



Implementation of Push-Pull Mooring Framework on Webrooming and Showrooming Behavior in Omnichannel

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Abstract. One strategy that can be used to increase retail sales is an omnichannel sales strategy. Omnichannel strategy is a strategy that integrates all sales channels. This strategy gives options to customers to choose from and move from one channel to another. This results in webrooming and showrooming shopping methods. Several retail stores that have already implemented an omnichannel strategy in their business strategy are Alfamart, Zara, Telkomsel, etc. This study objective is to determine what and how the Push-Pull Mooring (PPM) Framework influences maximizing sales across all omnichannel sales channels. The data is collected by questionnaire with 100 respondents in Banyumas. In addition, the data processing uses SmartPLS software. From the data processing results, it is found that there are indicators that have a positive influence and indicators that have a negative influence on each of the push, pull, mooring variables on webrooming and showrooming behavior. The suggestion that might be given to omnichannel companies is to pay attention to the factors of information searching, price, alternative attractiveness, and responsiveness in each sales channel and increase the quality of these factors.

Keywords: Omnichannel · Webrooming · Showrooming · Push-Pull Mooring (PPM) Framework

1 Introduction

One of the elements in SCM that is closest to consumers is retail. According to [1], business activities involving direct producers and consumers are called retail. These retailers experience intense competition as the business grows, so retailers must have a strategy that maximizes sales. The strategy that can be used is the omnichannel sales strategy. Omnichannel is a retailing strategy that integrates multiple sales channels that are profitable for both customers and retailers. Sales channels in omnichannel consist of online and offline channels. In Indonesia, this strategy has begun to be implemented such as Indomaret by launching the Klik Indomaret application which can be accessed on the web or mobile [2].

This omnichannel strategy provides many sales channels that cause consumers to move from one channel to another, resulting in webrooming and showrooming behavior.

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Webrooming is the process of looking for products in online stores but making purchases at offline stores, while showrooming is the process of looking for products in offline stores but making purchases at online stores [3]. To maximize sales across all channels, it is necessary to know the cause of the shift in the way consumers shop by using Push-Pull Mooring (PPM). The PPM framework is an approach that explains the pull factors, push factors, and mooring factors why humans migrate [4]. PPM can be used to identify the cause of a person's switching behavior.

Several studies have discussed PPM framework, showrooming, and webrooming. Research on switching behavior with the PPM Framework has been carried out by [4–7]. In addition to research on the PPM Framework, previous research on showrooming and webrooming researched by [8–10]. Based on the explanation above and previous research, no research examines the influence of Push-Pull Mooring on webrooming and showrooming. Therefore, this study was conducted to investigate the effect of Push-Pull Mooring on webrooming and showrooming. In addition, this research needs to be done so that retailers can know the characteristics and needs of consumers so that retailers can improve quality in various sales channels and maximize sales in all channels with the right strategy.

2 Literature Review

2.1 Supply Chain Management

Supply chain is the management of product manufacturing activities starting from obtaining raw materials and then processing raw materials until they are received by customers in the form of finished goods. Supply chain management (SCM) is a network of systems that involve suppliers, manufacturers, retailers in coordinating resources, activities, organizations, information, human resources involved in moving goods or services from suppliers to customers [11].

2.2 Retailing

Retail in French means to cut or break into small pieces. According to [12], explains that retail (retail business) is all sales activities in the form of products or services that will meet the personal needs of the final consumer. According to [13], the types of retailers include retail organization, non-store retailers and store retails. Store retailers are retailers selling their merchandise in a place/store which is categorized into eight, namely specialty stores, supermarkets, convenience stores, discount stores, department stores, discount retailers, super stores and catalog showrooms [14]. Storeless retailing is retailers selling their goods through direct mail, telephone, internet, and others [13].

2.3 Omnichannel

Omnichannel retailing is a combination of sales channels that integrates all channels in parallel so that customers can explore all sales channels that customers want [15]. Omnichannel is a development of multichannel retraining, but in this strategy consumers

can interact directly with retailers and can share their shopping experiences with other customers [16]. Webrooming is the behavior of consumers looking for a product online but in the process of purchasing it is done offline. Showrooming is the behavior of consumers looking for a product offline but in the process of buying it online [8].

2.4 Push Pull Mooring Framework

The Push-Pull Mooring framework is an approach used to identify the cause of a displacement, which can be either a positive value or a negative value. Push-Pull Mooring consists of a pushing factor (Push), a pulling factor (Pull) and an inhibiting factor (Mooring) [4]. A push factor is a factor that causes displacement in the form of a negative value from a place of origin. A pull factor is a factor that is the attraction of a destination. A mooring factor is a factor that is not included in the push-pull category but is an external factor that affects displacement such as the surrounding environment [5].

2.5 Partial Least Square

Partial least square is a method used to process statistical data which has very complex variables, small sample size (data < 100) and data distribution is not normal. PLS is an alternative method of Structural Equation Modeling (SEM) that uses algorithmic iteration to measure indicator variables and assigns weights to latent variables and connects with other latent variables. SmartPLS can show the design path model showing hypotheses and relationships between variables. This path model will show the structural model (inner model) and measurement model (outer model). The outer model is the relationship between the indicators and their constructs. Inner model is a structural model that relates latent variables [17].

2.6 Hypotheses Development

2.6.1 The Effect of Information Searching on Webrooming and Showrooming Behavior in Omnichannel

Consumers will search for complete information on a product, and this information can be found online and offline. Online information such as consumers' positive online recommendations will significantly influence webrooming behavior [10]. The hypothesis formulated in this study is as follows.

H1. Information searching can push webrooming behavior in omnichannel.

H2. Information searching can push showrooming behavior in omnichannel.

2.6.2 The Effect of Service Quality on Webrooming and Showrooming Behavior on Omnichannel

According to [18], service quality is an assessment of the performance of the services provided by the provider compared to the expectations of service recipients. Consumers will get the convenience of shopping if consumers get the best service. The hypothesis formulated in this study is as follows.

H3. Service quality can push webrooming behavior on omnichannel.

H4. Service quality can push showrooming behavior in omnichannel.

2.6.3 The Effect of Price on *Webrooming and Showrooming Behavior on Omnichannel*

High prices will cause someone to move [4]. Consumers will choose a lower price with the same quality. The hypothesis formulated in this study is as follows.

H5. Price can push on webrooming behavior in omnichannel.

H6. Price can push showrooming behavior in omnichannel.

2.6.4 The Effect of Alternative Attractiveness on Webrooming and Showrooming Behavior in Omnichannel

The higher the alternative attractiveness, the lower consumer loyalty to service providers [18]. The hypothesis formulated in this study is as follows.

H7. Alternative attractiveness can pull webrooming behavior in omnichannel.

H8. Alternative attractiveness can pull showrooming behavior in omnichannel.

2.6.5 The Effect of Responsiveness on Webrooming and Showrooming Behavior on Omnichannel

The responsiveness of service providers will affect consumer movement because consumers want good responsiveness to the requests given [4]. The hypothesis formulated in this study is as follows.

H9. Responsiveness can pull webrooming behavior in omnichannel.

H10. Responsiveness can pull showrooming behavior in omnichannel.

2.6.6 The Effect of Switching Cost on Webrooming and Showrooming Behavior in Omnichannel

High switching costs will cause a person not to move [18]. The hypothesis formulated in this study is as follows.

H11. Switching costs can mooring webrooming behavior in omnichannel.

H12. Switching costs can mooring showrooming behavior in omnichannel.

2.6.7 The effectof subjective norm on webrooming and showrooming behavior in omnichannel

Factors that hinder migration include attitudes towards displacement, switching costs, subjective norms, personal factors, and the search for alternative variations [7]. The hypothesis formulated in this study is as follows.

H13. Subjective norm can mooring webrooming behavior in omnichannel.

H14. Subjective norm can mooring showrooming behavior in omnichannel.

2.6.8 The Effect of *of Habit on Webrooming and Showrooming Behavior in Omnichannel*

Habit is an act that is automatic and runs without having to think [4]. The hypothesis formulated in this study is as follows.

H15. Habit can mooring webrooming behavior in omnichannel.

H16. Habit can mooring showrooming behavior in omnichannel.

3 Methodology

This chapter describes the stages of problem solving that have been formulated in this study.

3.1 Sample and Data Collection

Instrument test was conducted to ensure that the instruments used in the study were valid and reliable. This trial was conducted on 30 respondents outside the research sample [19]. The primary data in this research was obtained from questionnaire data from 100 respondents. Respondents are omnichannel users in Banyumas who have shopped online and offline, have shopped online and offline, have an Instagram account, have a Facebook account, have an account on e-commerce, and are aged between 18-50 years, have shopped by way of showrooming and webrooming. The questionnaire is given in a google form by providing a questionnaire link.

3.2 Measurement

Questionnaire is the instrument used in this study. The answers to these questions were measured using a Likert scale. The questionnaire used adapted 7 questions from the [4], adapting 2 questions from the [18], adapting 4 questions from the [9].

4 Analysis and Results

4.1 Participant Characteristics

Female (53 percent) and male (47 percent) omnichannel users were participants in this study. Their age ranged from 18 to 50 years. The majority of participants (89 percent) were between 18 to 25 years of age. In terms of having an online shopping account, 26 percent have 3 accounts, 55 percent have 2 accounts, and 19 percent have 1 account.

4.2 Measurement Model Evaluation

Convergent validity in this study using the average variance extracted (AVE) and outer loading were valid. According to [20], the outer loading value can be said to be good if the outer loading value is > 0.7 . The AVE value is said to be valid if the AVE value is > 0.5 [21]. Table 1 includes the standardized outer loading and AVE for each construct. The measurement of discriminant validity is determined by the value of cross loading and the Fornell Larcker criterion is valid. The value of cross loading [20] and Fornell-Larcker Criterion [22] is considered to meet discriminant validity if the correlation between indicators and their variables is greater than the correlation of these indicators with other

variables. The test results from standard cross loading and Fornell Larcker Criteria for each construction state that each construction is valid. The construct reliability for each construct was above the recommended level of 0.7 [23]. The results of the Cronbach alpha test and the standard composite reliability for each construct state that each construct is reliable.

4.3 Structural Model Evaluation

For the structural model, we tested the Q-Square to assess how well the model's observations and R-square values indicate whether there is a variance in the independent variables. The result showed that R-square for webrooming behavior 37 percent and R-square for showrooming behavior 46 percent. According to [24], the R-square value has a category if the R-square value of 0.19 indicates a weak variance, the R-square value of 0.33 indicates a moderate variance, the R-square value of 0.67 indicates a substantial variance, and the R-square value 0.7 indicates a strong variance. Then, Q-square for webrooming behavior 0.216 and R-square for showrooming behavior 0.239. Q-square value > 0 indicates that there is predictive relevance [25].

5 Discussion

5.1 Hypothesis Testing

Hypothesis testing in this study uses Partial Least Square which is included in the Structural Equation Modeling with SmartPLS 3.0. Information searching and price were positively associated with webrooming and showrooming. Service quality was negatively associated with webrooming and showrooming. Alternative attractiveness and responsiveness were positively associated with webrooming and showrooming. Switching cost and habit were positively associated with webrooming and showrooming. Subjective norm was negatively associated with webrooming and showrooming.

5.2 Discussion of Hypothesis Results

The purpose of this study was to investigate the effect of the PPM Framework on webrooming and showrooming. The result of this study not only verifies theoretical conceptions regarding omnichannel retailing, but they also provide practical strategies to maximize sales in omnichannel retailing.

5.2.1 Push and Webrooming Showrooming Behavior

Based on the research that has been done, we found that push factor information searching and price positive and significant influence webrooming and showrooming behavior (H1, H2, H5 and H6 accepted), except service quality negative influence webrooming and showrooming behavior. Consumer will tend to do showrooming and webrooming if one of the sales channels provides incomplete information and a higher price. Information searching and price can make consumers change the way of shopping so that consumers feel satisfied in shopping [4]. Price problems perceived by customers can cause customers to switch [5].

Table 1. Hypothesis Testing

	Path Coefficient	T. Statistic	P-Value		Path Coefficient	T. Statistic	P-Value	Hypotheses
Information Searching > Webrooming	0.253	2.331	0.020	Information Searching > Showrooming	0.236	2.218	0.027	H1 and H2 accepted
Service Quality > Webrooming	-0.291	2.206	0.028	Service Quality > Showrooming	-0.197	2.205	0.028	H3 and H4 rejected
Price > Webrooming	0.240	2.171	0.030	Price > Showrooming	0.201	2.013	0.045	H5 and H6 accepted
Alternative Attractiveness > Webrooming	0.209	2.053	0.041	Alternative Attractiveness > Showrooming	0.350	2.780	0.006	H7 and H8 accepted
Responsiveness > Webrooming	0.206	2.037	0.042	Responsiveness > Showrooming	0.044	0.354	0.723	H9 and H10 accepted
Switching Cost > Webrooming	0.214	2.366	0.018	Switching Cost > Showrooming-	0.063	0.712	0.477	H11 and H12 accepted
Subjective Norm > Webrooming	-0.196	2.210	0.028	Subjective Norm > Showrooming	-0.022	0.239	0.811	H13 and H14 rejected
Habit > Webrooming	-0.221	2.299	0.022	Habit > Showrooming	0.194	1.997	0.046	H15 rejected and H16 accepted

5.2.2 Pull and Webrooming Showrooming Behavior

Based on the research that has been done, we found that pull factor alternative attractiveness and responsiveness positive and significant influence webrooming and showrooming behavior (H7, H8, H9 and H10 accepted). Consumer will tend to do showrooming and webrooming if alternative attractiveness and responsiveness of online channel are high (on showrooming) or of offline channel are high (on webrooming). The most profitable choice will make consumers switch shopping channels [4].

5.2.3 Mooring and Webrooming Showrooming Behavior

Based on the research that has been done, we found that mooring factor alternative switching cost positive and significant influence webrooming and showrooming behavior (H11 and H12 accepted). Subjective norm negative influence webrooming and showrooming behavior. Habit positive and significant influence showrooming behavior (H16 accepted) but negative influence webrooming behavior. The mooring factor will prevent the shift in the shopping channel, while the push factor and the pull factor are strong factors that affect the shift in the shopping channel.

5.2.4 Managerial Implication

Information searching as a push factor can encourage webrooming and showrooming behavior. Based on these results, every activity related to improving the quality of the information searching factor can reduce webrooming and showrooming behavior. With complete information on each channel, it will prevent consumers from combining shopping methods. Omnichannel companies must be able to develop and improve systems

related to information searching factors to avoid webrooming and showrooming behavior in order to make it easier for consumers to find information when shopping. Companies can assist in information searching by providing complete and detailed information across all online sales channels such as product specifications, reviews, and information in the form of photos and videos as detailed as possible, collaborating with content creators or influencers to help provide information related to the products being sold. . In offline channels, retailers need to study information related to the products being sold so that retailer waiters can provide complete information, provide search tools regarding product stock (as in Gramedia) and prices, and include complete product packaging. . Omnichannel companies must also ensure that the information provided to customers is the latest information so that it is necessary to periodically update information related to products, stock, promotions and others.

Price as a push factor can encourage webrooming and showrooming behavior. Based on these results, if there is an increase in price in one sales channel, consumers will switch to other sales channels that have lower prices. Consumers tend to compare prices between offline and online channels to get the best price. Omnichannel companies need to consider prices on both channels so that consumers don't have to do webrooming to buy products at the best prices. For example, giving the same price on each channel and applying the same promo for each channel. Omnichannel companies can set prices for each retailer as has been done by the Rabbani, Ventella, and cellphone brands. They set the same price if there is a price increase and the promo is applied to online and offline sales channels. So that consumers do not need to do a combination of shopping methods to get the best price.

Alternative attractiveness as a pull factor can attract webrooming and showrooming behavior. Based on these results indicate that consumers are happy with the many alternative choices if a sales channel does not provide alternative choices, consumers tend to switch to other sales channels that have many alternative choices. Omnichannel companies must try to fulfill consumer desires by providing many alternative options so that consumers can choose and adjust according to their needs. This choice can be in terms of product choices, payments, and service alternatives. For example, in terms of product choice, the company provides products that have low quality to those that have high quality, products with low prices to those that have high prices, products that can be used by children to adults. In terms of payment, the company provides an alternative payment in cash, credit, bank transfer, or through a digital wallet. In terms of service, the company provides delivery service and self service which has been started by Indomaret.

Responsiveness as a pull factor can attract webrooming and showrooming behavior. Based on this, it shows that consumers tend to want a fast response from the company. With the increased responsiveness of the company, it can prevent consumers from switching sales channels when shopping because consumers are satisfied with shopping on one sales channel only. Companies can help consumers in terms of responsiveness by providing a means to receive criticism and suggestions from customers and make all employees who interact with customers know information related to products and shopping systems that are implemented in order to provide information needed by customers quickly and accurately. For example, consumers who have shopped get a defective product, the consumer can give a complaint so that the company can replace it with a new

product so that consumers feel the company has good responsiveness. In addition, if consumers have suggestions related to products, they can be submitted to the company so that the company can fulfill consumer desires in producing a product and consumers are happy because the products launched are in accordance with the wishes and needs of consumers.

Switching cost as a mooring factor can inhibit webrooming and showrooming behavior. Based on this, it shows that switching cost factors can help to reduce webrooming and showrooming behavior. So that omnichannel companies must be able to improve the quality of all factors in online sales channels so that consumers are not forced to do webrooming and incur additional costs to switch offline sales channels. In addition, omnichannel companies also need to improve the quality of all factors in offline sales channels so that consumers are not forced to do showrooms and incur additional costs to switch offline sales channels.

6 Conclusions

The conclusions of the research that has been done are as follows. Push factors that can lead to webrooming showrooming behavior are information searching and price. The pull factor that can attract showrooming webrooming behavior is alternative attractiveness. Meanwhile, responsiveness has no significant effect on showrooming but has a significant effect on webrooming behavior. The mooring factor that can hinder the behavior of webrooming showrooms is switching costs. Meanwhile, for the subjective norm variable that does not hinder showrooming webrooming behavior and showrooming behavior. The habit factor can not mooring webrooming behavior but can mooring showrooming behavior.

In the implementation of this study, the limitations of the questionnaire submitted. Questionnaires were given to respondents who were in Banyumas Regency, so that the scope of the research was not wide enough and the results of the research were not generalizable. The push-pull mooring factor used is still limited, there are still many other factors that have not been considered such as satisfaction, trust, and others.

Suggestions that might be made in the next research is that the population used is only in the Banyumas Regency area, so that for further research it can use the population of people in other regencies. The push-pull mooring factors used are more diverse in order to compare the most important factors that need to be considered by the company in planning a strategy that can increase sales across all retail channels.

Authors' Contributions. Based on previous research, there has been no research that examines the influence of the Push-Pull Mooring factor on webrooming and showrooming, so the researchers carried out an update by conducting this research. Helping omnichannel companies to find out the characteristics and desires of consumers so that they can set strategies and make innovations appropriately. In addition, add references and information related to research in the omnichannel field, especially on webrooming and showrooming behavior.

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