)
	R4	Accuracy In Billing	(Ahmed et al. 2017)
	R5	Keeping Records Correctly	(Ahmed et al. 2017)
Responsiveness	S1	Provide Prompt Service	(Parasuraman et al. 1988; Zeithaml et al. 1988)
	S2	Will To Help Customer	(Kumar et al. 2010)
	S3	Mailing The Transaction Slip Immediately	(Kumar et al. 2010)
	S4	Provider/Organizer: Calling The Customer Back Quickly	(Parasuraman et al. 1988; Zeithaml et al. 1988)
	S5	Staff: Calling The Customer Back Quickly	(Parasuraman et al. 1988; Zeithaml et al. 1988)
Assurance Employee Assurance	A1	Knowledge, Courtesy, And Ability to Convey Trust	(Allen, 2011; Kumar et al. 2010)
	A2	Confidence The Customer Feels	(Kumar et al. 2010)
	A3	Booth Management (Personnel's Ability)	(M. Jung, 2005)
	A4	Competence	(Ahmed et al. 2017; Kumar et al. 2010)
	A5	Compliance	(Ali & Raza, 2017)
	A6	Safety	(Kim et al. 2012)
Empathy	E1	Caring To Customer	(Wong Ooi Mei et al. 1999)
	E2	Individualized Attention To Customer	(Wong Ooi Mei et al. 1999)
	E3	Employee Empathy Friendliness	(D. H. Lee, 2019; Hoyt & Whyte, 2011; Wong Ooi Mei et al. 1999)
	E4	Sociability, Personnel's Conduct	(Kim et al. 2012; H.-C. Wu et al. 2016)
Cluster Effect	C1	Tourist Attraction	(Jin & Weber, 2016; S. Jung & Tanford, 2017)
	C2	Market Demand or orientation	(Allen, 2011; Jin & Weber, 2016)
	C3	Concentration of Industries Industrial Base	(He et al. 2020; Jin & Weber, 2016)
	C4	Concentration Of Exhibitors And Professional Industry Associations	(He et al. 2020; Jin & Weber, 2016)
Others	O1	Government Support	(He et al. 2020; Jin & Weber, 2016)
	O2	Invite others	(M. Jung, 2005; H.-C. Wu et al. 2016)
	O3	Visitors like to linger at the exhibition	(M. Jung, 2005; H.-C. Wu et al. 2016)
Service Outcome	V1	Will Come Again	(M. Jung, 2005; H.-C. Wu et al. 2016)
	V2	Will Tell The Good Things Of The Expo To Others	(M. Jung, 2005; H.-C. Wu et al. 2016)
	V3	Fair Price	(S. Jung & Tanford, 2017; Mureșan & Nistoreanu, 2017; Zeithaml et al. 1988)
	V4	Make The Visitors Feel Good	(Kah et al. 2010)
	V5	Outstanding Quality	(Kim et al. 2012)
	V6	Convenience	(Jin & Weber, 2016; Kumar et al. 2010)

RESULTS

There were 352 respondents obtained in the data collection process. The exhibition visitors had the highest frequency with a total of 271 respondents (77%), followed by tenant staff / owners of 62 respondents (17.6%) and the exhibition organizers had the lowest frequency of 19 respondents (5.4%). There were 60.1% male respondents and 39.9% female respondents among all respondents. Based on their educational background, which is divided into five groups, namely elementary to master, the majority of respondents come from secondary education (44.3%) and undergraduate (40.1%). Respondents who have only a basic education background have the smallest proportion (2.0%).

This respondent profile is consistent with the aims of the study because first of all, most of the respondents are visitors so that it is relevant to be used to measure satisfaction levels. Second, a relatively balanced proportion between male and female respondents allows a comparative test of the level of satisfaction between genders. In addition, the education level of the majority of respondents are also by the exhibition business target market and they have sufficient knowledge in assessing the quality of the exhibition.

In the context of age, respondents in this study were generally young (48% of respondents were under 22 years old or 77.8% were under 30 years old). Less than 5% of respondents aged over 45 years. In terms of location of residence, of the 352 respondents, most came from Jakarta (44.6%) and Tangerang (30.1%). There were also respondents from Bekasi, Depok and Bogor, respectively 7.7%, 5.7%, and 4.3% of the total respondents. Other respondents (7.7%) came from outside Jabodetabek. About 10% of respondents have a monthly expenditure of less than 1 million rupiahs. These respondents may be active students who still do not have their own income. Around 75% of respondents have a monthly expenditure of up to 5 million rupiahs and less than 10 percent of respondents have a monthly expenditure of more than 10 million rupiahs.

A simple regression test is applied to test whether age can be explained by a monthly expenditure variable. The results of linear regression showed that there was a significant effect between independent and dependent variables (F (df = 1, 345) = 93.505, $p < .000$, with $R^2 = 0.213$). The monthly expenditure variable ($t = 9{,}670$, $p = .000$) is a significant predictor in the model. This explains that the fewer monthly expenses reflect the younger age of respondents.

Most respondents visited the exhibition with their friends (57.2%), followed by those who came with their families (21.5%). Both groups dominate the data (78.82%) and show the importance of social factors in reaching the exhibition market. There are 17.45% of respondents who come with coworkers, they are most likely not visitors, but exhibition staff/employees. 3.74% (the smallest proportion) of visitors who come alone are interesting enough to be tested whether there are differences in behavior compared to visitors who come in groups.

Table 4 shows the reasons for visiting an exhibition. It is interesting to note that the majority of respondents (32.4%) come to the exhibition just to look around or without a specific purpose (20.7%). It is likely that new respondents will decide to take further action after being at the exhibition site. Another group of respondents who also had similar reasons, came to visit the exhibition because of the easy access to the exhibition site (2.3%), comfort (2%) and the flexibility offered by the exhibition (0.9%). Other groups of respondents have good reasons to come to the exhibition, for example, because the exhibition has added value to them (9.4%), the exhibition benefits them (9.1%) and has an effective impact on the purpose of their visit (8%). The third group of respondents came to the exhibition because of persuasion or marketing factors, such as exhibition promotion and advertising (7.7%), persuasion of others (5.4%), and the presence of experts at the exhibition (2.3%).

The next analysis is inferential statistics using SPSS. The first analysis is to examine whether the difference in the location of the respondent's residence is related to the reason they visited an exhibition. Using the ANOVA test, we found F-value = 0.634 and p-value = 0.674. That means at alpha 5%, it fails to reject the null hypothesis. There is not enough evidence to show that location causes people to have different reasons to visit an exhibition. The second ANOVA test is conducted to test whether the types of respondents (visitors, staff / tenant owners, and exhibition organizers) are related in terms of reasons for visiting an exhibition. From the data, there were 271 visitors, 62 tenant's staff or owners', and 19 exhibition organizers. On ANOVA test results, we found small p-value = .000, which means the results are significant. At least there is a pair of respondent groups that have distinct opinions.

Table 4. The reasons for visiting an exhibition

Motivation	Frequency	Percentage
Just want to look around	114	32.4 %
This exhibition filled with experts on their fields	8	2.3 %
This exhibition puts me at ease	7	2 %
My sole intention is only to come	73	20.7 %
Other people's persuasion	19	5.4 %
Promotion and advertisement	27	7.7 %
This exhibition is useful for me	32	9.1 %
This exhibition has effective impact to my goal	28	8 %
This exhibition has an added value for me	33	9.4 %
This exhibition can easily accessed by me	8	2.3 %
There are flexibility on the arrangement of the exhibition	3	0.9 %
Total	352	100%

Table 5 presents ANOVA tests (Post Hoc Tests) using Tukey's HSD. From the Post Hoc test, it can be concluded that exhibition visitors have different reasons for visiting an exhibition than staff/tenant owners and exhibition organizers; this can be seen from small p-value = 0.000. On the other hand, there is not enough evidence to support that staff/tenant owners and exhibition organizers have different reasons for visiting an exhibition. This can be seen from the large p-value.

The ANOVA test concluded that in general, exhibition visitors are groups that have their own reasons compared to staff / tenant owners and exhibition organizers, who have the same reason. The results of the analysis can be used for further analysis of service quality gaps between visitors to an exhibition as a data group compared to staff / tenant owners and exhibition organizers who are combined with other data groups.

The next ANOVA test is carried out to test whether the types of respondents (visitors, staff / tenant owners, and exhibition organizers) are related in terms of coming with whom to an exhibition (family, friends, coworkers, alone). ANOVA test results show F-value = 48.329 and small p-value = .000, which means the results are significant. At least there is a pair of respondent groups that have distinct opinions.

Table 6 presents ANOVA tests (Post Hoc Tests) using Tukey's HSD. From the Post Hoc test, it can be concluded that exhibition visitors have different reasons in terms of coming with whom to an exhibition than staff / tenant owners and exhibition organizers; this can be seen from small p-value = 0,000. Most exhibition visitors come with friends or family while staff / tenant owners and exhibition organizers usually come alone or with coworkers.

The last analysis is to develop a structural model of service quality in the exhibition industry. The SmartPLS program was used for the data analysis. Partial-least squares structural equation modeling (PLS-SEM) is appropriate for evaluating complex models and has been used extensively in social and behavioral research (Murfield et al. 2017). Figure 3 shows the result of calculation i.e., the structural model. The estimation of PLS path modeling for the service quality of an exhibition is coming from the PLS algorithm within SmartPLS software tool. By looking at the diagram, we can make the following initial observations.

The coefficient of determination, R^2, is 0.709 for Service Quality endogenous latent variables. This means that the four latent variables (Tangible, non-Tangible, Cluster effect and Others) moderately explain 70.9% of the variance in Service Quality. The inner model shows that Non-tangible has the strongest effect on Service Quality (0.504), followed by Other (0.196), Cluster effect (0.189), and Tangible (0.109). The hypothesized path relationship between Service Quality and Non-tangible, Other, Cluster effect and Tangible is statistically significant. This is because the standardized path coefficient for each path is greater than 0.1. Thus we can conclude that Non-tangible, Other, Cluster effect and Tangible are fairly strong predictors of Service Quality.

Table 5. Post Hoc Tests using Tukey's HSD (visitor profiles with reason to visit the exhibition)

(I) Stakeholder	(J) Stakeholder	Mean Difference (I-J)	Std. Error	Sig.
Visitors	Staff / Tenant Owners	-3.074*	0.350	0
	Exhibition Organizers	-3.151*	0.688	0
Staff / Tenant Owners	Visitors	3.074*	0.350	0
	Exhibition Organizers	-0.077	0.738	0.994
Exhibition Organizers	Visitors	3.151*	0.688	0
	Staff / Tenant Owners	0.077	0.738	0.994

* The mean difference is significant at the 0.05 level.

Table 6. Post Hoc Tests using Tukey's HSD (profile of visitors versus who you come with to an exhibition)

(I) Stakeholder	(J) Stakeholder	Mean Difference (I-J)	Std. Error	Sig.
Visitors	Staff / Tenant Owners	-3.036*	0.335	0
	Exhibition Organizers	-2.707*	0.565	0
Staff / Tenant Owners	Visitors	3.036*	0.335	0
	Exhibition Organizers	0.329	0.624	0.858
Exhibition Organizers	Visitors	2.707*	0.565	0
	Staff / Tenant Owners	-0.329	0.624	0.858

* The mean difference is significant at the 0.05 level.

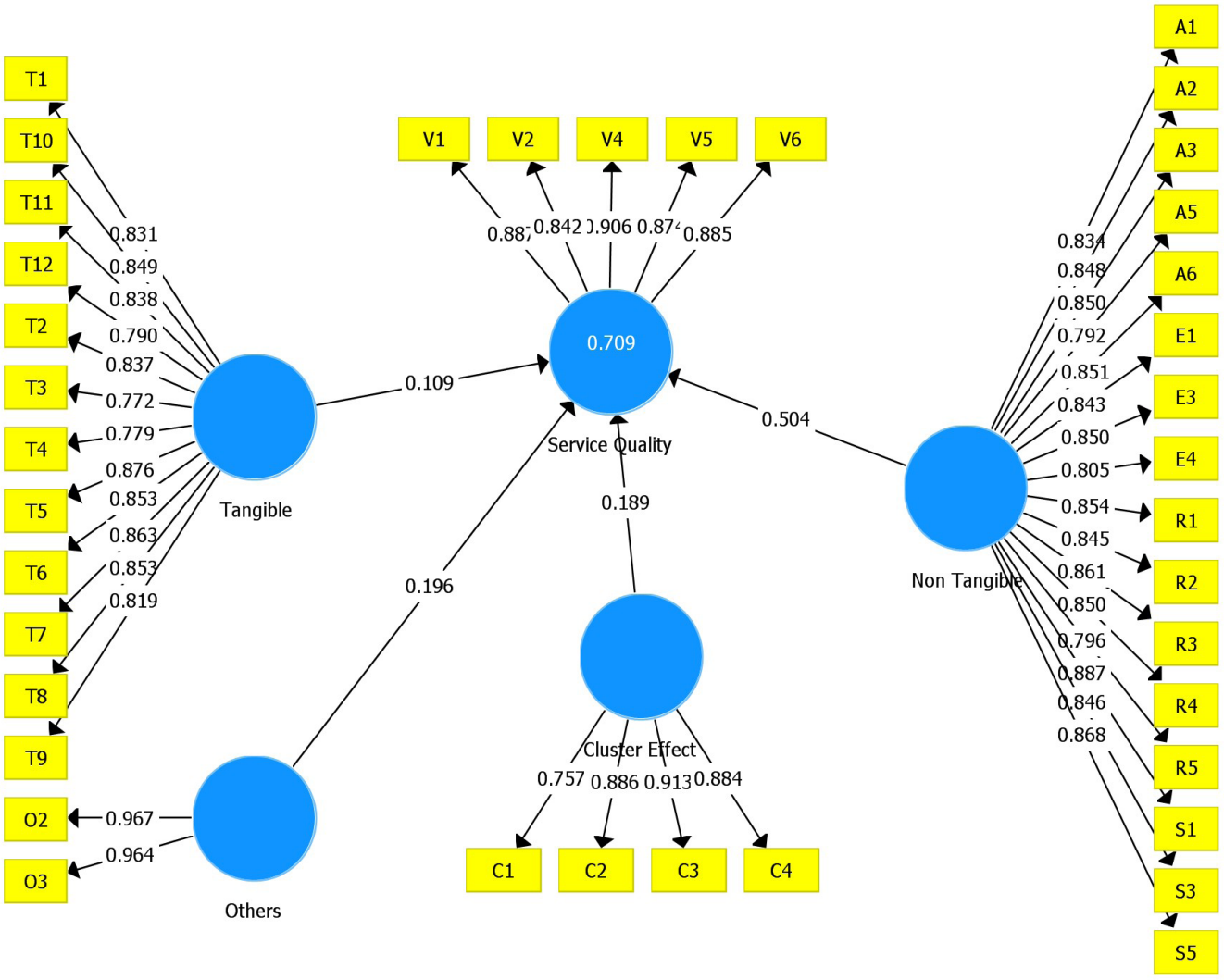

Figure 3. The structural results of the service quality model at the exhibition

Model estimation is good because the PLS-SEM algorithm shows that the data has converged in 7 iterations (far below the limit of 300 iterations which indicates abnormal data). In terms of reliability, Figure 3 also shows that all indicators have an individual value (path loadings) that is greater than the set value of 0.7 (Hair Jr et al. 2016). This means that the model has sufficient individual indicator reliability values. Usually "Cronbach's alpha" is used to measure internal consistency reliability and is expected to be 0.8 or greater. In PLS-SEM, it is also common to use composite reliability as a test of convergent validity in a reflective model (Garson, 2016). Table 7 shows the two reliability values are greater than 0.8, so it can be concluded that there is a high level of internal consistency reliability and this is good for confirmatory research.

From Table 7 it is also found that the Average Variance Extracted (AVE) value is greater than the acceptable threshold of 0.5. This confirms convergent validity. Moreover, Cronbach's alpha values for all variables greater than 0.8 also indicate confirmed convergent validity.

Another indicator of a good model is discriminant validity (Fornell & Larcker, 1981). Discriminant validity is calculated from the square root of the AVE for each latent variable. Discriminant validity is achieved if, for each latent variable, the square root of the AVE is higher than its correlation with the other relevant latent variables. Table 8 shows that the model has good discriminant validity.

Based on the above explanation, there is sufficient reason to conclude that the measurement scale indicates the validity and reliability of the exhibition service quality model is acceptable. The model explains hypotheses were tested by evaluating the four components of Exhibition Service Quality (Tangible, Non Tangible, Cluster Effect, and Other) and their relationships with exhibition satisfaction. As shown in Figure 3, the four components of Exhibition Service Quality significantly explain exhibition satisfaction ($R^2 = 0.709$) and among the four components, Non Tangible is the best predictor ($R^2 = 0.504$) followed by Other ($R^2 = 0.196$), Cluster Effect ($R^2 = 0.189$), and Tangible ($R^2 = 0.109$).

Table 9 shows SMART-PLS Bootstrapping result, a significance test to test whether the four components of Exhibition Service Quality (Tangible, Non Tangible, Cluster Effect, and Other) has a significant effect on service quality. The small p-value for Non Tangible, Cluster Effect, and Other show significant result while the p-value of Tangible (0.201) is larger than 0.05 and therefore there is not enough evidence to support that tangible is positively affect exhibition service quality (hypotheses H1 is not supported). This can be explained, because as an international-class exhibition, a good physical environment (Tangibility) is an order qualifier which is the minimum acceptance for visitors, tenants and exhibition organizers.

Table 7. Results Summary for reflective outer models

Latent Variable	Cronbach's Alpha	Composite Reliability	AVE
Tangible	0.959	0.964	0.690
Non Tangible	0.973	0.975	0.710
Cluster Effect	0.883	0.920	0.743
Other	0.928	0.965	0.933
Service Quality	0.926	0.944	0.772

Table 8. Fornell-Larcker criterion analysis for checking discriminant validity

	Cluster Effect	Non Tangible	Other	Service Quality	Tangible
Cluster Effect	0.862				
Non Tangible	0.737	0.843			
Other	0.408	0.361	0.966		
Service Quality	0.711	0.799	0.493	0.879	
Tangible	0.651	0.778	0.346	0.692	0.831

Table 9. SMART-PLS Bootstrapping result

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Cluster Effect → Service Quality	0.189	0.186	0.058	3.256	0.001
Non Tangible → Service Quality	0.504	0.504	0.075	6.689	0.000
Others → Service Quality	0.196	0.197	0.044	4.474	0.000
Tangible → Service Quality	0.109	0.110	0.085	1.281	0.201

Further analysis for non tangible indicators shows that there are 16 of the 20 available indicators that have been identified as significant. They are service dependability, time accuracy, performance consistency, billing accuracy, and correct records (reliability); prompt service, immediate transaction slip, and staff is quick to call back (responsiveness); ability to convey trust, customer's perceived trust, booth management, compliance, and safety (assurance); take care of customers, friendliness, and personnel's sociability (empathy). This finding answers the previous hypothesis statement, which is a significant result for the hypotheses H2, H3, H4 and H5. The importance of intangible factors (reliability, responsiveness, assurance, empathy) is supported in other studies such as Jung (2005) where assurance is identified as the most important, Khalida (2022) highlights empathy as paramount, Jiménez-Guerrero et al. (2020) mention reassurance and empathy, or Wu et al. (2016) and Lee (2019) confirm all factors without mentioning which one is the most important.

The four cluster effect indicators have been identified as significant to service quality, thus answers hypotheses H6: tourist attraction, market demand orientation, concentration of industries and concentration of exhibitors. Identified other indicators (Hypotheses H7) consists of invite others and visitors who like to linger. Lastly all 12 tangible indicators are also identified as significant (Hypotheses H3): physical facilities, equipment used, appearance of organizer, appearance of staff, physical representations of the service, physical surrounding, cleanliness, spatial layout, accessibility, size of the exhibition area, facility design, and facility maintenance.

Other studies have also confirmed the importance of the cluster effect factor. For example, the study by Jin and Weber (2016) has similar findings to this study on the importance of an exhibition located in a place that has a Tourist Attraction (C1). Another study by He et al. (2020) agrees with the existence of Concentration of Industries (C3) and Concentration of Exhibitors and Professional Industry Associations (C4) which have a positive effect on exhibition performance. On the other hand, Government Support (O1) which is found unimportant in this study also has the same results as He et al. (2020).

Managerial Implication

This study found that most visitors come to the exhibition just to look around or without a specific purpose. They may decide to take further action after being at the exhibition site. Therefore, exhibition organizers need to have a clear strategy to bring satisfaction and increased visitors' spending at the exhibition venue. This can be implemented for example by providing added value that brings benefits and an effective impact on the purpose of their visit.

Satisfaction attributes that are supported through the results of SEM analysis, can be used as valuable reference information for the exhibition industry. Interest in visiting an exhibition is mostly influenced by non-tangible factors such as reliability, responsiveness, assurance and empathy. There are in total 16 non-tangible factors. It is also reasonable to consider the importance of factors such as tangibility, cluster effect and others even though they are not as strong as non-tangible factors.

These findings can be used as an illustration for managers about what things visitors like in an exhibition. The attribute that has the greatest influence is satisfaction with the service at the exhibition. By increasing these satisfaction attributes, it is hoped that they will be able to give a better impression to exhibition visitors when making repeat visits. The suggestion box can also be used for visitors to express their aspirations, either in the form of suggestions or criticisms.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This study confirms that service quality analysis using the modified SERVQUAL model has an impact on the service quality of an exhibition. From the three types of stakeholder in exhibition industry, visitors (ticket buyers) has different motivation compared to tenants, and exhibition organizers. Most of the visitors come to the exhibition with friends or family and the younger visitors have less expenses compared to the old ones.

Since the majority of visitors come to the exhibition just to have a look or for no particular purpose, it is important to provide quality services throughout the exhibition area to encourage visitor spending, which is one of the important goals of exhibitors and organizers. The results of this study show that there is sufficient evidence that the exhibitor and the organizer have the same goal but visitors have different goals. Therefore, good coordination between exhibitors and organizers is the key to converting the number of visitors into sales volume.

The modified SERVQUAL model in this study is able to strongly explain service quality (R^2 = 70.9%). There is enough evidence that the four components of Exhibition Service Quality significantly explain exhibition satisfaction. They are Tangible, Non Tangible, Cluster Effect, and Other. The inner model shows that Non-tangible has the strongest effect on Service Quality (50.7%), followed by Others (19.6%), Cluster effect (18.9%), and Tangible (10.9%).

Recommendations

This study provides recommendations for satisfaction attributes that have a positive effect on an exhibition. Here, non-tangible factors such as reliability, responsiveness, assurance and empathy play a major role. The results of this study can be used as a valuable reference for exhibition organizers to develop clear strategies to bring satisfaction and increase visitor spending at the exhibition venue. However, this study has its limitations, i.e., the single type of exhibition (automotive industry exhibition/GAIKINDO). This may hamper the extent to which the study's results can be generalized. It is to be noted that the study of service quality using a single exhibition event is not new. For example, Jung (2005) identify dimensions of exhibition service quality in a single ITU Telecom Asia exhibition held in Busan (Korea), Wu et al. (2016) surveyed the attendees of the 4th MIEE, an education exhibition in Macau, Jiménez-Guerrero et al. (2020) study on exhibitors at the International Fair of Agriculture in Almería (Spain), Lee (2022) analysing a single exhibition, the general attendees of the Korea Electronics Show (KES), and Khalida (2022) study the exhibition at the Indonesian National Gallery. All of these studies agree that the conclusions reached are generally in line with previous research in the area of service quality. The basic findings of these studies can also maintain a fair degree of robustness in exhibition service quality. However, future studies should try to examine the quality of exhibitions at different types of exhibitions or at exhibitions in different regions. This may provide an opportunity to compare service quality across different exhibition types or demographic groups.

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