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The Symmetrical and Asymmetrical Relationship of Technology Acceptance Model (TAM) on Consumer Emotional Value, and Service Innovation in Supporting Consumer Purchase Decisions

Nurlina Nurlina[1*], Aditya Halim Perdana Kusuma Putra[2]

[1] *First Author & Corresponding Author. Associate Professor, Department of Management, STIMI YAPMI, Makassar, Indonesia,*
[2] *Assistant Professor, Faculty of Economics and Business, Department of Management, Universitas Muslim Indonesia, Makassar*
[1] *yapmi.nurlina@gmail.com*, [2] *adityatrojhan@gmail.com*
* *corresponding author*

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ABSTRACT

This study aims to determine the symmetrical and asymmetrical relationships between technology, acceptance model (TAM), and consumer emotional value and service innovation in supporting consumer purchase decisions. This research approach uses quantitative research. The primary data sources used in this study are preliminary data obtained from questionnaires and secondary data. This research was conducted in the city of Makassar. The population in this study is based on the infinite population, with a sample of 231 people spread across various provinces in Indonesia. Data analysis used validity, reliability, R-square, F-square, direct effect, and partial least square (PLS) hypothesis submission. The results of this study indicate that the Technology Acceptance Model (TAM) variable has a positive and significant effect on the Emotional Value and Service Innovation variables. Likewise, the Technology Acceptance Model (TAM) variable positively and significantly impacts the Consumer Purchase Decision variable by making the Emotional Value variable and Service Innovation intervene. The results of this study also show that the Technology Acceptance Model (TAM) variable has no positive and insignificant effect on the Consumer Purchase Decision variable.

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I. Introduction

Platform shopping online Shopee dominates among women consumers based on Online 2019. This result is reflected in a survey involving 1027 respondents from the age of 17 throughout Indonesia, with 54 percent of female respondents and 46 percent of male respondents. As many as 52 percent of women mentioned shopping as an option—meanwhile, male buyers call Shopee e-commerce products 16 percent. Looking at the majority of e-commerce women dominate, this data shows that transactions at Shopee are more significant in volume than other competitors. In addition, a survey released by the Katadata Insight Center (KIC) entitled "SME Study Report 2021: The Role Marketplace for SMEs" revealed that Shopee was the most significant contributor to turnover for micro, small and medium enterprises (MSMEs) to survive during the pandemic. In addition, Shopee has also become e-commerce for SMEs due to promo programs and transaction security factors. To analyze and understand these events, researchers usually use the Technology Acceptance Model (TAM) as a model used to explain and estimate user acceptance of an information system.

The technology acceptance model (TAM), introduced [7], attempts to simplify and better understand the technology acceptance process in organizations. TAM has become a very commonly used model in investigating the factors influencing user acceptance of technology [21]. TAM proposes the existence of individual perceptions of usability and ease of use, where these two perceptions are the two factors that determine technology acceptance. [7] stated that the user's attitude toward using technology depends on the benefits and convenience felt by the user itself. The attitude will also affect behavioral motivation, determining the actual usage behavior. TAM today is widely applied in studies based on events that are currently happening, namely, during the COVID-19 period. For example,

research conducted by [17] entitled "Technology Acceptance Model (TAM) in the Use of Online Learning Applications During the Covid-19 Pandemic for Parents of Elementary School Students". Where the researcher uses the Technology Acceptance Model (TAM) to determine the acceptance of online learning by parents of elementary school students as a means of distance learning [9]. Many events have occurred as a result of the impact of the COVID-19 pandemic. One of them is in the economic field, where COVID-19 is one of the causes of an increase in online shopping transactions on various e-commerce. Recently, Web Retailer published a list of the most visited online marketplaces.

Table 1 Most visited online marketplace in Southeast Asia by month

E-Commerce	**Number of visitors (Million People)**
Shopee	197,8
Lazada	161,7
Tokopedia	72,4
Bukalapak	26,8
Tiki	22
Blibli	15,8
Sendo	11,4
Zalora	7,6
Qoo10	7
Amazon	3

(Source: www.tekno.kompas.com)

Table 1 above shows that Shopee from Singapore is the marketplace with the most visitors in Southeast Asia, with a total of 197.8 million monthly visits. The SEA Group company, under the auspices of the SEA Group company, now operates in eight countries, including Indonesia, Singapore, Malaysia, Thailand, Taiwan, and Brazil. Of the eight functional areas, Indonesia is recorded as Shopee's most significant market share, accounting for 76.2 million monthly visits. In this case, the number of visitors who visit the marketplace shows considerable interest from visitors or consumers. This interest arises due to several factors, such as various products with good quality and selling prices that tend to be higher. It is cheap compared to marketplaces, the ease of using applications or websites, sales benefits felt by consumers, good service, and emotional value received by consumers.

These factors create a feeling of Emotional Value for each consumer, which results in consumers feeling satisfied and will continue to visit and use the marketplace as a place to shop. In accordance with the concept of Emotional Value itself, customers do not only consider a product or service with its features and benefits but also consider the value they get from the product or service. Kotler (2012) reveals that a consumer will buy a company's product or service that provides the customer with delivered value. Total customer value is the set of benefits that customers expect from a particular product or service. Total customer cost is the set of costs consumers expect to incur in evaluating, obtaining, using, and disposing of a product or service.

As for the excellent service factor that makes consumers feel satisfied and always use the application or shop at the marketplace. The service itself has a solid relationship with Service Innovation or Service innovation, which has the term, refers to innovations that occur in a variety of service contexts, including the introduction of new services or improvements to existing services. An increase in services provided by sellers through the marketplace has a positive impact on consumers. Service innovation usually uses four ways to make consumers feel satisfied with the services provided, namely, providing a flexible solution to consumers when experiencing a problem, providing controlled comfort to consumers, then creating profits and convenience at the same time by developing creative ideas. to make consumers happy, and impressed. The last is to respect consumers by respecting their presence and time when shopping.

The two essential factors above (e.g., emotional value and service innovation) are factors that become the primary key to a consumer's purchase decision. Purchasing decision itself, according to [2], is a decision-making process by consumers to determine whether to make a purchase or not to make a purchase. In addition to the two factors above, other factors determine a consumer's purchase decision. Namely, stability in a product where consumers choose a product based on quality, quality,

and price can cause a sense of wanting to buy from a consumer. Then, the habit of buying products where the product is already embedded in their minds because they have felt the benefits of the product. Provide recommendations to others after getting the benefits of the purchased product so that others can feel the same benefits. The last is to make repeat purchases that occur because of feelings of satisfaction and fit and following what consumers want and expect [16]

For example, in a study conducted by Celuch, K., Goodwin, S., & Taylor, SA (2007) entitled Understanding small scale industrial user internet purchase and information management intentions: A test of two attitude models using the theory planned behavior and reasoned action states that the theory of planned behavior and theory of reasoned action has theoretical implications between the relationship of information management on the Internet to purchasing decisions. In addition [5], in their research entitled Service innovation and adoption in industrial markets: An SME perspective revealed that as many as 336 representatives of Australian SMEs revealed the critical role of suppliers' sustainable competitive advantage and affective commitment in mediating the relationship between service innovation. And innovation adoption behavior. Furthermore, the findings of [5] provide valuable insights for organizations in leveraging their reputation and customer relationships to drive innovation adoption by SMEs.

The study conducted [29] "The impact of informational incentives and social influence on consumer behavior during Alibaba's online shopping carnival" uses a study of the theory of carnival and social learning theory, in which the two study theories conclude that participation, interaction and shared pleasure determines OSC consumer behavior, as well as incentive information and social influence, are two necessary conditions for OSC consumer behavior. [29] also support the research model and the proposed hypothesis, yielding exciting insights about the critical role of information incentives and social influences collectively facilitating OSC. Tseng (2017), with the title "Why do online tourists need sellers' ratings? Exploration of the factors affecting regretful tourist e-satisfaction" in which Tseng, (2017) uses a persuasion theory with the results of two experimental designs showing that the influence of 'regret' personality on e-satisfaction is entirely mediated through post-purchase cognitive dissonance occurs. Then the effect of valid seller ratings on increasing e-satisfaction of 'regret' tourists was also confirmed. This study focused on Taiwanese online tourists provides a precise explanation of the relationship between variables and broadens the understanding of the post-purchase behavior of Asian online tourists who feel 'regret' in high uncertainty avoidance. In addition, Distler et al. (2020) presented the results of their research entitled "How Acceptable Is This? How User Experience Factors Can Broaden our Understanding of The Acceptance of Privacy Trade-offs," i.e., the factors that affect privacy trade-offs go beyond the existing TA factors, as well as the perceived usefulness of technology as having a significant role, and the associated dimensions. With context, previous experience, perceived autonomy, and a sense of control over the shared data.

A study conducted by Herrero & San Martín (2012) entitled "Developing and testing a global model to explain the adoption of websites by users in rural tourism accommodation" uses a theory of reasoned action approach study where the theory of reasoned action shows that perceived usefulness is the primary antecedent stemming from the intention to use the website to search for information and make online reservations, as well as information about accommodation and destinations which have a positive effect on perceived usefulness, and interactivity and navigation which also have a positive effect, and affect the perceived ease of use of the website. In addition, Sann & Lai (2020) stated in their study entitled "Understanding homophily of service failure within the hotel guest cycle: Applying NLP-aspect-based sentiment analysis to the hospitality industry" in reducing control, which characterizes service failures, namely consumers. Prefer brand names containing plosives (versus fricatives) to reassert personal control because the sound of plosives elicits a disposition to act. In doing so, Sann & Lai (2020) highlight the use of brand name innovation to anticipate a state of common control and, thus, the psychological discomfort customers experience after a service failure.

The study conducted by Khenfer & Cuny (2020) titled "Brand preference in the face of control loss and service failure: The role of the sound of brands," in which Khenfer & Cuny, (2020) stated that Asian guests experienced many failures in service related to the engineering operations segment (e.g., hotel room equipment problems), while non-Asian guests experienced more service failures at the end of housekeeping operations (e.g., toilets, common areas, cleaning, and bedding). By measuring failures according to the four stages of the guest cycle, it was observed that approximately 80% of service failures occurred during the occupancy period. In a study conducted by Elzinga et al. (2020) with the title "Consumer acceptance of circular business models" in which Elzinga et al. (2020) use

the theory of planned behavior and the theory of reasoned action, which state that consumer preferences are clear on the management model is helpful to take back the leasing or pay per use model. In particular, consumer habits and opinions regarding payment structures are revealed to significantly influence consumers' intentions to participate in CBM. Changing payment structures in leasing and pay-per-use appear to be substantial reasons for lower acceptance. On the other hand, ownership has a marginal effect, which is not expected based on the CBM literature, which suggests that institutionalized consumer habits should be recognized. Alternative characteristics should be introduced gradually to reform habits.

A study by Eletxigerra et al. (2018) titled "Place marketing examined through a service-dominant logic lens: A review" states that the quantitative place marketing literature is moving toward proposal submission and co-creation. However, primarily it occurs in the context of destination and hospitality; there is still a long way to go in terms of fundamental aspects before consensus is reached as well as a study conducted by Hasbullah et al. (2016) with the study titled "The Relationship of Attitude, Subjective Norm and Website Usability on Consumer Intention to Purchase Online: An Evidence of Malaysian Youth" which Hasbullah et al. (2016) using, the approach of the theory of reasoned action and examining theory where both of these approaches show that adolescents have a significant relationship consisting of attitude factors, subjective norms and the use of the web. Then, Hasbullah et al. (2016) confirmed that website usability is considered the most critical factor, while other variables moderately influence consumers' intention to shop online.

Some of the scientific explanations described above comprehensively explain the urgency of using technology to support customer satisfaction as an essential aspect of supporting services. Therefore, based on factual data presented and supported by scientific references, this study objectively examines and analyzes the causal relationship between the use of the technology acceptance model (TAM), emotional value, service innovation, and purchasing decisions with marketplace shops as the research subject. Therefore, the title of this research is "The Symmetrical and Asymmetrical Relationship of Technology Acceptance Model (TAM) to Emotional Value and Service Innovation in Supporting Consumer Purchase Decisions."

II. Methods

The approach in this study is quantitative. The research was carried out within 2 (two) months, starting from January - February 2022. The location for distributing the questionnaires was Makassar through online questionnaires and observation, so the data collected might come from various regions in Indonesia. The type of data used in this study is quantitative data in the form of the results of the distribution of questionnaires to respondents. Sources of data used in this study, namely: Primary data in this study obtained through observations/observations in the field. Secondary data in this study was obtained from articles, journals, and previous studies. Data collection techniques in this study are:

1. Questionnaire created via google sheets and google Forms then distributed using a hyperlink that is given to the sample directly in order to maintain data validation
2. Data fields that are considered unqualified will be deleted
3. Data collection is automatically inputted into the Google Drive system in the form of Microsoft Excel (Xls) format containing coding of respondents' answers.
4. Measurement of data using a Likert scale (1-5) which refers to the concept in research from (Weijters et al., 2010), where the definition of measuring data is as follows: 1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree. The measurement of variables is shown in Table 2.

The population in this study seems infinite or challenging to estimate. infinite population and is a collection of objects or individuals who are the object of research whose boundaries are unknown or measurements cannot be made regarding the total number of individuals in the area occupied by it, considering the data in this study with a vast population range. Very broad so that the researcher's reference in determining the number of samples is based on several expert theories which state the minimum sample size, including:

1. The minimum sample size required to reduce bias in all types of estimates is 200 [19]
2. The sample size for estimation must be at least 15x the number of observed variables [26]

3. The sample size for estimation must be at least 5x the number of independent parameters in the model, including errors [4]
4. For data with a high kurtosis value, the minimum sample size must be ten times the number of independent parameters [14]
5. Ferdinand (2002) stated that the determination of the sample with an infinite is the number of variables and minimum parameters multiplied by 5 – 10.

Considering the number of samples is vast and so wide. With the tendency of some of the expert opinions above, which do not provide a definite picture of the determination of the number of samples, the researcher takes steps to determine the minimum sample following some of the theoretical references above. So that the minimum sample in this study is 200 people; the sample criteria are men and women aged at least 18 - 40 years with various educational backgrounds and regional origins. Likewise, with work and professional backgrounds. The minimum possible criterion for the sample is the status of having completed the high school education level or the status of a student–working (public servant, private, self-employed, and other professions). Furthermore, the respondent's income level criteria are at least 800 thousand rupiahs. Measurement of data quality including loading factor > 0.60 [12]; [8]; inner-model testing (i.e., Cronbach alpha, composite reliability, and AVE) (Chin, 1998); measuring the goodness of fit of the model by assessing the data testing criteria, i.e., Standardized Root Mean Square Residual and Normed Fit Index (SRMR < 0.80, NFI > 0.90)V [13]; [3]. d_ULS and d_G with the criteria original value (saturated model > estimated model). Then test the coefficient of determination and F-test (R-Square and F-test). The final stage of research testing is hypothesis testing using the constant bootstrapping method with chi-square (n = 200).

Table 2 Dimensional Measurement and Variable Construct

Variable	Dimension	Item
Technology Acceptance Model (TAM) Technology Acceptance Model (TAM) is a mode of approach used by researchers to determine whether a technology can be accepted by the community where TAM has 3 factors, namely risk factors, usability, and added value.	Ease of User Experience	1) Shopee app is easy to learn 2) Responsive Shopee Application and updates frequently 3) There is a relatively light capacity in terms of RAM usage 4) Shopee application is available on all technology media and operating system platforms (PC, Tablet, Smartphone)
	Perceived Risk	5) Items sold on the Shopee application menu are of good quality and original 6) Shopee application operators tend to be mediators in handling consumer complaints about products 7) Refunds due to failed / disabled transactions are quickly responded to by the application operator 8) Fast communication via SMS/Email notification in case where the deal is successful via digital payment
	Perceived added value	9) The Shopee application provides a variety of products 10) Availability of detailed data from the seller 11) Menu offer to chat with seller 12) Fast delivery of goods to consumers 13) High level of security 14) Eye-catching Shopee app display 15) Providing rating facilities (testimonials) for buyers to show the seller's credibility 16) Offering various digital payment facilities 17) Convenience when used 18) Speed and responsiveness to any customer complaints.

		19) Packaging of shipments that meet safety standards.
Emotional Value Emotional Value is a feeling of emotional value received by someone after making a transaction in which the emotional value is created, either positive or negative due to certain factors.	Affective	20) Emotional feeling to seek information 21) Emotional feeling to find the product 22) Feelings to improve lifestyle 23) Emotional feeling to urge to buy
	Cognitive	24) Find it easy to buy 25) Feel efficient 26) Feel more effective than others 27) Like or dislike 28) Feel the need
	normative	29) Feel the same as other people 30) Feel more comfortable
Service Innovation Service Innovation is an innovation service that is created to be added value in a company where a good Innovation Service can create positive feelings and be bound in creating emotional value acceptance, as well as Innovation Services which is a tangible thing and different from a product.	Marketing channel	31) Business ability to use e-commerce sales access 32) Ad Repeat 33) Business ability to use social media access as marketing and promotion media 34) The use of endorser figures to be more convincing for the products being marketed
	Marketing Innovation	35) The ability of entrepreneurs and internal business in mastering marketed products 36) Conduct periodic evaluations of marketed products 37) Businesses do not only carry out marketing activities but also provide education to customers
	Product Segmentation	38) Products that are marketed are clearly marketed in certain segments which include age, gender and income level
	Customer Insights	39) Business Oriented to development in accordance with the progress of the times 40) Business Oriented to the protection and security of user data 41) Business Oriented on the selection of the best raw materials 42) Business oriented to good quality control before being sold in the market 43) Business Oriented to excellent service and after-sales that does not make it difficult for consumers
Buying decision Purchasing Decision is a the final decision of a consumer or customer in buying a product or service which Purchasing decisions can be influenced by several factors including TAM, Emotional	Social Support	44) Positive recommendation 45) Recommendations by other experiences 46) Positive testimony 47) Intentions based on values and beliefs 48) decision based on many who use it
	Impulsive Tendency	49) Obsessive Products 50) Ignoring Consequences 51) Self conflict
	Comprehensive Marketing Mix	52) Expertise Considerations 53) Research and Development Considerations 54) Feel Educated 55) Feel Experience 56) Price Rationality 57) Brand Image 58) Feelings of Prestige 59) After-sales Service Risk

Value, as well as Service Innovation.	60) Tangible and Intangible Quality

III. Result and Discussion

A. Result Description

This research was conducted through online distribution (hyperlink) using google forms and google sheets which were distributed in almost all locations in Indonesia. This research will take approximately two months, starting from November - December 2021. In this study, the number of samples or responses involved was 231 people from various regions in Indonesia. The following are the characteristics of the respondents who are part of this research:

1) Gender Characteristics.

Table 3 Characteristics of Respondents' Gender

No.	Gender	Frequency	%
1.	Men	124	53,7
2.	Women	107	46,3
	Total	**231**	**100**

The results as shown in table 3 state that the sample predominantly comes from male (53.7%) and female (46.3%).

2) Age Characteristics

Table 4 Characteristics of Respondents Age

No.	Age (years)	Frequency	%
1.	18 – 24	217	93,9
2.	25 – 31	13	5,6
3.	32 – 40	1	0,4
	Total	**231**	**100**

The results as shown in table 4 state that the dominant sample is aged 18-24 with a percentage value of 93.9%, aged 25-31 years as much as 5.6% and age 32-40 years as much as 0.4%.

3) Education Level Characteristics

Table 5 Characteristics of Recent Education

No.	Education Level	Frequency	%
1.	Senior High School	169	73,2
2.	Diploma	9	3,9
3.	Bachelor	51	22,1
4.	Magister	2	0,9
5.	Doctoral	0	0,0
	Total	**231**	**100**

The results as shown in table 5 state that the sample with high school education level is 73.2%, Diploma is 3.9%, S1 is 22.1%, S2 is 0.9% and none of them has doctoral education.

4) Profession Characteristics

Table 6 Professional Characteristics

No.	Professional Characteristic	Frequency	%
1	Students	169	73,2
2	Civil servants	3	1,3
3	Private sector employee	24	10,4

4	Self-employed	8	3,5
5	Others	27	11,7
	Total	**231**	**100**

The results as shown in table 6 state that the sample with student status is 73.2%, civil servants are 1.3%, private employees are 10.4%, entrepreneurs are 3.5%, and other professionals are 11.7%.

5) Characteristics of Regional Origin (Province)

Table 7 Characteristics of Regional Origin (Province)

No.	Regional Origin	Frequency	%
1	Nanggroe Aceh Darussalam	0	0,0
2	North Sumatera	4	1,8
3	West Sumatera	0	0,0
4	South Sumatera	2	0,9
5	Bengkulu	0	0,0
6	Riau	4	1,8
7	Kepulauan Riau	0	0,0
8	Jambi	0	0,0
9	Lampung	1	0,5
10	Bangka Belitung	0	0,0
11	West Kalimantan	0	0,0
12	South Kalimantan	2	0,9
13	East Kalimantan	12	5,5%
14	Central Kalimantan	0	0,0
15	North Kalimantan	77	35,5
16	Banten	5	2,3
17	DKI Jakarta	11	5,1
18	West Java	22	10,1
19	Central Java	4	1,8
20	D.I Yogyakarta	3	1,4
21	East Java	8	3,7
22	Bali	2	0,9
23	East Nusa Tenggara	0	0,0
24	West Nusa Tenggara	0	0,0
25	Gorontalo	1	0,5
26	West Sulawesi	3	1,4
27	Central Sulawesi	3	1,4
28	North Sulawesi	0	0,0
29	East-West Sulawesi	3	1,4
30	South Sulawesi	45	20,7
31	North Maluku	1	0,5
32	Maluku	1	0,5
33	Papua	2	0,9
34	West Papua	1	0,5
	Total	**231**	**100**

The results as shown in table 7 state that the samples from North Sumatra were 1.8%, South Sumatra 0.9%, Riau 1.8%, Lampung 0.5%, South Kalimantan 0.9%, East Kalimantan 5 .5%, North Kalimantan 35.5%, Banten 2.3%, DKI Jakarta 5.1%, West Java 10.1%, Central Java 1.8%, Yogyakarta D.I 1.4%, East Java 3.7 %, Bali 0.9%, Gorontalo 0.5%, West Sulawesi 1.4%, Central Sulawesi 1.4%, Southeast Sulawesi 1.4%, South Sulawesi 20.7%, North Maluku, 0.5%, Maluku 0.5%, Papua 0.9%, West Papua 0.5% and none from Nanggroe Aceh Darussalam, West Sumatra, Riau

Islands, Jambi, Bangka Belitung, West Kalimantan, Central Kalimantan, East Nusa Tenggara, West Nusa Tenggara , and North Sulawesi.

6) Characteristics of Monthly Income (Rupiah)

Table 8 Characteristics of Monthly Income (Rupiah)

No.	Monthly Income	Frequency	%
1	800.000 – 2 Million	158	68,4%
2	2 Million – 5 Million	50	21,6%
3	5 Million – 10 Million	17	7,4%
4	> 10 Million	6	2,6%
	Total	**231**	**100%**

The results as shown in table 8 state that the sample with income of 800,000 – 2 million is 68.4%, 2 million – 5 million is 21.6%, 5 million – 10 million is 7.4%, and > 10 million is 2, 6%.

B. Data analysis

1) Reflective Measurement Model (Outer Model)

PLS analysis is carried out in three stages: an outer model analysis, an internal model analysis, and hypothesis testing. The outer model analysis is carried out to ensure that the measurement used is feasible to be used as a measurement (valid and reliable). Outer model analysis can be seen from several indicators: Convergent validity, Discriminant validity, and Un-dimensionality. Meanwhile, the internal model analysis/structural model analysis is carried out to ensure that the structural model built is robust and accurate. The evaluation of the inner model can be seen from several indicators, which include: Coefficient of determination (R2), Predictive Relevance, and Goodness of Fit Index (GoF). (Hussein, 2015). Hypothesis testing is done by looking at the probability value and its t-statistics. The p-value with 5% alpha for probability values is less than 0.05. The t-estimated value for 5% alpha is 1.96. So the criteria for acceptance of the hypothesis is when t-statistics > t-estimated. In the regression analysis method, researchers must check some assumptions to ensure that the regression equation formed is BLUE (Best Linear Unbiased Estimate). One of the assumptions that often stumbles researchers is the assumption of normality (Hussein, 2015). The purpose of using PLS is to make predictions. The prediction referred to here is the prediction of the relationship between constructs. Meanwhile, SEM is intended to confirm the model based on theory. In this study, the constructs used are all dimensions and modifications of the model so that the model built in this study is not based on existing theory. Therefore, researchers used a PLS (Partial Least Square) data analysis tool. The following presents the initial structural model; the value of the fit model can be seen from the convergent validity, discriminant validity, composite reliability, and Cronbach alpha values. The interpretation of the initial structural model is as follows:

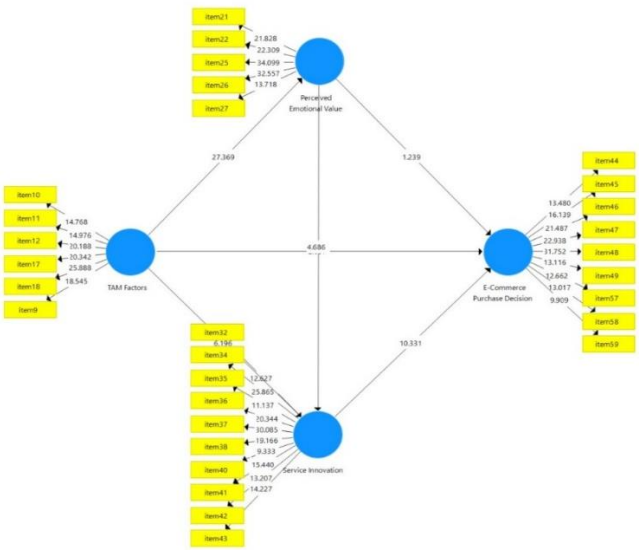

Figure 1 Structural Model of Boostraping

The value of convergent validity is the value of the loading factor on the latent variable with its indicators. The expected value is > 0.7 ((Hussein, 2015), [6], (Ulum, Ghozali, & Chariri, 2008) Covergent validity itself by looking at the average variance extracted (AVE) value of each construct with the correlation between the constructs and other constructs in The form of model interpretation is explained as in table 9:

Table 9 Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
E-Commerce Purchase Decision	**0,906**	**0,913**	**0,924**	**0,577**
Perceived Emotional Value	**0,843**	**0,853**	**0,888**	**0,616**
Service Innovation	**0,921**	**0,924**	**0,934**	**0,588**
TAM Factors	**0,847**	**0,853**	**0,886**	**0,564**

Table 9 above explains that all variables/indicators/constructs have met the test requirements, such as the Cronbach alpha value, rhoa_A, composite reliability, and the AVE (Average variance) value > 0.60. The table above explains that the Cronbach Alpha or reliability test states the extent to which the variable can be declared reliable in measuring the dependent variable. The requirements regarding the Cronbach alpha value are explained as follows:

1. If alpha > 0.90, then perfect reliability (outstanding)
2. If the alpha is between 0.70 – 0.90, then the reliability is high (good)
3. If the alpha is between 0.50 – 0.70, the reliability is moderated. If alpha < 0.60 then low reliability (very bad)

2) R-Square (R^2)

The R square (R2) test or reliability test is to state how reliable an item/indicator is in forming a variable. The value (R2) is expressed in several reliability categories, namely 0.67 in the (Good) category, 0.33 in the (moderate) category and 0.19 in the (weak) category.[6]. The value of R2 is as follows:

Table 10 R-Square (R2) test

	R Square	R Square Adjusted
E-Commerce Purchase Decision	0,716	0,712
Perceived Emotional Value	0,617	0,615
Service Innovation	0,594	0,591

Table 10 shows that overall, the variables have a reliability value above 0.67, so it can be concluded that all of the test variables have a reliability value that is included in the good category. The average R-square value of the dependent variable is 0.870, if all independent variables have a close relationship to the dependent variable, as much as 87%, the remaining 13% of SME performance, and competitive advantage components are influenced by various factors or other variables not examined in this study.

3) F-Square (F^2)

The f-Square (f^2) test or predictors test is a test to find out how much influence there is between each predictor. f^2 value is 0.02. 0.15, and 0.35 can be interpreted whether the latent variable predictor has a weak, medium, or large influence on the structural level.[6]. The value of f^2 is as follows:

Table 11 F-Square Test (F2)

	E-Commerce Purchase Decision	Perceived Emotional Value	Service Innovation	TAM Factors
E-Commerce Purchase Decision				
Perceived Emotional Value	**0,012**		0,102	
Service Innovation	**0,606**			
TAM Factors	0,025	**1,612**	**0,222**	

Table 11 shows the relationship that the partial effect of the Technology Acceptance Model (X_1) variable on Emotional Value (X_2) is medium (1.612 > 0.102) as well as the partial relationship between Service Innovation and Emotional Value is (0.606 > 0.12).

4) 4. Direct Effect Test and Hypothesis Testing

The direct effects can be seen in the bootstrapping model results or in the path coefficient values interpretation. The direct effect of each endogenous variable on the exogenous variable is as follows:

Table 12 Direct Effects and Hypothesis Testing

	Path Analysis	Sample Mean	Standard Deviation	T Statistics	P Values	Info
H1	TAM Factors → Perceived Emotional Value	0,785	0,029	27,369	**0,000**	**Significant**
H2	TAM Factors → E-Commerce Purchase Decision	0,153	0,057	2,637	**0,009**	**Significant**
H3	TAM Factors → Service Innovation	0,488	0,078	6,196	**0,000**	**Significant**
H4	Service Innovation → E-Commerce Purchase Decision	0,645	0,063	10,331	**0,000**	**Significant**
H5	Perceived Emotional Value → Service Innovation	0,325	0,070	4,686	**0,000**	**Significant**
H6	Perceived Emotional Value → E-Commerce Purchase Decision	0,101	0,079	1,239	**0,216**	**Not significant**

Table 12 explains the direct relationship between the variables tested and then adjusted with the hypothesis built-in in section 2. The interpretation of hypothesis testing is as follows:

H1: TAM has a positive and significant relationship or influence on Emotional Value.

The results of data analysis indicate that hypothesis H1 is significant with a significance coefficient value < 0.01, with a variable influence value (t = 27.369), and a standard deviation of 0.029 < 0.10. So, in conclusion, it states that the hypothesis H1 = Accepted

H2: TAM has a positive and significant relationship or influence on Consumer Purchase Decisions by making the Emotional Value variable intervene.

The results of data analysis indicate that hypothesis H2 is significant with a significance coefficient value < 0.01, a variable effect value (t = 2.637), and a standard deviation of 0.057 < 0.10. So, in conclusion, it states that hypothesis H2 = Accepted

H3: TAM has a positive and significant relationship or influence on Service Innovation.

The results of data analysis indicate that the H3 hypothesis is significant with a significance coefficient value < 0.01, a variable influence value (t = 6.196 and a standard deviation of 0.078 > 0.10. So, in conclusion, it states that the hypothesis H3 = Accepted

H4: TAM has a positive relationship or influence and significant effect on Consumer Purchase Decisions by making Service Innovation an intervening variable.

The results of data analysis show that the H4 hypothesis is significant with a significance coefficient value < 0.01, with a variable effect value (t = 10.331 and a standard deviation of 0.063 > 0.10. So, in conclusion, it states that the hypothesis H4 = Accepted

H5: Emotional Value has a positive and significant direct effect on Service Innovation.

The results of data analysis show that the H5 hypothesis is significant with a significance coefficient value < 0.01, a variable influence value (t = 4.686), and a standard deviation of 0.070 > 0.10. in conclusion, it states that the hypothesis H5 = Accepted

H6: TAM has a positive and significant direct effect on Consumer Purchase Decisions.

The results of data analysis indicate that hypothesis H6 is significant with a significance coefficient value < 0.01, a variable effect value (t = 1.239), and a standard deviation of 0.079 > 0.10. So, in conclusion, it states that the hypothesis H6 = Rejected.

Discussion

This study discusses the Symmetrical and Asymmetrical Relationship (Y) Technology Acceptance Model (X1), on Emotional Value (X2), and Service Innovation (X3) in supporting Consumer Purchase Decisions (X4). Based on the results of the analysis above, what can be concluded in this study are:

A. There is a direct relationship between the Technology Acceptance Model (TAM) and Emotional Value.

Technology Acceptance Model (TAM) is an accepted concept using a behavioral theory approachwhereTAM has a significant influence on emotional Value. The Technology Acceptance Model proves that the TAM reference group, which consists of the user's perceived ease, perceived risk, and perceived added Value, is positively related to the Emotional Value reference group consisting of Affective, Cognitive, and Normative. Based on the results of the data analysis test with the TAM reference group, it is proven that Shopee is a marketplace that uses a technology system that is easy for consumers to use. Likewise, with the risks provided by Shopee, where Shopee itself has proven to be a marketplace with a low-risk value and the added value that is felt by consumers provided by Shopee, according to the results of the research, the most significant added Value perceived by consumers is, Shopee provides various kinds of products that make Shopee different from marketplaces .variable There is an emotional value where the results of the three TAM reference groups create a consumer emotional value. With these emotional values, consumers feel an affective feeling where they use their emotional reactions when shopping at the marketplace. Research shows that wanting to find a product is the most significant affective feeling. It is the same with cognitive, where consumers use their beliefs, ideas, and knowledge when shopping in the marketplace. Normative, where consumers shop according to the current situation where many other consumers are also shopping in the marketplace Shopee.

B. There is a direct relationship between the Technology Acceptance Model (TAM) on Consumer Purchase Decisions and the Emotional Value variable as an Intervening.

The same as with the previous explanation, the Technology Acceptance Model (TAM), which has three reference groups consisting of the perceived ease of users, perceived risk, and also perceived added value, is symmetrically related to the Emotional Value variable, which is based on the results of data analysis, both things This creates a significant and positive relationship with consumer purchase decisions. The TAM creates an emotional value for consumers; it strengthens their decision to buy a product or service. It is also supported by the consumer purchase decision reference group, namely, social support, where consumers receive positive support in determining shopping decisions in the Shopee marketplace and make positive recommendations that have a significant value in the reference group. This is in line with the Emotional Value variable, where there is a feeling of affect that supports a consumer to shop in the marketplace. Likewise, with the general impulse tendency,

consumers consider the consequences and risks in a shopping decision, with the results of the TAM reference group stating that Shopee has a low-risk value, making consumers choose to shop at the marketplace because of the low level of risk. Likewise, with a comprehensive marketing mix, consumer purchasing decisions follow their emotional feelings when shopping in the marketplace. Positive cognitive and normative feelings make consumers decide to shop in the marketplace shop.

C. The direct relationship between Technology Acceptance Model (TAM) and Service Innovation.

Service Innovation or Service Innovation is ideas and innovations that are carried out to improve sales quality. The relationship between the Technology Acceptance Model (TAM) and Service Innovation has a positive and significant nature, whereas the TAM has several symmetrical relationships with Service Innovation. As in the Service Innovation reference group, a marketing channel where a seller must be able to access sales in e-commerce, this has a positive effect on the results of independent TAM research, which states that Shopee is a marketplace that is easy to access and use. Likewise, with the Marketing Innovation reference group, where Service Innovation must be able to master the products sold and sold can provide education to consumers. This is positive with the results of the TAM reference group research, which states that Shopee has a low level of risk due to the 'Contact Seller' facility between sellers and consumers, where consumers can communicate directly to sellers about the products being sold, and vice versa sellers can provide information and education to consumers through the 'Contact Seller facility. Product segmentation is also running positively with TAM, where Shopee is a marketplace with a low-risk value due to its high level of security following product segmentation that is oriented towards the protection and security of consumer data, which is the most significant thing in the Service Innovation. Lastly, Customer Insights, where Service Innovation is oriented towards after-sales that does not make it difficult for consumers; according to the research results of the TAM reference group, Shopee itself is straightforward to use with low risk and added value; this makes Shopee a marketplace and does not make it difficult for consumers.

D. There is a direct relationship between Technology Acceptance Model (TAM) on Consumer Purchase Decisions by making the Service Innovation variable as an intervening.

In addition to the Technology Acceptance Model (TAM), which is symmetrical to consumer purchase decisions with emotional value as the intervening variable, TAM also has a symmetrical nature to consumer purchase decisions with the Service Innovation variable as the intervening variable. When a consumer decides to buy a product, especially in the Shopee marketplace, it is also due to the innovative services provided in the Shopee marketplace. In the Purchasing Decision reference group, in the Comprehensive Marketing Mix, it is stated that After Sales Service Risk, which is quoted from the research results, is positively and significantly related to Service Innovation in the Marketing Innovation section, which states that the seller in the Shopee marketplace must master the product he sells as well as the customers. Sellers on the Shopee marketplace are always oriented towards excellent service and do not make it difficult for consumers. This is also positively related to providing education to consumers (Service Innovation) through the added value provided by TAM, namely the "Contact Seller facility." The study results stated that consumer purchase decisions are symmetrically related to TAM, where the service innovation variable intervenes.

E. The direct relationship between Emotional Value and Service Innovation.

An emotional value is a value that arises from a consumer when he feels a positive or negative experience when buying or using a product or service. Emotional value can arise due to several things: good experience, interpersonal interest between consumers and sellers, qualified product quality, and good service and facilities. The results of this research show that there is a positive and significant relationship between Emotional Value and Service Innovation. The Emotional Value and Service Innovation reference groups show a symmetrical relationship, whereas in the Affective reference group, consumers' emotions to search for and find products arise because of the Marketing Channel of Service Innovation, which provides advertisements and uses social media and endorsers as marketing media and promotion. This happened in the marketplace where Shopee has many advertisements with well-known figures they use as endorsers, such as Arya Saloka, Amanda Manopo, Jackie Chan, Joe Taslim, Tukul Arwana, and many other artists to attract the emotional value of the audience. Consumers shop on the Shopee marketplace. Likewise, with the cognitive reference group, the emotions of consumers who feel efficient and comfortable when shopping in the marketplace arise because, at Shopee itself, sellers market their products in segments that adjust to age, gender, and

income as the "Contact" facility. Shopee Sellers is an innovative service offered to consumers to provide convenience and a sense of comfort between consumers and sellers in buying and selling transactions. The research results prove that emotional values also arise because of good innovation services.

F. Direct relationship between Technology Acceptance Model (TAM) on Consumer Purchase Decisions.

The purchase decision is a consumer's decision to buy a product or service. The purchase decision is a process where consumers must go through certain stages to decide to buy a product. The factors influencing it are cultural, social, personal, and psychological. The research results stated that the Technology Acceptance Model (TAM) has an asymmetric relationship with consumer purchase decisions. Reference groups owned by TAM and Purchase Decisions do not affect each other and are not significant to each other. This shows that Shopee, which has good added value, low risk, and easy use among marketplaces, is not a determinant of a consumer's decision to buy a product. This may happen because consumer purchase decisions are more influenced by emotional and psychological factors directly related to feelings of wanting to buy a product. The ease of accessing Shopee does not determine whether a consumer will directly shop at the marketplace. Likewise, Shopee, which has a low risk, does not guarantee that a consumer will immediately decide to buy a product in the marketplace. Lastly, even though Shopee has better value-added than marketplaces, it does not determine whether a consumer decides to buy a product in the marketplace. This can only happen if there is intervention assistance from other variables, namely, emotional value or service innovation; without intervention from one or both of these variables, the Technology Acceptance Model (TAM) is insignificant and has an asymmetric relationship to consumer purchase decisions. Based on the results of the study, discussion, and review of hypotheses in this study, it provides an overview of the research points as follows:

1. Based on the order of dominance of the direct relationship, it is stated that the relationship between the influence of the Technology Acceleration Model (TAM) on Emotional Value is the most dominant relationship among the influences of other variables. The relationship between these variables is included in the dominant category of class I. Then the Technology Acceptance Model (TAM) influences Consumer Purchase Decisions by making Service Innovation, and intervening is included in the dominant category of class II. Moreover, finally, the relationship between the influence of the Technology Acceptance Model (TAM) on Service Innovation is included in the dominant category of class III.
2. The theoretical and managerial implications used in this study explain that the Technology Acceptance Model (TAM) is symmetrically related to Emotional Value and Service Innovation

IV. Conclusion

The results of this study provide several main conclusions such as: first, the Technology Acceptance Model (TAM) variable positively influences other variables. According to existing research results, Shopee is a business that uses digital technology that is readily accepted by the public because it meets the TAM factor, namely, the ease of using the Shopee application, the low-risk value due to the high-security value that Shopee has, and also the added value provided by Shopee through good facilities. Second, Emotional Value is proven to be the most significant and influential variable among other variables. The study results show that a consumer's emotional value is the most significant influence in the factor of consumer purchasing decisions, as well as the TAM variable and Service Innovation. A good TAM value can lead to positive Emotional Value; then, with the influence of Service Innovation itself, the better the innovative service provided, the greater the feeling of positive Emotional Value in supporting Consumer Purchase Decisions. Third, although TAM has a significant effect on other variables, the study results show that TAM itself is not optimistic and is not significantly related to purchasing decisions. This proves that with a low level of risk, the ease of using the Shopee application and the added value provided by Shopee is not the primary determinant of a consumer directly determining his purchase decision. However, with the intervention of other variables, TAM can influence the Consumer Purchase Decision by becoming a variable Emotional Value or Service Innovation as an intervening. Fourth, this research is more about consumer psychology and human behavior. The reference group in each variable discusses human emotions and is interconnected with each other..

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