

The Investigation of Virtual Social Networks (VSN) and Positive EWOM on Purchase Intention: The Role of Trust and Time Flow

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Abstract

Nowadays, a lot of businesses acknowledge how online forums have grown and successfully demonstrated to get closer to their market. Virtual social networks are still a powerful tool for businesses to enhance client trust and purchasing flow. This connection encourages the customer to spread more favorable word of mouth about the business, especially online. This study investigates the impact of Positive EWOM and Virtual Social Networks (VSN) on purchase intention. Using purposive sample and 200 respondents to reflect the entire user base, this study was conducted in Indonesia in the context of online shopping initiatives based on customers' opinions. With the use of AMOS, the data is analyzed using structural equation modeling. The result shows that VSN brings a significant and positive impact on trust and time flow. Also, there is a substantial and positive impact of EWOM on users' purchase intention.

Keywords

Virtual Social Network, Positive EWOM, Purchase Intention, Trust, Time Flow

1. Introduction

People's communication capabilities have improved as a result of recent technological advancements, particularly through the internet. The internet has emerged as the most effective and efficient means of connecting people throughout the world. Not only do people use the internet to send emails and browse websites, but many businesses now use it as a strong marketing tool to promote their goods and services. Electronic commerce, or e-commerce, is the term used to describe this trade using internet media. The rapid development of trade and communication tools results in the emergence of a fiercely competitive market that operates both locally and globally.

Mortazavi, Esfidani, and Barzoki (2014) report that viewers' intentions to browse online channels are on the rise. 52 percent of Europeans regularly use their personal computers to get online. Comparatively, 36% of European Internet users watch less television, 28% buy fewer newspapers and magazines, and 17% listen to radio rather than surfing the web. This position altered as a result of the large-scale marketers that reduced their spending on traditional media in 2008 since their share of the entire budget was dropping, including print and broadcast media.

The virtual social network is one of the most significant factors significantly associated to internet usage (VSN). According to Lai and Turban's (2008), an online social network is any website where users can create a virtual area for themselves. Palmer and Koenig-Lewis (2009) noticed that numerous businesses have created online forums and web stores. These results convincingly demonstrate that VSN is unquestionable in the e-commerce industry.

The availability of word-of-mouth (WOM) communication is also impacted by the development of the internet and its users in terms of size and scope. The extensive reach, openness, and accessibility of the internet significantly influence consumer spending, trustworthiness, and the WOM idea, which may benefit marketers by enabling them to increase their trading activities. Recent trends show that many VSN users are constantly reading reviews of various brands and goods. Internet consumers put greater trust in other users' suggestions than they do in online marketing, according to research by Barreto from 2013. Additionally, for their marketing objectives, marketers advise using indirect marketing techniques like viral marketing, which is anticipated to spread swiftly from one person to another.

According to Mortazavi et al. (2014), consumers give their time with the expectation of receiving something in return. It implies that a user's time spent browsing an internet channel corresponds to the knowledge they have gained.

The growing popularity of business social networking sites demonstrates the high likelihood that customers will begin looking for more and more reliable product characteristics. It also enables customers to share their opinions before relying on specific brands or items. Waller (1999) noted that there is a risk in advertising efforts, which leads customers to become more assertive in their self-defense. This raised an issue. Before placing an order, people frequently examine a number of online evaluations of the brands or goods they plan to buy. According to the survey conducted by Internet World State (2022), Indonesia has 212 million users, or 76.3% of the country's 278 million people. This study's findings suggest that Indonesian VSN users are highly engaged.

1.1 Objectives

E-commerce has just introduced a new phase of communication between its vendors and shoppers. With more people using the internet, word-of-mouth marketing about their online shopping experiences may increase due to their social connections, including virtual shopping. This study provides extensive and experimentally accepted information on the influence of virtual social networks (VSN), trust, time flow, and positive word-of-mouth (EWOM) on purchase intention. For practitioners to convey relevant practical implications in contemporary marketing literature, the study's findings are equally crucial. Samples from Indonesian consumers who have expertise with online shopping will be used by the researcher to explore the potential effects of each factor. Additionally, this study will offer businesses advice on how to boost buy intentions using effective EWOM.

2. Literature Review

According to Ferguson, Sairamesh, and Feldman (2004), a virtual community is a location where individuals with similar interests can communicate and share ideas in order to obtain online services, such as social environments, community services, municipal information, and e-commerce information (Bih-Ru Lea, Wen-Bin, Y., Maguluru, N., and Nichols, M., 2006). A social network, according to Raacke and Bonds-Raacke (2008), is an online community where people may connect and exchange ideas based on shared interests. We can communicate with other VSN users on social networking sites by posting comments, sharing links, providing feedback, forwarding messages, and other actions. Once connections are created, the friendship will be visually shown on users' profiles so they can recognize one other's details. According to Lin (2006), online communities can offer members a means of communication as well as information and enjoyment. Many aspects, including "ease of use," can affect users' participation in virtual communities, according to Kwon and Wen (2010), Lin (2006), and Fetscherin and Lattermann (2008). According to Soares, Pinho, and Nobre (2012), users of social networks may share information about their data, status, discussions, and event planning. In today's competitive marketing environment, marketers may give their organization some additional benefits by maximizing and focusing on such traits. The aforementioned hypotheses demonstrate that information disclosure significantly influences the characteristics of VSNs.

Flow, as discovered by Csikszentmihalyi in 1975, is a part of pleasure. Guo (2004) reported in another study that flow had a favorable correlation with creative behavior, process focus, and learning in terms of enjoyment and attention. In addition, a study by Hoffman and Novak (1996) discovered that telepresence and time distortion are both parts of flow. A more intricate flow model included the temporal dilation, pleasure, and telepresence. According to the aforementioned hypotheses, it may be inferred that during time flow, people experience telepresence and delight, a distorted sense of time, the disappearance of self-consciousness, intense focus, a sense of control, and positive responses.

The sharing of personal information in online forums requires time, according to Grabner-Krauter (2009). The impact of informational value and entertainment value on time flow is demonstrated by Hausman and Siekpe (2009) and Park, et al. (2010). Consumers give their time and expect something in return, according to Mortazavi et al. (2014).

Online site trust includes both member-to-member and website-to-member trust (Lu, Wang, and Zao, 2010). Trust in websites indicates that they are capable of offering the highest quality of service and product, whereas trust among members is the primary factor influencing the success of online communities. Additionally, they mentioned how trust might be a major issue because the parties do not interact personally. Participants' conduct may change when they have trust in the online environment because they will behave more proactively if they do. VSNs qualities affect trust, claim Benamati, Fuller, Serva, and Baroudi (2010). According to Lu et al. (2010), interacting with people in a virtual

community allows one to become familiar with the identities or writing styles of individuals who join frequently. Knowing other members of the virtual community may also enhance trust in the website since a greater familiarity signifies a considerable amount of knowledge that has been acquired through interactions and experiences. O'Cass and Carlson (2010) argue that time flow has a big influence on EWOM. In this setting, people report feeling intense control and focus, drifting off into the VSN, forgetting about their surroundings, losing all sense of time, and enjoying their time there. As soon as users experience a high level of engagement with the VSN, they are very likely to start looking for and disseminating information about goods and services to others. Consequently, the researcher suggested:

H1. Virtual Social Network has a positive impact on time flow.

H2. Virtual Social Network has a positive impact on trust.

H3. Time flow has a positive impact on positive EWOM

There are numerous online social networks that members can use to temporarily exchange thoughts, experiences, photographs, files, videos, and connections with other members. With knowledge, identification, private information, and mortgages, they frequently have faith in their fellow citizens (Lai and Turban, 2008). When a user interacts with other users in a virtual environment, Lu, Zhao, and Wang (2010) claimed that they acquire familiar with the identities or writing styles of individuals who frequently open the virtual community. By examining the members' messages and conduct, they might dig a little deeper to determine whether they are trustworthy.

Through social connections, individuals can become more familiar with one another and build trust by communicating more intimately, which indicates knowledge from prior interactions. In many transactional actions, trust is a crucial filter. For instance, according to Ied (2011)'s commitment-trust relationship marketing literature, two parties can be said to have personal feelings for one another regarding the dependability and integrity of a partnership (Morgan and Hunt, 1994; Ranaweera and Prabhu, 2003). From a different angle, trust can be defined as an assessment of the readiness to trust a user based on their competence, including their kindness, strength, and skill (Yuan, 2010).

In the current era, entering into a transactional relationship merely requires the click of a mouse, and the payment can be sent to the other peer via online social networking. People need to have more faith in transactions like that conducted virtually. According to Liu, Marchewka, Lu, and Yu (2004), trust is essential in the high-tech era. When considered as a component of the technology acceptance model, trust might have been seen as having a significant impact on a user's readiness to engage in financial and sensitive personal information exchanges online (Wang, Y. S., Wang, Y. M., Lin, and Tang 2003). Consumers trust a virtual environment when they feel confident carrying out an online transaction, including the dependability and integrity to carry out the purchasing and selling activity successfully, according to Pestek, Resic, and Nozica (2011). Trust affects how people talk about certain items or services and how they exchange information about them, according to Mortazavi et al. (2014). They think that people who join a virtual community have already used the good or service, hence participation in WOM activities will also rise. Trust in members boosts the propensity to exchange details in virtual communities, according to Ridings, Gefe, and Arinze (2002). According to Smith and Adviser-Menon (2002), improved user trust is the reason why members are more likely to provide future recommendations. Therefore, the researcher suggested:

H4. Trust has a positive impact on positive EWOM.

In marketing research, word-of-mouth (WOM) is not a brand-new concept. This has been covered in numerous research for years. WOM, according to Goyette, Richard, Bergeron, and Marticotte (2010), is any informal communication made to other consumers regarding how they have used a product or the vendor. The study demonstrated that WOM communication affects consumers' decisions and impressions after purchases. According to Soares et al. (2012), word-of-mouth marketing is individual communication directed at a specific company, good, or service for non-commercial motives. WOM is defined by social networking connection as well as face-to-face encounters with customers. Electronic Word of Mouth Marketing (EWOM) refers to any remarks or feedback—whether favorable or unfavorable—made by customers about a specific good or service and made available to a large number of people and businesses online (Hennig-Thurau, Gwinner, Walsh, and Gremler 2004). The interaction that is a part of EWOM communication, such as publishing a review of the product or service, participating in a discussion forum, blogging, or leaving comments on any social media platform, such Facebook, Twitter, Instagram, YouTube, etc. EWOM is a crucial component of the promotional mix, thus marketing professionals are more concerned about it. (Yeh and Choi, 2011; Shu-Chuan and Yoojung, 2011). EWOM is described as consumer-generated positive, neutral, or negative content posted online about specific goods or services (Rafaeli and Raban, 2005). Mortazavi et al.

(2014) suggested that rather than putting up more online adverts, commercial organizations could consider managing virtual user communities. Okazaki (as stated in) identified tie strength and valence as the crucial WOM characteristics under investigation.

Purchase intention is frequently used as one of the key indicators of EWOM communication in literature (Sher and Lee, 2009; Lee and Lee, 2009). Customer recommendations are connected to purchases and have the power to influence consumer choices (Chang and Chin, 2010). Reviews, feedback, and comments from customers are significant for internet marketers since they affect customers' purchasing decisions (Do-Hyung, Jumin, and Ingo, 2007). Nowadays, a lot of individuals utilize the internet to research products and services before making purchases (Lee et al., 2008). Additionally, they asserted that an increasing number of consumers rely their purchasing decisions on product reviews seen online. In their investigations, Lu et al. (2010) anticipated that online communities would significantly affect how consumers made purchasing decisions. They noted that many shoppers today read other people's reviews and comments about a certain product on online social networking sites before they buy it. Users will receive additional information in this scenario to reduce their level of product uncertainty.

According to Wang, Sun, and Peng (2013), the lack of organizing useful information to distinguish items may increase the risk of purchasing (Gilly, Graham, Wolfenbarger, and Yale, 1998). At this point, consumers will use favorable word-of-mouth advertising as a key tool in the formation of their purchasing decisions. EWOM communication could be used to learn about service or product quality, according to other studies (Chevalier and Mayzlin, 2006). Additionally, this type of messaging can successfully lower the risk and uncertainty that consumers perceive when acquiring particular goods or services, which can further affect their purchase intention and decision-making (Chatterjee, 2011). Virtual communities can influence customer behavior through electronic word of mouth, according to Soares et al. (2012). Additionally, they claim that word-of-mouth influences consumer decisions significantly and plays a crucial role throughout all stages of the consumer purchasing decision process. According to Senecal and Nantel (2004), many customers like to read the product recommendations made by more seasoned customers before making a purchase. It was discovered that these recommendations had an effect on the new customer's decision to buy. Therefore, the researcher suggested:

H5. Positive EWOM has a positive impact on purchase intentions

3. Methods

This study adopted a quantitative methodology, employing questionnaires as the research tool and an itemized rating scale to evaluate data from 200 respondents who have had experience making online purchases through e-commerce. The subjects of this study are Indonesians, and the study is conducted in Indonesia. The age range has been taken into account for the generation of young adults and frequent internet use. Purposive sampling was used to choose the 200 respondents for this study, and the questionnaires will be filled out in order to obtain the results.

4. Data Collection

A questionnaire is the method of data collecting for this investigation. To make the language simpler, the questionnaire was translated into *Bahasa Indonesia*. The information (n=200) was gathered from Indonesian VSN users who have accessed Indonesian e-commerce sites. The respondent must express their level of agreement or disagreement with the assertions using a measuring scale. Items on the questionnaire were on a 6-point Likert scale, where 1 represents strongly disagree and 6 represents strongly agree. To avoid giving a neutral response, there were six options available. The available scale options are as follows: Strongly Disagree (SD), Disagree (D), Rather Disagree (RD), Rather Agree (RA), Agree (A), and Strongly Agree (SA). The 24-item survey was created with the intention of measuring the variables. Demographic factors like age and gender are also incorporated into the model as control variables.

4.1 Measurement

VSN is measured using a modified version of Raacke and Bonds-work. Raacke's (2008). The time flow measurement was modified from Guo (2004). The Trust measurement is developed from Ranaweera and Prabhu and Morgan and Hunt (1994). (2003). According to Goyette et al., positive EWOM is measured (2010). While Hausman and Siekpe's measurement of purchasing intention was used as a model (2009).

5. Results and Discussion

5.1 Validity and Reliability Testing

The respondents' characteristics description is shown in Table 1 below:

Table 1. Respondent Profile

No	Demography	Quantity	Percentage
1	Gender		
	Female	108	47 percent
	Male	92	53 percent
2	Age		
	16 – 25 years old	194	95 percent
	26 – 36 years old	6	5 percent
3	Respondents' Frequency in Online Shopping (in a week)		
	1-2 times	136	68 percent
	3-5 times	44	22 percent
	>10 times	13	6 percent
	6-10 times	7	4 percent
4	E-Commerce Preferences		
	Shopee Indonesia	66	33 percent
	Tokopedia	51	26 percent
	Lazada Indonesia	35	17 percent
	OLX	34	17 percent
	Lain-lain	14	7 percent

To measure and determine the consistency of measurement of each indicator item, the validity and reliability test is executed. 200 samples were used in this study to assess the reliability and validity. This retesting is carried out to determine the validity and dependability of the AMOS analysis' data. The Confirmatory Factor Analysis (CFA), also known as factor analysis, is used in the measurement model evaluation. Describe how well the variables can be utilized to measure the construct is the goal of CFA's measurement model. It is possible to say that a construct is valid if its loading factor value is greater than 0.5 (>0.5). Additionally, a construct can be noted as reliable if the construct reliability value for each construct is greater than 0.7. Table 2 below shows the findings of the validity and reliability test (Table 2):

Table 2. Validity and Reliability Testing Result

Variable	Indicator	Loading (λ)	Error (ϵ)	$\Sigma(\lambda)$	$\Sigma(\epsilon)$	Construct Reliability	Note
Virtual Social Network				1.893	0.986	0.784	Reliable
	VSN1	0.721	0.212				Valid
	VSN2	0.616	0.618				Valid
	VSN3	0.556	0.156				Valid
Time Flow				3.040	0.485	0.950	Reliable
	TIME1	0.639	0.109				Valid
	TIME2	0.698	0.145				Valid
	TIME3	0.843	0.126				Valid
	TIME4	0.86	0.105				Valid
Trust				3.142	0.309	0.970	Reliable
	TRUST1	0.76	0.089				Valid
	TRUST2	0.755	0.081				Valid
	TRUST3	0.791	0.078				Valid
	TRUST4	0.836	0.061				Valid
Positive E-WOM				4.243	0.569	0.969	Reliable
	WOM1	0.612	0.11				Valid
	WOM2	0.657	0.094				Valid

	WOM3	0.724	0.108				Valid
	WOM4	0.764	0.09				Valid
	WOM5	0.716	0.082				Valid
	WOM6	0.77	0.085				Valid
Purchase Intention				2.264	0.322	0.941	Reliable
	PURCHASE1	0.705	0.104				Valid
	PURCHASE 2	0.892	0.108				Valid
	PURCHASE 3	0.667	0.11				Valid

The information in Table 2 demonstrates that all of the questionnaire's questions are valid because the loading factor value is greater than 0.5 (>0.5). A measure's overall consistency is determined by the results of a reliability test. A measurement is deemed to have high reliability if it consistently yields similar results. Based on the data in Table 2, it can be concluded that all of the questionnaire's questions are reliable.

5.2 Goodness of Fit Measurement (GOF Measurement)

SEM, or structural equation modeling, has emerged as a preferred technique. The Goodness of Fit Index, which assesses how well the suggested model fits the data, can be used by researchers to test the hypothesis. This study used Degree of Freedom, Probability, CMIN/DF, RMSEA, GFI, AGFI, TLI, and CFI to assess the measurement model's suitability (goodness of fit). Table 3 below shows the outcome of the Goodness of Fit assessment:

Table 3. Goodness of Fit Index of Measurement Model

Goodness of Fit	Cut off Value	Result	Model Evaluation
Degree of Freedom (DF)	Positive (+)	165	Good Fit
X^2 (Chi-Square)	Small value	108,711	Good Fit
Probability	≥ 0.05	1	Good Fit
CMIN/DF	≤ 2.00	1,065	Good Fit
GFI	≥ 0.90	0.948	Good Fit
RMSEA	≤ 0.08	0.000	Good Fit
AGFI	≥ 0.90	0.933	Marginal Fit
TLI	≥ 0.90	1,038	Good Fit
CFI	≥ 0.90	1	Good Fit

The outcome of the data analysis is displayed in Table 3. The model met the goodness of fit requirements. The Goodness of Fit Index evaluated good fit criteria in eight parameters; Degree of Freedom (165), chi-square (108,711), probability (1), CMIN/DF ($1.065 \leq 2.00$), GFI ($0.948 \geq 0.90$), RMSEA ($0.00 \leq 0.08$), TLI ($1.038 \geq 0.90$) and CFI ($1 \geq 0.90$). Besides that, the goodness of fit index evaluated marginal fit in one parameter; AGFI ($0.933 \leq 0.90$).

5.3 Hypothesis Testing Result

The testing result of the research model can be seen in Figure 1 below:

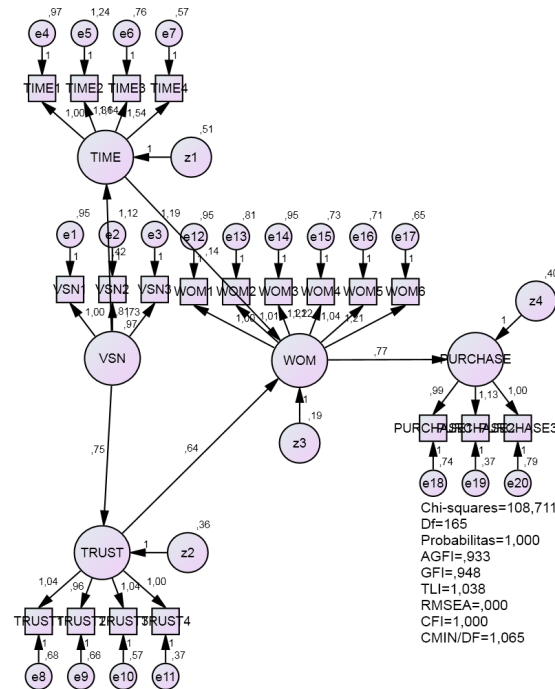


Figure 1. Research Model Result

Table 4. Hypothesis Testing Result

Hypothesis	Variable Relationship	Estimate Standardized	P-value	Status
H1	VSN → time flow	0.425	0.000	H1 Accepted
H2	VSN → Trust	0.746	0.000	H2 Accepted
H3	Time Flow → Positive EWOM	0.144	0.023	H3 Accepted
H4	Trust → Positive EWOM	0.638	0.000	H4 Accepted
H5	Positive EWOM →Purchase Intention	0.773	0.000	H5 Accepted

Time flow is positively impacted by virtual social networks, according to the first hypothesis, which is accepted (Table 4). Given that the probability value is 0.000 ($p < 0.05$), and the path estimate is 0.425, the testing of the VSN on time flow is successful (H1 is accepted). The second hypothesis, Virtual Social Network has a positive impact on trust, is accepted. The testing of VSN on Trust is positive because the value of probability is 0.000 ($p < 0.05$), and the path estimate is 0.746 (H2 accepted). The testing of the Time Flow on Positive EWOM is positive because the value of probability is 0.023 ($p < 0,05$), and the path estimate is 0.144 (H2 is accepted). The third theory—that time flow has a beneficial effect on positive word-of-mouth—is accepted. The testing is positive because the value of probability is 0.000 ($p < 0.05$), and the path estimate is 0.746 (H3 accepted). Trust has a beneficial effect on positive EWOM, according to the fourth theory, which is accepted. Given that the probability is 0.000 ($p < 0.05$) and the path estimate is 0.638, the Trust on Positive EWOM test results are positive (H4 is accepted). The fifth hypothesis, that positive EWOM has a positive effect on purchase intentions, is accepted. The testing of Positive EWOM on Purchase Intentions is positive because the value of probability is 0.000 ($p < 0.05$) and the path estimate is 0.773 (H5 is accepted).

6. Conclusion

Time distortion was positively impacted by the VSNs' characteristic. Given that the probability value was 0.000 ($p < 0.05$) and the path estimate was 0.425 in the testing of the VSNs' attribute on time distortion, it was determined that

the test was significant (H1 accepted). The greater the VSN attribute, the greater the time distortion effect when consumer use the website. Moreover, the lower the VSN attribute, the lower time distortion effect when consumer using the website. The effect of time distortion on perceived positive eWOM was positive and significant. Because the probability value was 0.020 (higher than $p < 0.05$) and the path estimate was 0.144, the testing of the time distortion on positive eWOM was shown to be significant (H2 is accepted). When customers enter the website, the favorable eWOM is larger the more time has passed. Additionally, when users browse the website, the positive eWOM is lower the smaller the time distortion. The effect of VSNs' attribute on trust was positive and significant. Because the probability value was 0.000 ($p < 0.05$) and the path estimate was 0.747, the testing of the VSNs' attribute on trust was found to be significant (H3 accepted). Customers are more likely to trust a website when the VSN is higher. Additionally, customers' trust in a website decreases the lower the VSN. The impact of trust on positive eWOM was both favorable and significant. Because the probability value was 0.000 ($p < 0.05$) and the path estimate was 0.629, the testing of the trust on positive eWOM was found to be significant (H4 is accepted). When visitors access the website, positive eWOM is increased in proportion to their level of trust. In addition, the favorable eWOM when users enter the website decreases in direct proportion to trust. Positive and considerable eWOM on purchase intentions in VSNs. Because the probability was 0.000 ($p < 0,05$) and the path estimate was 0.466 in the testing of Positive eWOM on purchase intentions in VSNs, it was determined that the results were significant (H5 is accepted).

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