

## THE DETERMINANTS OF CUSTOMER SATISFACTION IN ONLINE AND OFFLINE MEDIUM

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### **ABSTRACT**

*This research explores the factors that influence customer satisfaction in online and offline environment. The main objective of this research is to discover in-depth knowledge about determinants of customer satisfaction both in online and offline environments. This research builds a conceptual framework where customer satisfaction is being influenced by common factors and specific factors in online and offline medium. To that extend, the use of regression analyses was suitable in order to explore the relationship between the aforementioned factors and customer satisfaction in online and offline environments. This research finds that, the ease of obtaining information is the only common factor significantly affects the general customer satisfaction in online service. In addition, the specific factors such as interactivity of website and trust are also statistically significant increasing the customer satisfaction in online service. In offline service, there are 3 common factors that significantly increase the customer satisfaction. Those factors are the ease of obtaining information, frequency of use, and payment equity. Personal interaction as a specific factor is also proved to have a significant effect on customer satisfaction.*

*Keywords: Customer Satisfaction, online and offline medium*

### **INTRODUCTION**

Faced with increasingly intense competition, falling margins, and customer growing diversification; many companies are seeking to distinguish themselves by providing several shopping channels for customer to consolidate their shopping needs and better serve customers. In this environment, many consumers have become multichannel users (Verhoef, et al, 2007).

Multichannel customer management is the design, deployment, and evaluation of channels to enhance customer value through effective customer acquisition, retention and development (Neslin et al., 2006). Channels typically include the store, the web, catalog, sales- force, third party agency, call center and the like (Neslin and Shankar, 2009). These multichannel environments have several purposes. The multichannel strategy may help firms foster customer loyalty by increasing customer contact points, offering channel selections for the customer's convenience and providing diverse type of services (Cassab and Maclachlan, 2006). Moreover, Shankar et al. (2003) argue that the environments may influence customer satisfaction and loyalty differently in the online environment via-a-vis the offline environment. In line with that, the synergy between online and offline environment generated by the seamless integration between the two channels enriches customers' experience with the firms, strengthens the brand image of firms, and cultivates customer loyalty in both channels (Bailer, 2006; Harvin 2000). As literature and company budgets continue to show the benefits of these channels environment, more companies are getting onto the bandwagon.

This has led to growing demand for companies that offer unique program solutions for consumers, and also the need for documented proof that these programs are successful.

Managers are focused on how the online medium influences satisfaction, and loyalty and the relationship between satisfaction and loyalty (Shankar et al., 2003). They added that there may be systematic differences in consumer attitudes and behavior for products and services chosen online and offline. The comparison of customer satisfaction, that is generated by online and offline services, has become an important issue for marketers because there are still mixed findings about this issue on the literatures. On the one hand, Shankar et al. (2003) find that the ease of obtaining information and the frequency of use have a stronger positive effect on overall satisfaction online than offline. However, in general they could not prove the online medium has a significant effect on overall customer satisfaction. Shankar et al. (2003) claim that online customers can more easily compare alternative than offline, hence the online medium may provoke lower customer satisfaction than the offline medium. Moreover, Reicheld and Schefter (2000) argue that purchasing online is considered risky, since customers lack direct contact with the company. Consequently, the customers that use online service have lower satisfaction than those use offline service.

There are a substantial number of empirical studies that examine the characteristics of offline and online medium separately and their relation to the customer satisfaction. For instance, Urban et al. (2000) explain that in online medium that are oriented toward self-service with little human interaction, many conventional service quality dimensions such as the physical appearances of facilities, employees, and equipment, and employees' responsiveness and empathy are unobservable. As a result, trust may play a central role in online customer satisfaction. However, the process of trust formation, the interaction of trust with other factors related to the service provider and the environment, and the role of trust in shaping online customer satisfaction. Moreover, online and offline medium differ substantially in terms of how information is accessed and processed, the nature of intermediation, and the process of trading (Barber and Odean 2000, Konana et al., 2000). Degeratu et al. (2001) add that, in the online environment, sensory search information (e.g., visual cues) has a lower impact on choices, price sensitivity is higher due to stronger signaling effects of price promotions, and branding is more valuable only in the absence of factual attribute-related information. However, the study that extensively compare customer satisfaction between online and offline service is rather limited. Therefore, this research will try to fill the gap by comparing between customer satisfaction in online and offline medium. Moreover, this research also tries to find out which factors influence satisfaction in online and offline medium the most.

### **Problem Analysis**

Reicheld and Schefter (2000) claim that purchasing online is considered uncertain, since customers lack direct contact with the company. Consequently, the customers that use online service have lower satisfaction than those use offline service. Urban et al. (2000) find that trust may play a central role in online customer satisfaction.

### **Problem Statements**

There are no many studies which explore intensively the customer satisfaction both in online and offline service. Hence, this research aims at examining deeply the determinants of customer satisfaction in online and offline services. The main research question is:

*“ What are the significant determinants of customer satisfaction in online and offline medium for service area?”*

## **Theoretical framework**

### **Factors that Influencing Customer Satisfaction in Online and Offline Environments.**

The consumer buying process does not end when a customer purchase a product. After making a purchase, the customer consumes the product and then evaluates the experience to decide whether it was satisfactory or unsatisfactory (Hoyer and MacInnis, 2008). Satisfaction is a post-consumption evaluation of how well a store or product meets or exceeds customer expectations. Moreover, this buying process occurs both in an offline and online environments. Based on existing literatures, there are several factors that influence satisfaction in both environments which can be seen in the following table.

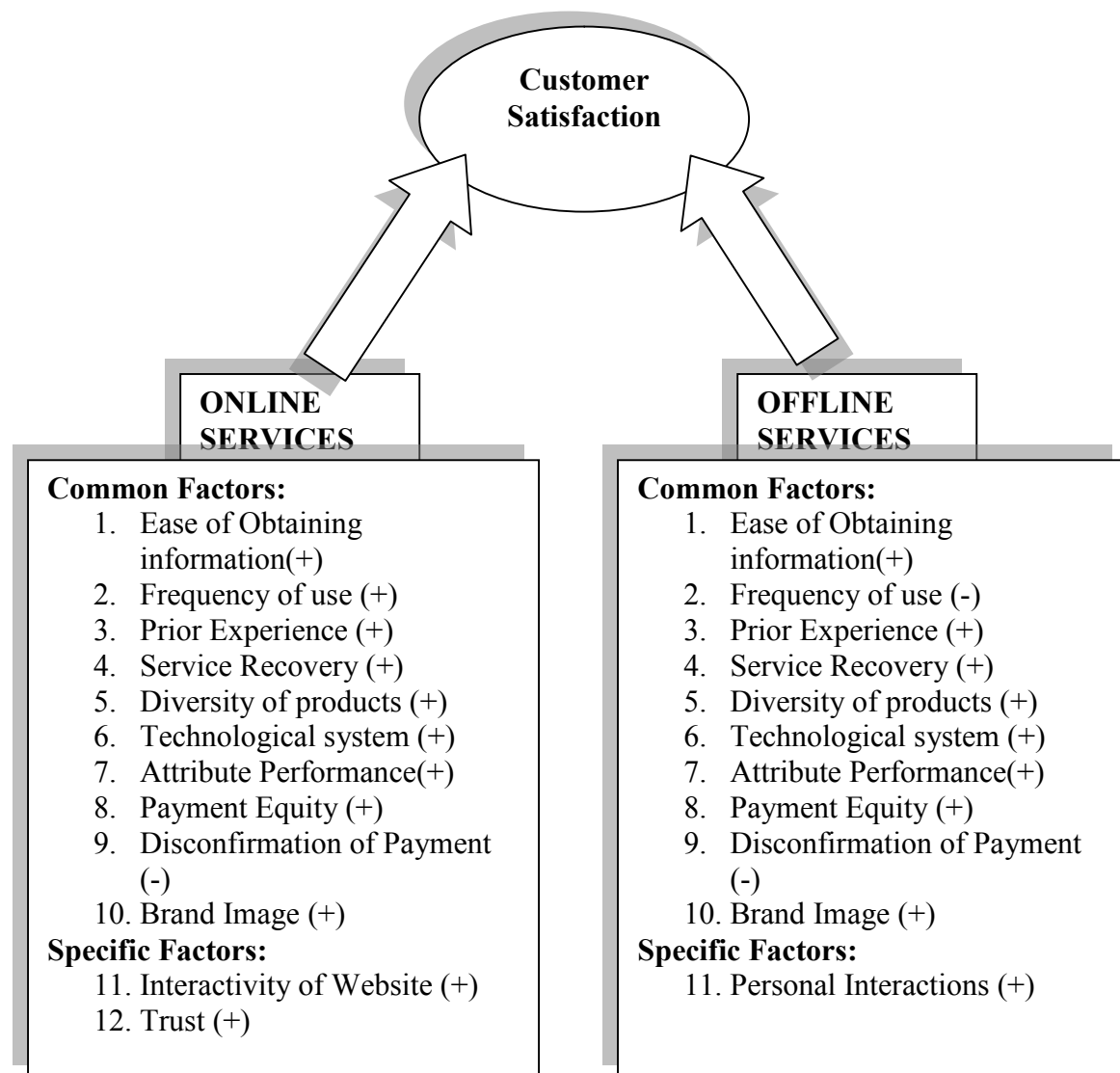
**Table 1**  
**Determinants of Customer Satisfaction in Online and Offline Services**

No.	Offline environment	References	Online Environment	References
1.	Ease of obtaining information (+)	Oliva et al., 1992	Ease of obtaining information (+)	Degeratu et al., 2000
2.	Frequency of use (-)	Bolton and lemon, 1999; Vredenburg and Wee(1986)	Frequency of Use (+)	Shankar et al., 2003
3.	Prior Experience (+)	Cadotte et al., 1987; Vredenburg and Wee (1986)	Prior Experience (+)	Cadotte et al., 1987, Shankar et al., 2003
4.	Service Recovery (+)	Harris et al., 2005	Service recovery (+)	Harris et al., 2005
5.	Diversity of products (+)	Ho and Wu, 1999	Diversity of products (+)	Ho and Wu, 1999
6.	Technological system (+)	Meuter et al., 2000	Technological system(+)	Meuter et al., 2000; Ho and Wu, 1999
7.	Attribute performance (+)	Spreng et al., 1996; Shankar et al, 2003	Attribute performance (+)	Shankar et al., 2003
8.	Payment equity (+)	Szymansky and Henard, 2001	Payment Equity (+)	Szymansky and Henard, 2001
9.	Disconfirmation of Payment (-)	Bolton and Lemon, 1999	Disconfirmation of Payment (-)	Bolton and Lemon, 1999
10.	Brand image (+)	Martensen et al., 2000	Brand image (+)	Horppu et al., 2008
11.	Personal Interactions (+)	Alba et al., 1997	Interactivity of website (+)	Montoya-Weiss et al., 2003
12.			Trust (+)	Yoon, 2002; Balasubramanian et al., 2003; Urban et al., 2000

Based on table 1.1, we can see that there are common factors that influence satisfaction which can be applied both in online and offline medium (with blue color). However, there are also different factors that can be relevant only for online or offline environment which will be elaborated in the subsequent discussions.

### **Conceptual Framework of the Relationship between Online/Offline Services and Customer Satisfaction**

Based on the list of factors explained above, in this part we try to make a simple model on the determinants of customer satisfaction in offline and online services. The model will separate the common factors that influence customer satisfaction in both online and offline services, and specific factors which determine the customer satisfaction in online offline or offline service. The theoretical model of this study can be seen in the following figure:



**Figure 1. Conceptual model of the online and offline medium in relation with customer satisfaction.**

The figure above shows that there are 10 (ten) common factors determining customer satisfaction in online and offline environment which are, ease of obtaining information, frequency of use, prior experience, service recovery, diversity of products, technological system, attribute Performance, payment equity, disconfirmation of payment, brand image. Moreover, there are also specific factors that affect customer satisfaction only in online medium such as, interactivity of websites and trust. The personal interactions are the specific factor in offline medium. The sign in the brackets indicates the relationship between those factors and customer satisfaction, which has been explained in the previous part.

## RESEARCH METHODOLOGY

**Research Design**

This study will try to explore the determinants of customer satisfaction in online and offline medium. We focus on measuring the customer satisfaction in online and offline service

**Population**

The following research is targeting customers who have experiences in using online and offline channels for all sectors above. The population consists of friend lists in social network (e.g. facebook and mailing list)

**Sampling Method**

In order to obtain the data necessary to conduct this research, targeting sampling is employed. This procedure consists of a targeted selection of sample, at the convenience of the researcher. The sample will be restricted above 17 years old and have the experiences in both online and offline environments. To capture the demographical aspects, we target the samples which have a variety of nationality, geographic area, age, and education.

**Procedure**

This questionnaire will be distributed to at least 150 samples that have the experience in purchasing flight tickets both online and offline. Every participant will receive the online questionnaire through either email or online social networks. This questionnaire consists of eighty questions which will be sent randomly to individuals across countries, namely The Netherlands, Indonesia, Japan, Australia, Germany, France, UK and Malaysia.

**RESULTS**

The data set consists of 110 respondents from across countries who have experience in purchasing flight tickets via online and offline. The characteristics of respondents can be seen in table 2 below and the descriptions of the profile will be elaborated.

**Table 2**  
**The Profile of Respondents**

<b>Demographic Variable</b>	<b>Sample (n=110)</b>
<u>Gender</u>	
Female	46.4%
Male	53.6%
<u>Age</u>	
17-25	6.4%
26-34	58.2%
35-43	28.2%
44 or older	7.3%
<u>Education</u>	
Primary	0.9%
Secondary	8.2%
Bachelor	17.3%
Master/Doctoral	73.6%
<u>Nationality</u>	
Indonesian	97.3%
Dutch	0.9%
Polish	0.9%
Malaysian	0.9%
<u>Current Location</u>	
The Netherlands	31.8%
Indonesia	42.7%
Japan	16.4%
Germany	2.7%
Australia	3.6%
UK	0.9%
Malaysia	0.9%
France	0.9%

### **Gender**

As can be seen in table 3 above, the distribution of respondents participating in this research is nearly equally distributes; where 53.6% of respondents are male, while 46.4% are female.

### **Age**

Most of the participants who have took part of this questionnaire are within the range 26-34 years old, accounting for 58.2% of the sample. The second largest age group covers 28.2% (35-43 years old), while a small group of respondents are at the age of 44 or older, standing for 7.3%. The smallest group scores 6.4% within 17-25 years old from the total respondents.

### **Education**

Regarding to the level of education, remarkably the majority of respondents are in the level of higher education (Master/doctoral) which accounted for 73.6%. Then, it is followed

by participants who have bachelor degree around 17.3%. The other consists of respondents who have a secondary degree, about 8.2% and a primary degree (0.9%).

### **Nationality**

The results show that the largest part of participants has Indonesian nationality, which is for 97.3%. Meanwhile, the rest of respondents are from Polish, Dutch and Malaysian, and they are distributed evenly, at 0.9%. The lack of respondents from outside Indonesian nationality is because this questionnaire was distributed during summer holiday; hence most of them did not give responds.

### **Current Location**

In terms of current location of the respondents, the results indicate that the majority of participants are currently living in Indonesia, nearly about 42.7%. Then, it is followed by respondents who live in the Netherlands, around 42.7%. Moreover, for about 16.4% respondents live in Japan. There are 3.6% of the total respondents live in Australia. Around 2.7% of participants live in Germany, and the rest of respondents who live in UK, Malaysia and France are distributed equally accounted for 0.9%.

### **Estimation Results of Regression on Customer Satisfaction in Offline Service**

In this part, we will present the estimation result of regression for customer satisfaction in offline service. The same as the model in online services, in column (1) of table 7 all common factors which theoretically affect the customer satisfaction in offline service are included. Those factors are ease of obtaining information, frequency of use, prior experience, service recovery, diversity of products, technological system, attribute performance, payment equity, disconfirmation of payment, and brand image. The specific factor which is personal interaction is also included in the model. To capture the effect of demographical characteristics on customer satisfaction, we include gender, location, education, and age. Then, in column (2) of table 7, the most insignificant variables based on the result in column (1) are excluded from the estimation. The detail estimation results can be seen in the following table.



Table 3

**Estimation Result of the Determinants of Customer Satisfaction in Offline Service**

<b>Dependent Variable: General Satisfaction in Offline</b>		
<b>Independent Variables</b>	<b>(1) Include All Independent Variables</b>	<b>(2) Include Significant Variables</b>
Ease of Obtaining Information	0.213*** (0.076)	0.253*** (0.063)
Frequency of use	0.066 (0.055)	0.094** (0.041)
Prior Experience	0.048 (0.077)	
Service Recovery	-0.025 (0.088)	
Diversity of products	0.101 (0.078)	
Technological system	0.004 (0.057)	
Attribute performance	-0.044 (0.089)	
Payment equity	0.175** (0.075)	0.170*** (0.058)
Disconfirmation of Payment	-0.030 (0.049)	
Brand image	-0.076 (0.049)	-0.082* (0.043)
Personal Interaction	0.663*** (0.090)	0.694*** (0.067)
Gender	0.005 (0.108)	
Location	0.125 (0.124)	
Education	-0.007 (0.105)	
Age	0.038 (0.089)	
Constant	-0.442 (0.500)	-0.359 (0.224)
Observations	110	110
R-Squared	0.873	0.868

**Standard errors in parentheses**

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

In column (1) of table 7, all common factors, a specific factor, and demographical variables are included in the estimation. We find that the ease of obtaining information is statistically significant affecting the general customer satisfaction in offline service at 1% significant level. The positive sign of its coefficient implies that the easier to get information from the offline service, the more satisfied the customers. The coefficient of 0.213 means that a one-point increase in the score of the ease of obtaining information raise the score of customer satisfaction by 0.213 points. This result confirms the finding of Degeratu et al. (2000).

The other common factor which is also statistically significant affecting customer satisfaction in offline service is payment of equity. The coefficient of this variable is significant at 5% significant level with a positive sign. The coefficient of 0.175 means that a one-point increase in payment equity will increase the customer satisfaction by 0.175 points. The payment equity measures how the price that customers pay is as fair as the product quality that they get. The estimation result of this study supports the hypothesis that the more equitable a customer believes the price/ quality trade off to be, the more satisfied the customers will be.

The personal interaction as the specific factor is also statistically significant in determining customer satisfaction in offline service. The coefficient of this variable is significant at 1% significant level and has a positive sign. The coefficient of 0.663 means that, a one-point increase in personal interaction leads to 0.663 points increase in customer satisfaction using offline service. Here, personal interaction includes how competent and professional the staff in the store, how the relationship between customer and the staff, how friendly and helpful the staff, and whether the staff is knowledgeable about the products. The result of this study supports Alba et al. (1997) that found personal interaction can increase customer confidence and post purchase satisfaction.

Unfortunately, the other common factors such as frequency of use, prior experience, service recovery, diversity of products, technological system, attribute performance, disconfirmation of payment, and brand image are not statistically significant at 10% significant level. The demographical variables are also not significant affecting the customer satisfaction in offline service. The model in column (1) is good in fitting the customer satisfaction data since the R-squared is relatively high (0.873).

In column (2) of table 7, the highly insignificant variables in column (1) are excluded from the model. The results are still robust for some variables such as the ease of obtaining information, payment equity, and personal interaction. However, the coefficients of frequency of use and brand image which are not significant in column (1) become significant in column (2). The coefficient of frequency of use is statistically significant at 5% significant level. The positive sign implies that the more often customers use offline service, the more satisfied they will be. This result is contradictive with the Shankar et al. (2003) that expect the frequency of use has a negative effect on customer satisfaction in offline service. Moreover, brand image is statistically significant at 10% significant level with a negative sign. It indicates that the more committed the customers with certain brand, the less satisfied they will be. This result is not in line with what we expect in the theoretical part.

### **Estimation Results of Regression on Customer Satisfaction in Online Service**

In order to estimate the determinants of customer satisfaction in online service, in column (1) of table 1, we consider the general satisfaction as a dependent variable and all common factors and specific factors as independent variables. Moreover, the demographical variables are also included in the estimation. In column (2) of table 6, the most insignificant variables based on their p-value in column (1) are excluded. Hence, in column (2) we included only the statistically significant variables which affect general customer satisfaction in online service.

In column (1) of table 6, all independent variables are included in the estimation. The result shows that the variable ease of obtaining information is statistically significant affecting general satisfaction in online services. The coefficient of this variable is significant at 5 % significant level with a positive sign. The positive sign implies that the easier to obtain information from online service could enhance customer satisfaction with the service as a whole. This result confirms the finding of previous studies such as Oliva et al. (1992) and Shankar et al. (2003). The ease of obtaining information consists of how easy to get access to

website, whether the website provides relevant information, whether the information makes easier to decide to buy, and whether the website reduces the searching time.

The interactivity of website is also found to have a significant effect on general customer satisfaction in online service. The coefficient of this variable is statistically significant at 10% significant level. Moreover, the sign of the coefficient is positive. It can be interpreted that the more interactive the website, the more satisfied the costumers. This result supports the finding of Montoya-Weiss et al. (2003) which also come up with the same conclusion.

The other variable which is also statistically significant affecting the general customer satisfaction in online is trust. This variable is highly significant at 1% significant level. The sign of coefficient is positive indicating that the more the website is trusted, the more satisfied customers will be. This result supports the same findings of some studies such as Yoon (2002), Balasubramanian et al. (2003), and Urban et al (2000). As claimed by Balasubramanian et al. (2003), trust becomes an important factor in online environment because of the absence of human interactions in online medium. Here, the trust includes some indicators for instance the willingness of customers to give private information to the online store.

**Table 4**  
**Estimation Result of the Determinants of Customer Satisfaction in Online Service**

<b>Dependent Variable: General Satisfaction in Online</b>		
<b>Independent Variables</b>	<b>(1)</b>	<b>(2)</b>
	<b>Include All Independent Variables</b>	<b>Include Statistically Significant Variables</b>
Ease of Obtaining Information	0.214** (0.096)	0.315*** (0.072)
Frequency of use	-0.059 (0.075)	
Prior Experience	0.109 (0.087)	
Service Recovery	-0.074 (0.085)	
Diversity of products	0.017 (0.087)	
Technological system	0.060 (0.100)	
Attribute performance	0.090 (0.099)	
Payment equity	0.065 (0.066)	
Disconfirmation of Payment	-0.024 (0.045)	
Brand image	0.080 (0.050)	
Interactivity of Website	0.243* (0.128)	0.396*** (0.093)
Trust	0.323*** (0.096)	0.358*** (0.083)
Gender	-0.188 (0.122)	
Location	0.235 (0.143)	
Education	-0.167 (0.123)	
Age	-0.120 (0.097)	
Constant	0.533 (0.628)	-0.268 (0.316)
Observations	110	110
R-Squared	0.802	0.772

**Standard errors in parentheses**

**\*\*\* p<0.01, \*\* p<0.05, \* p<0.1**

The other common factors such as frequency of use, prior experience, service recovery, diversity of products, technological system, attribute performance, payment equity, disconfirmation of payment, and brand image are not statistically significant at 10% significant level. In addition, the demographical variables such as gender, location, education, and age are also not significant in affecting the general customer satisfaction in online

service. In general, the model in column (1) is good in fitting the data of customer satisfaction since the R-squared is relatively high.

In column (2) of table 6, we exclude the most insignificant variables in column (1) based on their p-value. Hence, in the end, in column (2) we include only the statistically significant variables affecting the general customer satisfaction in online service. The coefficient of variable ease of obtaining information becomes more significant at 1% significant level with a positive sign. The magnitude of its coefficient is 0.315. It means that a one-point increase in the score of ease of obtaining information will increase general customer satisfaction by about 0.315 points. The coefficient of interactivity of website is also more significant than that in column (1). The sign of coefficient is positive and the magnitude is 0.396. It indicates that a one-point increase in the score of interactivity of website will increase general customer satisfaction by about 0.396 points. The significance and the sign of trust's coefficient in column (2) is relatively stable. The main consequence of excluding some variables from the model is the value of R-squared decreasing.

## **CONCLUSION, RECOMMENDATIONS, LIMITATION AND FURTHER RESEARCH**

### **General Conclusions**

#### **Online**

1. Ease of obtaining information is the only common factor significantly affects the general customer satisfaction in online service.
2. The specific factors such as interactivity of website and trust are also statistically significant increasing the customer satisfaction in online service.

#### **Offline**

1. In offline service, there are 3 common factors that significantly increase the customer satisfaction. Those factors are the ease of obtaining information, frequency of use, and payment equity.
2. Personal interaction as a specific factor is also proved to have a significant effect on customer satisfaction.

### **Recommendations**

#### **Online service providers**

1. Make information access as easy as possible on the website
2. Make the website more attractive
3. Make the website more trustable for customers

#### **Offline service providers**

1. Make information access as easy as possible in offline service (i.e., the travel agent)
2. . Provide greater value to the more frequent customers
3. Increase the quality of the service and sometimes give additional discount
4. . Increase the capability of the personnel

### **Limitation and Further Research**

1. this research only focuses on exploring the determinants of customer satisfaction in online and offline services. However, the comparison of general customer satisfaction between online and offline is not addressed intensively

2. this survey is more bias to Indonesian people. It is showed by very low proportion of respondents coming from the other nationality
3. this research is specifically focus on customer satisfaction in booking flight ticket. By using estimation results, this research tried to make conclusions for general customer satisfaction in online and offline. However, we cannot generalize the result for other online and offline services such as shopping and retail grocery
4. regarding the estimation method, this research employed linier regression method. There is possibility that the relationship between the independent variables and customer satisfaction is not linear, for example in quadratic form or conditional on demographical factor and culture of the customers
5. in the estimation, this research did not address the causal effect of dependent variable on independent variables, for example, the effect of general customer satisfaction on trust. This is also important issue should be addressed
6. This research do not adress the multicorrelation amongst independent variables

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