Fuzzy Kano Model and E-SERV Qual Application to Evaluate Performance of E-Travel Services Website in Indonesia

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Abstract

Nowadays, the tourism industry is mostly supported by e-services ticketing availability. This service including a web-based form helps anyone to place an order by themselves. This study focuses on the highest traffic rate of e-travel services websites in Indonesia for online flights tickets and hotels. The purpose of this research is to evaluate the quality of e-travel website features based on user satisfaction level using the Usability Testing methods, Fuzzy Kano, and E-servqual methods. The conducted assessment performs using the usefulness, efficiency, defective rate, and ease of use factor. E-servqual was used to assess user satisfaction for 5 dimensions of service quality: assurance, tangibility, reliability, responsiveness & personalization using 26 questions. A link questionnaire was distributed to collecting data needed using social media. About 306 respondents took part in this research. The 40 attributes of the usability questionnaire were analyzed using the Fuzzy Kano Model which is divided into two categories: attractive and indifferent requirements. It resulted customer delight (satisfaction) and customer disgust (dissatisfaction) users for each factor as follow: usefulness (0.409), efficiency (0.447), defective rate (0.398) and ease of use (0.310). Efficiency and defective rate factors have a strong correlation to the level of user satisfaction, while ease of use has a high correlation. These results are compared to the satisfaction level criteria, and it found the ease-of-use factor has the lowest satisfaction value. Therefore, this e-travel website must evaluate whether the existing features are right on target and maximally promote their usefulness aspects to website users.

Keywords
Fuzzy Kano Model, E-Servqual, E-Travel Services, Usability, User Satisfaction

1. Introduction
Websites have become very important to companies along with the increasing competition in the world market. It is known that a website's usability requirements are highly dependent on the type, audience, and purpose of the website. For the e-commerce environment, a website usability assessment could determine the impact of website design on customer purchases (Ilbahar & Cebi, 2017). Several aspects should consider in designing a website, and the usability aspect is the important one (Nielsen & Raluca, Mobile Usability, 2013). Usability is a measurement of the quality of user experience when interacting with a product or system, whether a website, software application, mobile technology, or other equipment operated by the user, and usability aspects will affect the level of individual satisfaction in accessing or using the website (Nielsen & Raluca, 2013).

Finding the strength and weaknesses of a website becomes a crucial result for usability testing. The readers' perceptions of the website, and the error rate during accessing by visitors become parts of usability testing (Yunus, Subagyo, Tanuar, & Maryani, 2018). Several shortcomings and errors of the Indonesian tour website were reported in

Yunus, Subagyo, Tanuar, & Maryani's research (2018). A combination method in assessing usability a website can utilize to improve its usability, such as the Fuzzy Kano model (Davis & Jiang, 2016; Violante & Vezzetti, 2017;). This method is known as an objective and quantitative product development method, and the result obtained can be an evaluation of a significant effect on website user satisfaction. The main purpose of evaluation is to test the bond between the customer and the product to understand whether customers can learn and apply it to achieve their goals (Davis & Jiang, 2016)

In Indonesia, one of the most popular e-commerce services in tour & travel services is Traveloka (Kurnia & Priantinah, 2018). Traveloka offers flights, hotels, trains, flight and hotel packages, attractions and activities, connectivity products, airport and bus transportation. Based on data obtained in August 2020, the number of visits to the traveloka.com website both via desktop and mobile web is estimated to reach 8,550,000 making the traveloka.com website a "top sites ranking for travel and tourism in Indonesia" (Similarweb, 2020). The many features available in Traveloka make companies must maintain service quality for customer satisfaction.

This study aims to review the quality of Traveloka e-commerce services based on user satisfaction using the Usability questionnaire which is then grouped into 4 factors in the Kano method and e-servqual questionnaire. Through this research, usability problem of the features Traveloka are evaluated through 4 factors of Kano Model, it measures how easy for users to use website features (ease of use Factor), how efficient are the features on the website (efficiency factor), how big is the failure rate of the features (defective rate factor) and how useful are the features on the website (Usefulness Factor), then all these factors were analyzed. In this study, the five dimensions of e-servqual were applied to determine user satisfaction and measures the correlation with the features in the Kano Model.

2. Literature Review

In human-computer interaction (HCI), there are two core concepts: usability and accessibility (Tullis & Stetson, 2004). Usability and accessibility try to ensure the effectiveness and satisfaction of users during they use certain products including a website (Shredhar, 2016). Nowadays, a website is a common medium to communicate to customers and also as a medium to provide e-services. Easy to use and accessible to users become an important part of web designing including providing features to those with special needs (Diz, Rusu, and Collazos, 2017). The usability of a website is related to the easiness of interaction between the user with the website (Faisal, 2017). When users are satisfied with the experience during interaction with the website, usage and re-access rates tend to be much higher. This is certainly very necessary for companies that provide website-based services.

2.2 Fuzzy Kano Model

The Kano model is a theory of product development and customer satisfaction developed in the 1980s by Professor Noriaki Kano (Coleman, 2014). The development of the Kano model came out of a scientific study investigating the varying definitions of quality and their significance. There are two distinct aspects of quality. The first one is objective it is related to physical fulfillment or compliance with specifications and the second is subjective that related to end-user satisfaction. Furthermore, their correlation is also important in quality improvement. Based on Kano Model, the quality elements were defined that reflect the customer experience consist of five dimensions.

As the Kano model tried to prioritize critical to quality characteristics of a product or service as defined by the customer, and identify implicit as well as explicit customer needs, recently Kano Model is applied to assess website user satisfaction (Saednia, 2019). Kano model also uses Servqual to assess service quality in certain industries (Dewi, 2019; Peng and Rhui, 2016). In addition, the canoe model was then applied using fuzzy logic. A fuzzy method is used to reduce the subjectivity of respondents, which then classified each attribute in Kano categories: must-be, one-dimensional, attractive, and indifferent.

2.3 E-Servqual

Quality defines as how the product and services perceived by customers and how it meets their expectation. In the services industry including e-services, measuring service quality becomes a valuable input for the improvement of the service process and the service product itself. A services website-based, improving could be done by modifying the services offered to the customer and how it delivered (Parasuraman, Zeithaml, and Malhorta, 2005). The electronic service quality (e-service quality) dimension is broadly defined to cover all phases of customer interaction with online services and sales (Wolfinbarger & Gilly, 2003). The e-service quality measures user quality perception based on the actions of users of online services from entering the website to the end of the transaction. This process starts from finding information, filling in privacy data, website navigation, ordering process product, service interaction with customers, delivery of goods, policy on goods returns, and the suitability of products ordered by consumers. The e-

service quality process includes many services attributes whether they meet user expectations or not. In e-service quality, the use of efficiency dimensions is defined as the ease and speed of accessing and using the site (Parasuraman, Zeithaml, and Malhorta, 2005). The detailed five broad sets of criteria as relevant to e-servqual perceptions: (a) information availability and content, (b) ease of use or usability, (c) privacy/security, (d) graphic style, and (e) reliability/fulfillment that relevant to assurance, tangibility, reliability, responsiveness, and empathy/ personalization.

3. Methods
3.1 Instrument and Sample Size
In this study, a set of questionnaires was distributed to respondents. The questionnaire consist four variables of usability and 5 dimensions of e-servqual. The usability assessment consists of 11 questions for the usefulness variable, 9 questions for efficiency, 10 questions for defective rate, and 10 questions for ease of use. A list of questions of e-servqual consists of 5 questions for assurance, tangibility, responsiveness, and empathy/personalization; and 6 questions for reliability. All those 40 question attributes of usability and 26 questions for e-servqual were filled by 306 total respondents from October – December 2020.

The sample size needed to reflect the population value of a particular variable depends on the population size and the amount of heterogeneity in the population (Cohen, Manion, & Morrison, 2018). Generally, for populations of equal heterogeneity of variance, the larger the population, the larger the sample that must be taken, for a population of the same size, and the greater the heterogeneity in certain variables, the larger the sample is needed. If the population is heterogeneous then a large sample is preferred; if the population is homogeneous then smaller samples are possible. To the extent that the sample fails to represent accurately the population involved, sampling errors also could be applied. The number of 306 respondents in this research is sufficient based on a 10% margin of error for a population over 10,000.

3.2 Data Analysis
A reliability and validity was conduct to collected data response. A validity test determines whether the instrument can be used to measure what should be measured (Sugiyono, 2017). Validity shows the degree of accuracy between the data that occurs on the object and the data collected by the researcher. In this study, the Spearman correlation coefficient formula applied to test the validity. The decision criteria are follows:
a. If ≥ 0.30, valid.
b. If <0.30, invalid.

The reliability test determines the level of accuracy and consistency of one's answers to the question items in a questionnaire (Sugiyono 2017). The use of reliability testing by researchers is to assess the consistency of objects and data, whether instruments used several times to measure the same object will produce the same data. Reliability test decision criteria are follows:
a. If> 0.60, reliable.
b. If <0.60, unreliable.

A coefficient correlation result can describe degree of reliability of instrument. Table 1, gives the reliability degree in certain coefficients interval (Cohen, Manion, & Morrison, 2018):

Table 1. Correlation Coefficient Interval

Coefficient Interval value	Description
>0.90	very highly reliable
0.80 - 0.90	highly reliable
0.70 - 0.79	reliable
0.60 - 0.69	marginally/minimally reliable

Usability questions were grouped into four factors in Kano Model, the groups were calculated to determine the value of customer delight and customer disgust. In the Kano model, there are two types of questions: the functional questions (when an attribute is present) and dysfunctional questions (when an attribute is absent) regarding each attribute of the product or service. The Likert scale applied in the questionnaire, and usability questions will convert to 5 as like; 4 as must be; 3 as neutral; 2 as live-with; and 1 as dislike. Kano model evaluation table 2 classifies customer preferences into five categories: attractive, one-dimensional, must-be, indifferent, and reverse quality, each quality attribute will be classified into one of the following categories (Taimouri, Emamisaleh, & Mohammadi, 2019):

Table 2. The evaluation table of Kano Model

Functional	Dysfunctional Like	Must-be	Neutral	Live-with	Dislike
Like	Q	A	A	A	Q
Must-be	R	I	I	I	M
Neutral	R	I	I	I	M
Live-with	R	I	I	I	M
Dislike	R	R	R	R	Q

- The description for each category, as follow:
- Must-be (M): While the absence of this attribute induces considerable dissatisfaction, its presence does not enhance customer satisfaction since customers believe this type of attribute is an inseparable feature of a product and its presence is indispensable.
- One-dimensional (O): If an attribute in this category is not fulfilled, it causes dissatisfaction, and its presence results in satisfaction proportionally. In fact, the better this attribute is fulfilled, the more satisfied the customers will be.
- Attractive (A): Although lack of fulfillment of attractive attributes does not generate dissatisfaction, their fulfillment creates dramatic customer satisfaction.
- Reverse (R): Attributes in this category should be removed from a service or product immediately as their presence causes dissatisfaction.
- Indifferent (I): The existence or non-existence of this kind of attribute does not affect customer satisfaction or dissatisfaction.
- Questionable (Q): This parameter shows that either the respondent has provided an illogical answer, or the question has been explained in a vague manner.

Questionnaire result from e-servqual was computed to determine the average value of each dimension. The usefulness, efficiency, defective rate, and ease of use factors were tested for correlation to total user satisfaction based on 5 dimensions of service quality.

4. Data Collection
4.1 Usability in Kano Model
Following table 3, presented average value for each questions in usability test that grouped into 4 factors of Kano Model.

Table 3. Questionnaire Result of Usability Website perception

Factors	Average	Standard Dev	Factors	Average	Standard Dev
Usefulness 3.26	3.99	1.19	Defected Rate 3.97	4.12	1.09
	4.00	1.22		4.11	1.02
	3.46	1.51		4.03	1.07
	2.88	1.45		4.01	1.09
	3.27	1.36		3.74	1.10
	3.44	1.34		4.06	1.09
	2.87	1.39		3.90	1.15
	2.91	1.40		3.89	1.13
	2.98	1.48		3.87	1.18
	3.11	1.41		3.99	1.06
Efficiency 3.78	2.95	1.47	Ease of Use 4.14	4.24	0.89
	4.16	1.01		4.24	0.87
	4.27	0.83		4.24	0.92

Factors	Average	Standard Dev	Factors	Average	Standard Dev
	4.22	0.93		4.28	0.83
	3.55	1.18		4.12	0.97
	3.73	0.97		4.35	0.87
	3.90	0.88		4.24	0.93
	3.31	1.09		3.86	1.07
	3.85	1.00		3.98	1.01
	3.90	0.89		3.89	1.00

As shown in Table 3 in average, the respondents tended to agree to the statement in the questionnaire that using Likert scale 1-5 (strongly disagree- strongly agree).

4.2 E-Servqual Questionnaire Result
A result of E-servqual questionnaire to measure the satisfaction of respondents in using Traveloka website, summarized in following Table 4:

Table 4. Questionnaire Result of E-servqual dimensions

Dimension	Average	Standard Dev	Dimension	Average	Standard Dev
Assurance	4.3	0.9	Responsiveness	4.1	1.0
	4.4	0.9		4.2	0.9
	4.4	0.9		4.2	0.9
	4.2	0.9		4.1	0.9
	4.3	0.8		4.1	0.9
Tangibility	4.4	0.8	Empathy/ Personalization	4.1	0.9
	4.3	0.9		4.3	0.8
	3.8	1.0		4.3	0.9
	4.1	0.9		4.1	0.9
	4.3	0.8		4.3	0.9
Reliability	4.2	0.9			
	4.1	0.9			
	3.9	1.0			
	4.2	0.9			
	4.1	0.9			
	4.3	0.8			
	4.0	0.9			

As data presented in Table 4 above, mostly the respondents agree that they satisfy with the service feature that offered by Traveloka website.

5. Results and Discussion
5.1. Fuzzy Kano Results
The reliability of the study's instrument was calculated using SPSS, and the result of Cronbach alpha is 0.905. The questions in usability testing were categorized into 2 types: A was attractive, and I was indifferent. An attractive attribute category is an element that raises user satisfaction, and when the element is not there, it can still be accepted or tolerated by the user. There are 14 features that included in the attractive category, which means that these features can lead to user satisfaction when applied in using the website, but if not, it is still acceptable to the user. Indifferent attribute category is the presence or absence of these elements that will not affect user satisfaction. A total of 26

attributes are included in this category, which means that 26 attributes where the attribute is present or not will not significantly influence customer satisfaction.

The next steps on Fuzzy Kano, the categorized attributes based on Kano evaluation table then use to determine the user's perception of the attributes which are divided into two perceptions : disgust (dissatisfaction) and the perception of delight (satisfaction). The perceived value for each of these features is calculated by totalizing the score for each Kano category. After determining customer delight and customer disgust, then determine the range score which is the value that is used as a reference for ranking the priority features. The higher the range value of a feature, the higher the ranking and priority of the feature. The ease-of-use factor gets the most attractive category value when compared to other factors (60%), following by efficiency (33%), usefulness (27%), and defective rate (20%). The defective rate factor gets the most indifferent percentage value when compared to other factors (80%), followed by usefulness (73%), efficiency (67%), and ease of use (40%). The results are shown in Table 5. A positive gap/range value means the attributes contribute to user satisfaction, Existing services must be maintained or improved by Traveloka, but when the attribute is not present, it can still be accepted or tolerated by the user.

Table 5. Attributes attractive category of Fuzzy Kano

Rank	No of Attributes	Attributes	Customer Delight	Customer Disgust	Gap/Range
1	35	The process of exploring the features (navigation system) on the website	0.485	0.018	0.467
2	36	Use of language on the website	0.473	0.040	0.433
3	32	Display and feature arrangement on the website layout	0.484	0.053	0.431
4	33	Remember the website address	0.461	0.036	0.425
5	30	Failure to access the website with various types of browsers	0.428	0.014	0.414
6	12	Search results on each product	0.447	0.037	0.410
7	11	Insurance	0.482	0.073	0.409
8	31	Creating an account on the website	0.449	0.045	0.404
9	13	The process of ordering the products from start to payment	0.443	0.053	0.390
10	34	The payment process on the website	0.422	0.040	0.382
11	20	Supports high-quality images in the search and ordering process for the products	0.474	0.101	0.373
12	25	Failure when using the promos offered by website	0.430	0.065	0.365
13	1	Flight Ticket Booking	0.513	0.167	0.346
14	2	Hotel Reservations	0.507	0.205	0.302

Table 6 shows results obtained for each attribute with indifferent categories. A gap/range value is positive. which means that there are attributes that lead to user satisfaction. Account recovery that can occur when using the Traveloka.com website is in the first rank among 25 other attributes with a gap/range value of 0.351. This means that in using the Traveloka website the failure rate in account recovery does not affect the level of satisfaction on the Traveloka.com website by Traveloka or the level of failure frequency in user account recovery is low.\

Table 6. Attributes indifferent category of Fuzzy Kano

Rank	No of Attributes	Attributes	Customer Delight	Customer Disgust	Gap/Range
1	22	Failure to recover your account	0.419	0.068	0.351
2	21	Failure to create an account on the website	0.414	0.072	0.341
3	28	Failure to cancel product purchases	0.411	0.075	0.336
4	29	Failure to claim or use promos offered on the website	0.411	0.081	0.330
5	23	Failure in ordering products provided such as airplane tickets. hotels. etc.	0.414	0.090	0.324
6	26	Failure to claim insurance features (health protection. goods. etc.)	0.400	0.093	0.307
7	38	Schedule changes	0.374	0.071	0.303
8	27	Failure / mismatch of the sorting feature for existing products	0.388	0.093	0.295
9	39	Use of available promos	0.326	0.049	0.278
10	24	Failure when making payments using the website	0.333	0.061	0.272
11	37	Accessibility of the website	0.348	0.087	0.260
12	19	Process of promo claims in payment for the products	0.292	0.033	0.259
13	18	The insurance claim process offered by company	0.313	0.055	0.258
14	16	Comparison results between products on the website	0.283	0.036	0.248
15	14	Payment process for each product	0.307	0.115	0.193
16	15	The cancellation process for each product	0.258	0.067	0.190
17	6	Train Ticket Booking	0.349	0.238	0.111
18	17	The results of recommendations in based on your reference in determining the choice of service products you want to use	0.200	0.103	0.097
19	3	Ticket and Hotel Booking (Package)	0.408	0.329	0.079
20	5	Eats	0.282	0.246	0.035
21	10	Car Rental	0.281	0.324	-0.043
22	4	Submission of insurance issues	0.293	0.342	-0.048
23	40	JR Pass	0.245	0.306	-0.061
24	7	Shuttle & Bus	0.235	0.311	-0.076
25	8	Transfer Ticket Booking	0.250	0.336	-0.086
26	9	Top-up & Packages	0.261	0.417	-0.155

Some attributes in the indifferent category has a negative range value (Q20-26). Transfer ticket booking attribute is in the last rank in the indifferent category attribute ranking, this can be influenced by the very low level of use of the Top-up & Packages feature, and by the high level of access to the airline ticket booking feature and insurance in the attractive category. To reduce the gap for Top-up & Packages attributes, an interesting promotion of Top-Up & Packages feature can be done to increase its attractiveness to users. After the attributes were categorized based on the Kano evaluation table, the value of customer delight and customer disgust was determined. A similar process was carried out on 4 factors that describe user's satisfaction with the Traveloka website, including the usefulness factor, efficiency factor, defective rate factor, and ease of use factor as shown in Table 7.

Table 7. Results of Customer Satisfaction for each Factor

Factor	Customer Delight	Customer Disgust	Gap/Range
Usefulness	0.409	0.069	0.340
Efficiency	0.447	0.045	0.403
Defective rate	0.398	0.085	0.312
Ease of Use	0.310	0.195	0.115

The criteria for customer delight level were obtained, consist of the usefulness factor (0.409), efficiency (0.447), defective rate (0.398), and ease of use (0.310). While the criteria for the level of dissatisfaction for usefulness (0.069), efficiency (0.045), defective rate (0.085), and assurance (0.195). From the results of the analysis, the efficiency factor has the largest range value (0.403) and the efficiency factor that most influences and gives a high impact on the satisfaction factor of traveloka.com website users.

5.2. Satisfcation result based on E-Servqual Questionnaire

The e-servqual method was used to measure satisfaction level based on 5 quality aspects: assurance, tangibility, reliability, responsiveness, and personalization. The assurance dimension itself is the certainty of information conveyed by business actors to consumers, where on the website it can be interpreted that all information on the website is certain. The tangibility dimension is the quality of service that is visible and can be felt directly by the user. The dimension of reliability is the quality of service provided indirectly. The responsiveness dimension is the quality of service provided in terms of responsive communication between the company and the user so that the company can understand the user's wishes. The personalization dimension is the quality of service that can provide a personal feeling to users so that users can feel that the company is directly cared for. The following graph (Figure 1) is the result of the average user satisfaction based on the e-servqual dimension:
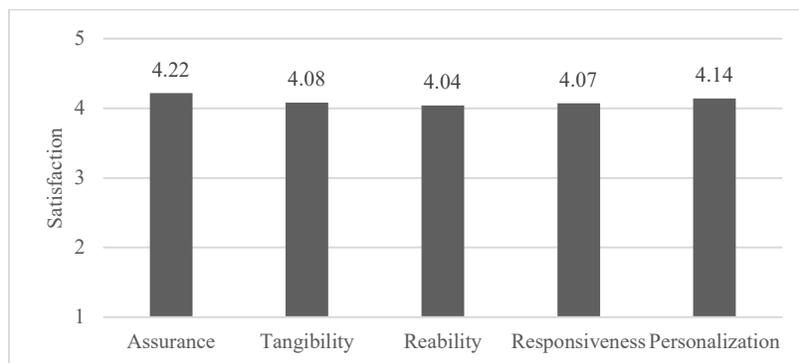

Figure 1. Average User Satisfaction of Servqual 5 Dimension

As shown in Figure 1 above, the level of user satisfaction is quite high with an average satisfaction above 4, but the assurance dimension is the most important measure that affects website user satisfaction, followed by the responsiveness and personalization dimensions, this shows that user behavior wants Having certainty of information, users want responsive services and users want to feel more prioritized in terms of desires, besides that users are also quite satisfied with the service from the dimensions of tangibility and reliability. The age-based user satisfaction factor is important for companies because companies can better recognize the desires of website users based on the user's age. The following is a graphic image (Figure 2) describe the average website user satisfaction based on user age:
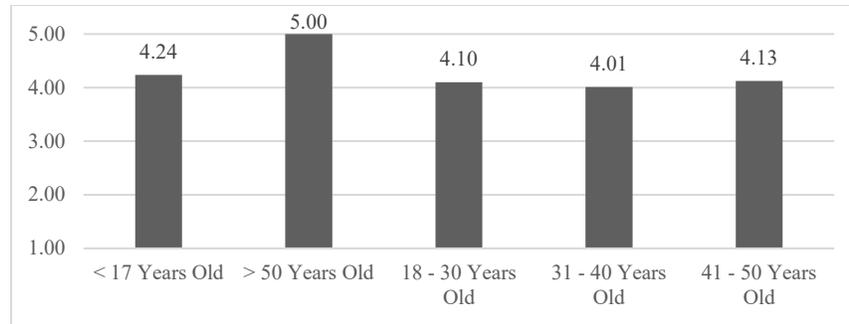
Figure 2. Average User Satisfaction Based on 5 Age of Respondents

In Figure 2, the 50 years old respondents are very satisfied with the services provided by the company, for those respondents aged less than 17 years to 50 years have similar satisfaction levels (between 4.01 - 4.24), and it can conclude that respondents are quite satisfied with the services provided by Traveloka, and service quality provided by Traveloka is more than sufficient to satisfy the users. Further analyzed was conducted by evaluating the correlation of Kano result and users' satisfaction. The figure below shows the correlation between the variables. The usefulness, efficiency, defective rate and ease of use factors will be tested for correlation to total user satisfaction based on 5 dimensions of service quality. The following table is a result of the Spearman Correlation (Table 8):

Table 8. Correlation Test of the 4 Kano Factor Questionnaires with Levels Satisfaction Based on E-Servqual

	Usefulness	Efficiency	Defective rate	Ease of use	Satisfaction
Usefulness		0.461**	0.100	0.221**	0.197**
Efficiency	0.461**		0.413**	0.535**	0.485**
Defective rate	0.100	0.413**		0.653**	0.598
Ease of use	0.221**	0.535**	0.653**		0.730**
Satisfaction	0.197**	0.485**	0.599**	0.739**	

The usefulness factor for the user satisfaction factor has a value of r =0.197, which means this factor has a weak correlation to user satisfaction. The efficiency factor, defective factors for the user satisfaction has a value of r= 0.485 and r= 0.598 or those two factors have a medium correlation to user satisfaction. While the ease of use factor for user satisfaction has the value of r= 0.739, has a strong correlation to users' satisfaction. The usefulness factor is a factor that Traveloka must pay attention to improve in the future. A development that focuses on most accesses features in Traveloka could increase satisfaction levels. Traveloka also should develop a new marketing strategy for some features that are likely less accessible by the users.

A perception of Traveloka website user satisfaction was conducted using the Fuzzy Kano method to assess result of usability questionnaire. The 40 attributes are divided into four factors consisting of: eleven attributes to measures the usefulness factor, nine attributes for the efficiency factor, 10 attributes for the defective rate factor and 10 attributes to measure the ease of use factor. Those factors grouped and categorized based on the Kano evaluation table and defuzzification process. The prioritization of the attributes defined based on the perception of disgust (dissatisfaction) and the perception of delight (satisfaction). There are 14 attributes that are included in the attractive category and 26 attributes are included in the indifferent category. Based on the usefulness factor has a very weak correlation to the satisfaction level of website users, the efficiency factor has a high correlation with the satisfaction level of website users, the defective rate factor has a high correlation with the satisfaction level of website users, the ease-of-use factor has a very high correlation to the level of web site user satisfaction. website user satisfaction. Traveloka can learn more about the needs of website users based on the age of the website users, especially those aged 31-40 years, even though the average satisfaction is high, but to maximize service, Traveloka can learn more about user expectations for the services that have been provided now. Traveloka can provide services that are not yet provided by competitors, because the usefulness factor of the features/services provided by Traveloka does not have a high impact on website user satisfaction. Traveloka can prioritize Efficiency, Defective Rate and Ease of Use factors in developing or creating features / new services for website users because these 3 factors have a high impact on website user satisfaction, it can

also be interpreted that website users like the simple feature process stages, website users like service features if the failure rate is low and users expect ease of using each feature / service on the website.

5.3. Discussion

Many factors can be used as a reference in developing service quality, in this study the factors of usefulness, efficiency, defective rate and ease of use are measured because these four factors correlate with the level of satisfaction of website users. Another factors such as social constructs, design constructs and behavioral constructs, could also explained the satisfaction level from different point of view (Attar, Shanmugam, Hajli, 2020). An initial trust and consumer behavioral intention, and cultural difference could affect satisfaction level (Jensen & Wagner, 2018). Despites, another factors didn't measures in this research, however, the result is conclusive and provides a clear picture of the level of satisfaction based on the dimensions on the website usability and grouping using the Kano Model. The addition of factors in further research, will enrich the existing results..

6. Conclusion

This research reviewed the quality of Traveloka e-commerce services based on user satisfaction using the usability questionnaire that grouped into 4 factors in the Kano method and e-serv qual questionnaire. User satisfaction level based on usability questionnaire showed that respondent scored 3.26-4.14 for website usability (usefulness, efficiency, defected rate and ease of use, while a satisfaction based on e-serv qual dimension were categorized as high to very high (>4 scales 1-5) for all 5 dimension. The satisfaction mostly contributed by efficiency and ease of use variables, but mostly by the ease of use. Based on Fuzzy Kano Model, some features still do not meet user satisfaction: car rental, submission of insurance issues, JR Pass, shuttle & Bus, Transfer ticket booking, and Top-up & Packages. Therefore, based on the results of usability testing on the use of the Traveloka.com website, it is recommended to develop some attributes in terms of ease-of-use factors such as simplifying the stages of using existing features, adding services on the Traveloka website and their needs. Periodic usability testing for any improvements or updates to the Traveloka.com website, so that the website can provide satisfaction to users and increase the user satisfaction index for the Traveloka.com website. Further research can be carried out to study consumer behavior and expectations to maximize the quality of Traveloka services.

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