Conference Paper

Analysis of Tie Strength and Purchase Decision Involvement towards Word-of-Mouth Influence in Service Business

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Abstract

The increase in services must be handled, the high cost of services has the potential to shake off economic growth, according to an economic theory called Baumol's disease. Therefore, services have to become more efficient and productive. A handling service business that mostly intangible are dissimilar from the product-based business. In service word of mouth (WOM) is important. This research would investigate the interaction and direct effects of tie strength which is an interpersonal force between sender and receiver of WOM and the receiver's service purchase decision involvement which is an intrapersonal force on WOM influence. A secondary aim is to investigate how a distinctive conceptualization of perceived risk affects service purchase decision involvement. A conceptual model incorporating these constructs and associated hypotheses is developed and tested. This research is quantitative research conducted to explore the objective of the study. The researcher conducts a questionnaire to collect data. The purposeful sampling conducted on this research. PLS-SEM Analysis is used in this research for the data analysis. The result indicates tie strength and involvement positively affected WOM influence. However, the moderation effect whereby tie strength was found to diminish the effect of involvement on WOM influence. The other finding is perceived risk has a highly significant effect on involvement. Also, the relationship between WOM influence and the purchase decision is positively significant.

Keywords: Service, WOM Influence, Purchase Decision, Perceived Risk, Involvement, Tie Strength

1. Introduction

According to BPS-Statistics Indonesia (2018), the economic growth from the first quarter up to the third quarter in 2018 showed that the highest growth came from other services sector as the amount of 8.90 percent, followed with 8.54 percent from services company, and 7.80 percent from information and communication. The growth amount was compared with the first quarter up to the third quarter in the previous year. From the data, it knows that the service industry becomes the striking point in the growth of the economy in the last two years. According to the argumentation from Hibbert (2003), by
2020, services will reach 50% of world trade. The increasingly important role of services is complex and full of obstacles in world trade, cross-border marketing and service delivery. Services need more local customization, which is complicated in turn by the limited mobility of customers, intangibility and simultaneous service production and consumption (Pieter Pauwels, 2005). For service providers whose offerings are mostly intangible, and based on experience or trust, word of mouth is very important (Houshang Taghzadeh, 2013). Customers of services are very dependent on suggestions and suggestions from other people who have experienced this service. Furthermore, consumers often trust each other more than they trust communication from the company, thus highlighting the importance of word of mouth (Sandy Ng, 2011).

According to Ennew (2000) word of mouth (WOM) defined as verbal communication between groups such as the product provider, independent experts, family and friends, and the actual or potential consumer. Sweeney et al. (2008) suggested that personal variables (credibility, trustworthiness, expertise, etc.), interpersonal variables (tie strength, homophily), message characteristics (vividness, strength, etc.), and situational characteristics (risk, complexity, need, etc.) might act as antecedents to word of mouth influence. Interpersonal communication is communication that occurs between people. Meanwhile, intrapersonal communication is the communication within an individual for various purposes (Terrell, 2018). Intrapersonal refers to a network limited to one individual, and that interpersonal refers to a network composed of several individuals. Due to the service characteristics of intangibility, lack of standardization and often lack of guarantees, consumers’ services perceive a greater risk associated with purchases of services (Peter A. Voyer, 2015). The higher risk level can stimulate consumers to seek WOM more actively, but it can also make them more cautious about what they hear (Cheng-Hsi Fang, 2011). Previous research about the impact of word of mouth on service purchase decision has conducted by Peter A. Voyer (2015). The researcher examined interpersonal (tie strength) and non-interpersonal (service purchase decision involvement) concepts together by modelling both their interaction and direct effects on WOM influence. In this research, the perceived risk that would analyze not only limited by two risks but would be considering the other risk that may be related to the service purchase decision. Also, the variable of purchase decision would be added in the research. Therefore, this research would be analyzed the interaction of interpersonal communication and intrapersonal communication towards WOM influence and the perceived risk affects service purchase decision involvement. The research would be gathering the data through a questionnaire as the main data collection tool.
for the study. The theoretical framework supported the finding taken from the purchase decision theory.

2. Literature Review

2.1. WOM Influence

WOM Influence is informal consumer advice. Usually it is interactive, swift, and lacks commercial bias. WOM influences defined as changes in attitude and/or behavioral intent resulting from interpersonal information exchange (Gilly et. al., 1998). In a service context, WOM is more influential because services are intangible, difficult to assess prior to purchase, not covered by guarantees, and not standardized, making the choices that are riskier than goods (Jill Sweeney, 2014). According to Jill Sweeney (2014), there are four factors that enhanced the impact WOM had on a receiver. Those are personal factors, interpersonal factors, situational characteristics and message characteristics. WOM Influence as a construct can be measured with the interaction with other people to exchange information and source information gained from information exchange (Gilly et al., 1998). WOM communication is most likely the oldest device for initiating, expressing and spreading opinions on products, brands, sellers or organizations. It was found to be very important in buying decision making for consumers (Nur Amirah Hassan Basri, 2016). For service providers whose offerings are mostly intangible, and based on experience or trust, word of mouth is very important (Houshang Taghizadeh, 2013). Consumers rely heavily on the advice and suggestions of others who have experienced the service. Hence, we suggest the following hypothesis:

H1. There is positive and significant effect between WOM Influence and Purchase Decision.

2.2. Interpersonal

Interpersonal relationship refers to a strong association amongst individuals with similar tastes, aspirations, and interests in life (Juneja, n.d.). There are various types of interpersonal relationship. There is friendship, love (intimate relationship), platonic relationship, family relationship, and professional Relationship (work relationship). Friendship is a relationship where formalities do not exist and people enjoy the presence of each other. An interpersonal relationship characterized by passion, intimacy, trust, and respect is called love. Individuals are deeply attached to each other in a romantic relationship.
and share a special bond. A relationship between two individuals without any feelings or intimacy towards each other called a platonic relationship. Individuals related by blood or marriage are called a family. A professional relationship is said to be shared by individuals working together for the same organization. People who share a professional relationship are referred to as colleagues.

2.2.1. Tie Strength

Money, Gilly, and Graham (1998) state that tie strength is a multidimensional construct that represents the strength of the dyadic interpersonal relationships in the context of social networks. Money, Gilly, and Graham (1998) state that tie strength is a multidimensional construct that represents the strength of the dyadic interpersonal relationships in the context of social networks. Tie strength, varying from strong primary (e.g. a spouse) to weak secondary (e.g. a seldom-contacted acquaintance) (Jochen Wirtz, 2002). A relationship's tie strength is defined as strong if it is the sources of someone who personally knows the decision maker (Harvir S. Bansal, 2000). According to Jill Sweeney (2014) research, there was also some evidence that WOM was not always dependent on "strong ties," but was able to be well received by more distant relationships, i.e. "weak ties". But when there was a close relationship and a good relationship between a sender and a receiver based on trust and mutual respect, it seems that WOM was more effective. As part of natural interaction and out of concern for the welfare of others, consumers regularly share service experiences within strong ties. Therefore, the following hypothesis is advanced suggesting a direct effect:

\[ H2. \text{There is positive and significant effect between tie strength and WOM Influence} \]

2.3. Purchase Decision

Consumer purchase decisions can be defined as the process of collecting and processing information, evaluating it, and choosing the best option to solve a problem or make a purchase choice (Ram Komal Prasad, 2014). Based on the five-stage model in consumer behavior by Kotler (2012) consumer typically passes through five stages before he purchases: problem/need recognition, information search, evaluation of alternatives, purchase decision, and post-purchase behavior.
2.3.1. Purchase Decision Involvement

Involvement includes in information search phase in the process of the purchase decision. Specifically, involvement occurs when the consumer doing internal research when they researching the information stored in the memory. The consumer considering the product or service that they want to buy based on the information in their memory. After gathering the information, they would list the alternatives. In the next phase of the purchase decision, evaluation alternatives, involvement still included in this process. It occurs in one aspect of the evaluation of alternatives, it is beliefs and attitudes. Beliefs are about the attributes and benefits of a product, attitude is a person’s enduring favorable or unfavorable evaluation, emotional feeling and action tendencies about some object or idea. Involvement can be seen as a motivation for processing information, whereby a consumer attends to the necessary service information that activates a motivational state that drives behavior (Solomon et al., 2014). Increasing levels of involvement lead to the dedication of more cognitive effort to understanding incoming WOM information. Consumers who are highly engaged with a service tend to seek related information more actively. Thus, service purchase decision involvement is of particular importance. Therefore, the research expects WOM influence to be higher with increasing levels of service purchase decision involvement. The following hypothesis is advanced:

H3. There is positive and significant effect between service purchase decision involvement and WOM Influence

The relevance of the purchase decision in the mind of the consumer, the involvement of the service purchase decision, will have a significant effect on the influence of WOM; its role is important because it relates to the (internal) self, i.e. the link between the individual decision - maker and the perceived relevance of the purchase decision. By contrast, the relationship between a consumer and another consumer, tie strength, is external to both the self and the decision to purchase. It is one that the consumer (decision maker) considers especially when the importance of the decision itself is influential. The role of tie strength is, therefore, one that moderates the effect of the involvement of service purchase decision. When a consumer is in a high-tie strength relationship, he/she (the receiver) will have more trust in the WOM coming from the other high-tie person (the sender) because the sender has the knowledge to understand the individual perspectives and needs of the receiver. Hence, we suggest the following hypothesis:
H4. There is a positive and significant effect between the interaction of involvement and tie strength as moderator effect to WOM Influence

2.4. Perceived Risk

Perceived risk is a multi-dimensional construct which implies that consumers experience pre-purchase uncertainty as to type and degree of expected loss resulting from the purchase and use of a product (Keith B. Murray, 1990). In simple terms, perceived risk is the uncertainty consumers have before buying any product or service. According to Peter and Tarpey (1975), five types of risk shall be noticed. They are the physical risk, performance risk, financial risk, social risk, psychological risk, and convenience risk. Cheng-Hsi Fang (2011) found that perceived risk did not directly affect WOM influence. Consumers actively sought WOM to help them make choices when faced with a high-risk purchase decision; a high perceived risk level did not directly result in a correspondingly high level of WOM influence essentially. Because of this, a higher risk level can stimulate consumers to seek WOM more actively, it can also make them more cautious about what they hear, thereby diminishing the influence of WOM. Thus, risk not always has a direct positive effect on WOM influence. The previous study from Dholakia (1997) tested the risk-involvement relationship and found that risk is an antecedent of involvement. Accordingly, the research model the risk as an antecedent of involvement. Hence, we hypothesize the following:

H5. There is positive and significant effect between perceived risk and Involvement.

2.5. Conceptual Framework

Figure 1: Conceptual Framework (Source: Author’s own work).
The conceptual framework includes the constructs that were earlier introduced. We suggest that WOM influence is affected separately, and in combination, by two main constructs: tie strength and service purchase decision involvement, where the former is external to the consumer (associated to others), and the latter is internal (associated to the self). Additionally, in presenting a perceived risk as an exogenous construct of involvement and purchase decision as an endogenous construct of WOM Influence.

3. Methodology

This research using a quantitative method, a questionnaire would be used to collect the data. The sampling method used was non-probability sampling with purposive or judgment sampling technique. The criteria of the respondent are people who have ever used service. Malhotra (2010) stated that the minimum sample size for a marketing study is 200. The data were analysed using partial least square - structural equation model (PLS-SEM). The measurement of this research is the five-point Likert scale which length from "strongly disagree" to "strongly agree". The questionnaire design was created from a broad literature review that enabled the researcher to evaluate the large majority of analyzed variables from valid scales. The researcher found out the indicator that can help the measurement of the latent variable that mentioned previously.

4. Data Analysis

4.1. Validity and Reliability Test

This research conduct validity and reliability test towards 38 questions in the questionnaire. The result from the validity test indicates all of the items in the questionnaire is valid. The Reliability test conducted to make sure that the questionnaire is reliable to collect the data. The result of the reliability test shows the value of Cronbach's Alpha is 0.927. The questionnaire stated unreliable if the Cronbach Alpha coefficient is lower than 0.7 (Hair, et. al., 2009). It means that the questionnaire is reliable.

4.2. Structural Equation Modelling Partial Least Squares
TABLE 1: Construct Measurement Indicator

| Variable                  | Measurement                          | Label | Indicator                                                                 | Source                          |
|---------------------------|--------------------------------------|-------|---------------------------------------------------------------------------|---------------------------------|
| WOM Influence             | Interaction with other people        | INFL1 | Interpersonal information exchange cause changes in attitude of purchasing.| Gilly et al., 1998              |
| Information gained         |                                      | INFL2 |                                                                           |                                 |
| Tie Strength               | Intimacy                             | TS1   | Strong tie strength would be effective for WOM Influence                   | Frenzen and Davis, 1990         |
| Association                |                                      | TS2   |                                                                           |                                 |
| Support                    |                                      | TS3   |                                                                           |                                 |
| Involvement                | Care to choose                       | INVM1 | Consumers mindset about an anticipated purchase decision.                  | Mittal, 1989                    |
|                          |                                      | INVM2 |                                                                           |                                 |
|                          |                                      | INVM3 |                                                                           |                                 |
| Perceived Risk             | Financial Risk                       | FNCL  | Uncertainty consumers have before purchasing service.                      | Peter and Tarpey, 1975          |
| Social Risk                |                                      | SOC   |                                                                           |                                 |
| Performance Risk           |                                      | PRFM  |                                                                           |                                 |
| Psychological Risk         |                                      | PSHC  |                                                                           |                                 |
| Physical Risk              |                                      | PCL   |                                                                           |                                 |
| Convenience Risk           |                                      | CNVN  |                                                                           |                                 |
| Purchase Decision          | Purchase                             | DSC   | Consumer final make a purchase after get WOM                               | Kotler & Keller, 2012           |

Source: Author’s own work

4.2.1. Outer Model (Measurement Model) Assessment

The outer weight significant and collinearity test should be assessed in the outer model to measure the indicator of the construct. The perceived risk has six indicators to measure the construct. There is financial risk, physical risk, performance risk, psychological risk, social risk, and convenience risk. The second construct is involvement. Involvement has three indicators. There is care to choose, right choice important, and concern about outcome. The WOM Influence's indicators are sharing and information source. Then, tie strength has three indicators to measure the construct. manifest variable, final purchase.

If a particular indicator’s outer weight is shown as not significant (i.e., <1.96), check the significance of its outer loading. Only remove the indicator if both of its outer weights and outer loadings are not significant. The outer weight significant test indicate there is no need to delete any indicator in each latent variable. The Figure 2 shows there is
some outer weight that indicated to not significant, but if looking to the outer loading, the value is significant. So, there is no need to delete the indicators.

If all of the indicators’ VIF values are lower than 5, so there is no collinearity problem. The table 1 shows the result of collinearity test that indicate no multicollinearity. According to Wong (2013), marketers should pay attention to those indicators with high outer weights as they are the important area or aspect of the business that should be focused on. The result of outer weight show that information source (INFL2) have the highest outer weight, and in the second place there is financial risk (FNCL).

4.2.2. Inner Model (Structural Model) Assessment

There are four test that should be assessed to analyse the structural model. The first one is the path coefficient. The model’s relationship indicated to be significance if the t-value greater or equal to 1.96 (Wong, 2013). All attributes can be evaluated by conducting the bootstrapping procedure in SmartPLS. The data was running with 5000 subsamples from original set data to ensure the stability of results. The Figure 3 show the result, the relationship between with the relation between interaction of tie strength in the model are not significantly affect.

Albers (2010) suggests that researchers and practitioners are no longer interested in the importance of extremely plausible direct inner path model interactions. For further
TABLE 2: Collinearity

|                | VIF |
|----------------|-----|
| CNVN           | 1.804 |
| DCS            | 1.000 |
| FNCL           | 1.689 |
| INFL1          | 1.052 |
| INFL2          | 1.052 |
| INVM1          | 2.191 |
| INVM2          | 2.170 |
| INVM3          | 1.292 |
| Involvement * Tie Strength | 1.000 |
| PCL            | 2.091 |
| PRFM           | 1.980 |
| PSHC           | 1.755 |
| SOC            | 1.292 |
| TS1            | 1.594 |
| TS2            | 1.093 |
| TS3            | 1.560 |

Source: Author's own work

analysis, the total of the direct effect and all the indirect effect of a specific latent variable on another variable should be evaluated. This fresh paradigm emerges with a frequent observation in PLS path modelling that the standardized coefficients of the inner path model decrease with an enhanced amount of indirect interactions, particularly when mediating or moderating latent variables has a suppressing impact on the direct route. Therefore, after additional indirect relationships are included, the processing of data perfor 4 show that the relationship

The second test of structural model is $R^2$, table 2 shows the result from level of $R^2$. The amount of variance in the endogenous variable of Involvement and WOM Influence explained by the exogenous variable is moderate. The amount of variance in the endogenous variable of Purchase Decision explained by the exogenous variable is weak. Based on the $f^2$ result in table 3, the exogenous construct that strongly contributes to explaining certain endogenous construct is perceived risk. The other exogenous construct has a medium effect unless involvement has a small effect on the endogenous construct.
**Figure 3:** Path Coefficients (Source: Author’s own work).

**Figure 4:** Structural Model without Moderator Effect (Source: Author’s own work).

**Table 3:** Level of $R^2$

|                | $R^2$    |
|----------------|----------|
| Involvement    | 0.344    |
| Purchase Decision | 0.092   |
| WOM Influence  | 0.287    |

*Source: Author’s own work*
4.2.3. Model Fit

The SRMR is defined as the difference between the observed correlation and the model implied correlation matrix. Thus, it allows assessing the average magnitude of the discrepancies between observed and expected correlations as an absolute measure of (model) fit criterion. A value ≤ 0.10 or of 0.08 (in a more conservative version; see Hu and Bentler, 1999) is considered a good fit. Henseler, et. al. (2016) introduce the SRMR as a goodness of fit measure for PLS-SEM that can be used to avoid model misspecification. According to Table ..., the SRMR values passed the preferred criteria. Hence, it can be concluded that the model is considered an acceptable fit.

5. Discussion and Conclusion

In this research, WOM influence was examined by measuring how it was impacted by interpersonal relation or tie strength and intrapersonal relation or purchase decision involvement. The findings indicated that both tie strength and involvement positively affected WOM influence. However, the moderation effect whereby, tie strength was found to diminish the effect of involvement on WOM influence. That shown in the result of analysis data that the result of the relationship between involvement and WOM
influence is insignificant when there is a moderating effect between involvement and tie strength. This research result is different from the findings of Voyer (2015), the previous research finding indicates the moderating effect between involvement and tie strength involvement is significant. The finding in this research is uniquely different might be because of the culture. Given our results, in purchasing a service Indonesian people would have a high tendency to trust in other people recommendation who already know about the service than the internal consideration. But the result supports the interpersonal influence theory in consumer behavior and marketing (Bearden, et. al., 1989). The theory indicates that consumers (effectively, cognitively, and behaviorally) are highly influenced by others. According to the result, within the scope of this theory, we propose that tie strength is particularly important. Perceived risk is a highly influential construct in service marketing. The result shows the significant value of perceived risk towards involvement is quite high. It means people considering a lot about the risk that they would get when purchasing service. The findings indicate the financial risk is the risk that has a high concern in purchasing service. Also, the relationship between WOM influence and the purchase decision is positively significant. It is supporting Houshang (2013) statement that for service providers whose offerings are mostly intangible, and based on experience or trust, word of mouth is very important because consumers rely heavily on the advice and suggestions of others.

Marketing in business should be balancing in the “push” and “pull” marketing strategy. Results from this study show that managers should allocate the same energy to “pull” marketing strategy that WOM suggestions can facilitate. In running a service business, the business owner should understand that knowing who the target audience is not enough. The business owner or marketing managers must know the relationship between customers (tie strength). Usually, acquiring clients through WOM is less costly and these clients tend to be more valuable to a company as well. Since service is intangible, the consumer of service would be considering the perceived risk in purchasing service. The result implicates financial risk is a high concern in service. The consumer of service considering a lot whether they would be gain financial lost or not if they make a purchase over certain service. In an effort to handle this financial risk, the manager should be performing a good pricing strategy. The model of price discrimination or differential pricing used by Cannon and Morgan (1990) might be implemented in the business. When the company adjusts its prices based to customer, location or product, it is called a strategy of segmented pricing or differential pricing. It is not unusual for businesses to offer varying prices for consumers, for example by age
group, customer type, products based on location or the willingness to pay (Yelkur et. al., 2001).

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