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## The Effectiveness of The Use of E-Commerce and Digital Payment on Brand Awareness of Private Regional Drinking Water Companies (PDAM)

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### Abstract

*Customer satisfaction is the main focus of the company to increase Brand Awareness, influence company value, and achieve goals. This study aims to evaluate the effectiveness of E-commerce and Digital Payment on Brand Awareness and customer satisfaction at private PDAMs. Quantitative methods were used with a sample of 98 customers and multiple linear regression analysis. The results showed that E-commerce and Digital Payment partially positively affected Brand Awareness, with  $t$  values of 4.416 and 4.656, respectively ( $value > t$  table). Simultaneously, both factors have a positive effect on Brand Awareness, with a calculated  $f$  value of 29,979 ( $value > f$  table) and a significance level of 0.000. E-commerce and Digital Payment together contribute 38.7% to increasing Brand Awareness ( $R$  square 0.568), while the rest is influenced by other factors not included in this study.*

*Keywords— Brand Awareness; E-commerce; Digital Payment; Customer Satisfaction*

### Abstrak

Kepuasan pelanggan merupakan fokus utama perusahaan dalam upaya meningkatkan Brand Awareness, mempengaruhi nilai perusahaan, dan mencapai tujuan perusahaan. Penelitian ini bertujuan untuk mengevaluasi efektivitas E-commerce dan Digital Payment terhadap Brand Awareness dan kepuasan pelanggan pada PDAM swasta. Metode kuantitatif digunakan dengan sampel 98 pelanggan, dan analisis regresi linier berganda. Hasil penelitian menunjukkan bahwa E-commerce dan Digital Payment secara parsial berpengaruh positif terhadap Brand Awareness, dengan nilai  $t$  4,416 dan 4,656 (nilai  $t$  hitung  $>$   $t$  tabel). Secara simultan, kedua faktor tersebut berpengaruh positif terhadap Brand Awareness, dengan nilai  $f$  hitung sebesar 29,979 (nilai  $>$   $f$  tabel) dan tingkat signifikansi sebesar 0,000. E-commerce dan Digital Payment secara bersama-sama memberikan kontribusi sebesar 38,7% terhadap peningkatan Brand Awareness ( $R$  square 0,568), sedangkan sisanya dipengaruhi oleh faktor lain yang tidak termasuk dalam penelitian ini.

Kata kunci— Kesadaran Merek; E-commerce; Pembayaran Digital; Kepuasan Pelanggan

## I. INTRODUCTION

The development of technology and information has changed the way people interact with the world, with the internet being the main source of information and news. Indonesia, as a country heavily impacted by these advancements, engages its people in the digital world with ease. The increase in population and economic activity in Tangerang Regency demands adequate provision of clean water (Mulyadi et al., 2022), but limitations in this regard result in overexploitation of groundwater and negative impacts on economic and environmental costs. Regional autonomy, in accordance with Government Regulation No.16 of 2005, emphasizes the Government's responsibility for water supply. PT Aetra Air Tangerang (Aetra Tangerang) was instrumental in the Public Private Partnership (PPP) project for drinking water infrastructure in Tangerang District, being the first of 26 projects in 2006. Aetra Tangerang, part of MOYA Group, builds water supply facilities with the latest technology that is effective and environmentally friendly. Technological developments not only affect infrastructure, but also change

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the way transactions are conducted (Wanof, 2023). Non-cash or digital payment is a growing phenomenon, replacing cash transactions. Aetra Tangerang provides various payment channels, including digital payment and e-commerce services, to meet the needs of more than 85 thousand domestic customers and 700 commercial & industrial customers. Digital payment has made it easier to transact. This research aims to identify and evaluate the partial and simultaneous impact of e-commerce and digital payment on the level of customer satisfaction at PT Aetra Air Tangerang. Apart from that, this research also aims to compare and analyze the results of using descriptive and quantitative methods in analyzing questionnaire responses, with a focus on the objectivity of responses from respondents. In addition, the aim of this research also includes efforts to expand understanding of research methodology by considering the use of more in-depth and accurate qualitative research methods, especially in the context of the same research title, to increase the accuracy and depth of analysis in the research conducted.

Table 1. PT Aetra Air Tangerang Customer Satisfaction Summary July -September 2023

QUALITY CHARACTERISTICS	Summary Total Jul '23			Summary Total August '23			Summary Total September '23		
	KPP-1, KPP-2, UPP Jayanti			KPP-1, KPP-2, UPP Jayanti			KPP-1, KPP-2, UPP Jayanti		
	GOOD	FAIR	BAD	GOOD	FAIR	BAD	GOOD	FAIR	BAD
SPEED OF SERVICE	91%	8%	2%	95%	4%	1%	93%	6%	1%
FRIENDLINESS OF OFFICERS	93%	6%	1%	98%	2%	0%	98%	2%	1%
OFFICER APPEARANCE	99%	1%	0%	97%	3%	0%	98%	2%	0%
OFFICER KNOWLEDGE	98%	2%	1%	92%	5%	2%	95%	4%	1%
EASY TO UNDERSTAND EXPLANATION	91%	6%	2%	89%	11%	0%	94%	5%	1%
EASE OF PAYMENT	98%	1%	0%	98%	2%	0%	98%	2%	0%
	95%	4%	1%	95%	5%	1%	96%	3%	1%

Based on the Table 1, it is known that PT Aetra Air Tangerang July–September 2023 in the CSO (Customer Service Office) and CSO (Customer Service Unit) categories shows ups and downs or fluctuations for the Fairly Good and Bad categories. These results show that there is still a lack of product and service standards for customers. According to Indrasari (2019: 87-88), in determining the level of customer satisfaction, there are five main factors that companies must pay attention to, namely product quality, service quality, emotionality, price, and costs (Chaerudin and Syafarudin, 2021). The existence of e-commerce and the availability of a digital payment system provided by PT Aetra Air Tangerang can also affect customer satisfaction. If it turns out that the information services of PT Aetra Air Tangerang, they like are much lower than expected, consumers will be disappointed and lose interest in these services. Conversely, service products tend to be reused if the services used are at the level of importance or higher than expectations, it will lead to customer satisfaction (Syafarudin, 2021).

## II. LITERATURE REVIEW

The development of e-commerce in Indonesia has been ongoing alongside the growth of the internet since its inception in the 1990s. Currently, e-commerce activities in Indonesia have expanded into various types of businesses, from small-scale industries to large-scale industries (Norhermaya, 2016). E-commerce originates from the English language, combining two words: "E," which stands for electronic, and "Commerce." When translated into Indonesian, "Electronic" means elektronik, and "Commerce" means perdagangan. Therefore, E-commerce refers to sales or purchases conducted through electronic media connected to the internet. Based on observations and field facts, e-commerce is a website that facilitates online sales transactions utilizing the internet network. According to Wibowo et al. (2023:82), e-commerce or electronic commerce is a form of business conducted through the internet. According to Mufarizzaturrizkiyah (2020:17), e-commerce refers to using the internet to shop online and conduct transactions through digital money transfers. The existence of digital payments is expected to fulfill basic human needs as a support for their livelihood. The development of market infrastructure for digital transaction digitization is part of the trend in treasury management. The focus of instant payment schemes is not only on speed but also on better security and innovation. According to Agusfianto (2023:14), the term digital payment is used to describe payment or transaction activities using digital media without involving physical money. According to Lianovanda as cited in Wibowo (2023:71), Digital Payment or Electronic Payment (E-Payment) is a payment system that utilizes internet facilities as intermediaries. According to Kussujaniatun

(2020:20), digital payment is a form of payment system or mechanism conducted online through the internet with the goal of purchasing a product by consumers. According to Purwaningtias (2020:114), e-Payment is a system that provides tools for paying services or goods conducted on the internet. Customer satisfaction is crucial. Increasing customer satisfaction is one of the company's goals to enhance its image and impact its value, which is why many companies create customer satisfaction programs to achieve these goals. According to Fatihudin and Firmansyah (2019:206), Customer Satisfaction is a measure or indicator of how satisfied customers or users are with the products or services received. According to Tjiptono (2020:74), satisfaction is an attitude determined based on experiences. According to Kotler and Keller (2019:33), satisfaction reflects a person's evaluation of product performance perceived in relation to expectations. If performance falls far below expectations, customers are disappointed. If performance meets expectations, customers are satisfied. If it exceeds expectations, customers are delighted. According to Irawan (2021:54), customer satisfaction is a customer's feeling in response to products or services consumed.

The results of research that have been conducted by previous researchers are used as references and comparisons in the research to be carried out, the following are the results of research relevant to the title to be studied:

Table 2. Previous Research

No	Researcher Name and Research Year	Research Title	Variables Examined	Analysis Tool	Research Results
1.	Dwi Rinor Mauludin Insana, Ria Susanti Johan. (2020).	Increasing Consumer Satisfaction Through the Use of E-Commerce. Sosio E-Kons, 12 (02), 125. <a href="https://doi.org/10.30998/sosioekons.v12i02.6451">https://doi.org/10.30998/sosioekons.v12i02.6451</a>	Consumer Satisfaction (X), E-commerce (Y)	SPSS Ver. 20	The results concluded that there is a significant influence between e-commerce and customer satisfaction (Insana and Johan, 2021).
2.	Herman, SE.,MM. (2022)	Impact of Service Quality on Customer Satisfaction: A Case Study in Educational Institutions. ADPEBI International Journal of Business and Social Science. Vol.2, No.1, (2022) e-ISSN: 2808-0939	Service Quality (X), Student Satisfaction (Y)	SPSS	Based on the results of research with quantitative analysis, it is known that service quality has a positive and significant influence on student satisfaction (Purba <i>et al.</i> , 2022).
3.	Achmad Fauzia, Shifa Ashila Salwab, Aniar Safitric, Eka Amelia Chiesa Juliantid, Sindy Nur Fazriyah. (2023)	Analysis of the Effect of Using Digital Payment Systems and Digital Marketing on Purchasing Decisions. Journal JEKMA Vol 2 No. 1 February 2023 -pISSN: 2828-6928, eISSN: 2828-6898, Pages 11-17	Digital Payment (X1), Digital Marketing (X2), Purchase Decision (Y)	SPSS	Based on the results of research on the relationship between Purchasing Decisions on the Use of Digital Payments and Digital Marketing, it shows a positive relationship (Fauzi <i>et al.</i> , 2023).
4.	Eka Travilta Oktaria, Hermansyah	The Influence of Digital Payment Systems on Sales Effectiveness and Efficiency at PT Sumber Alfaria Trijaya Tbk (The Influence of Digital Payment Systems on Sales Effectiveness and Efficiency at PT Sumber Alfariya Trijaya Tbk) Journal of Accounting, Finance, and Management (JAKMAN) ISSN 2716-0807, Vol 4, No4, 2023, 313-325.	Digital Payment (X), Sales Effectiveness and Efficiency (Y)	SPSS	Based on the results of the t test, the effect between the digital payment system variable (X1) on sales effectiveness and efficiency (Y) with a t value of 8.012 > t table of 1.982 with a sig t of 0.000 > 0.05, meaning that there is a partial and significant influence between the digital payment system (X1) on sales effectiveness and efficiency (Y).

No	Researcher Name and Research Year	Research Title	Variables Examined	Analysis Tool	Research Results
5.	Umban Adi Jaya, Anugerah Nur Raya (2022)	The Effect of E-commerce and Social Media on UMKM Sales in the Pandemic Era (Case Study of Cibolang Village) Journal  Valuation: A Scientific Journal of Management Science and Entrepreneurship  Department of Management, Faculty of Economics and Business, Bina Bangsa University  Volume 2 Number 1 January 2022 DOI Issue: 10.46306/vls.v2i	<i>E-commerce (X1), Social Media (X2), UMKM Sales (Y)</i>	SPSS	From the above results it is known that there is an influence of E-Commerce and Social Media on UMKM sales in Cibolang Village in this pandemic era. This is evidenced by the coefficient of determination or R Square of 0.183 or 18.3%. This means that the influence of e-commerce and social media variables on sales is 18.3%. Meanwhile, the remaining 81.7% is influenced by other variables from outside. That means there are e-commerce and social media affect the sales of business actors in the pandemic era in Cibolang Village even though the value is not significant.

### III. RESEARCH METHODOLOGY

The approach used in this study is a qualitative approach. The qualitative research model describes the objective conditions that exist in improving e-commerce services, digital payments and customer satisfaction. Quantitative research quoted from (Sugiyono, 2021) quantitative research methods can be interpreted as research methods based on the philosophy of positivism, used to research on certain populations or samples, data collection using research instruments, data analysis is quantitative / statistical, with the aim of testing predetermined hypotheses.

Meanwhile, the associative method according to (Bai et al., 2021) is a research question that asks about the relationship between two or more variables. Judging from the nature of this research is descriptive analysis because in this study it provides an overview of the percentage of customer satisfaction of PT Aetra Air Tangerang. Descriptive is research that is directed at providing symptoms, facts, or events systematically and accurately, regarding the characteristics of a particular population or area. According to Sugiyono (2019: 115) Population is a generalization area consisting of objects / subjects that have certain qualities and characteristics set by researchers to study and then draw conclusions. The population in this study were customers of PT Aetra Air Tangerang. The following number of customers is as in the table below:

Table 3. Number of Customers of PT Aetra Air Tangerang (2023)

	CUSTOMER TYPE	QUANTITY
DOMESTIC	DOMESTIC ADHOC	2.071
	DOMESTIC CAPEX	51
	ADHOC CPT	1.174
	CPT	631
	<b>DOMESTIC</b>	<b>3.927</b>
NON-DOMESTIC	COMMERCIAL	307
	SOCIAL	18
	EX-PD COLLECTION	2
	GOVERNMENT AGENCIES	2
	INDUSTRY	61
	<b>TOTAL NON-DOMESTIC</b>	<b>390</b>

BULK WATER	BULK WATER CPT	-
<b>GRAND TOTAL</b>		<b>4.317</b>

Sumber: PT Aetra Air Tangerang (2023)

Based on the Table 3, it is known that the total population is 4317 customers of PT Aetra Air Tangerang. According to Sugiyono (2019: 116) Samples are part of the number and characteristics possessed by the population. The population in this research is the number of customers at PT Aetra Air Tangerang. In this study, researchers used the Slovin technique in determining the sample size. The technique of determining the sample size according to:

$$n = \frac{N}{1 + N \cdot (e)^2}$$

When:

- n : Required sample size/number
- N : 4317 Total population
- e : 10% Fault rate

Then the minimum number of samples taken is:

$$n = \frac{4317}{1 + 4317 \cdot (10\%)^2}$$

$$n = \frac{4317}{1 + 4317 \cdot 0,01}$$

$$n = \frac{4317}{1 + 43,17}$$

$$n = \frac{4317}{44,17}$$

$$n = 97,73$$

From the results above, the sample size is known to be 97.73 which is a fraction. According to Sugiyono (2019: 143) in calculations that produce fractions (there are commas) should be rounded up. Based on these calculations and theories, the number of samples that became respondents in this study were 98 respondents (rounding).

#### IV. RESULT/FINDING

Descriptive analysis in this study was carried out to analyze data by describing or describing the data that had been collected (Kuswati, 2020). The results of the questionnaire answers were then tabulated by scoring the answer scale and calculating the score and average value. Furthermore, the average value of the instrument is compared with the interval score to determine whether the instrument distributed to respondents is good or not.

The Interval Scale of the instrument score is needed to determine whether the instrument score is good or not

Table 4. Score Interval Scale

Score Interval	Category
4,21 - 5,00	Very Good
3,41 - 4,20	Good
2,61 - 3,40	Average
1,81 - 2,60	Unsufficient
1,00 - 1,80	Very Unsufficient

The frequency of answers to the Customer Satisfaction instrument with 10 (ten) statement instruments is as follows:

Table 5. Frequency of Answer Results for Customer Satisfaction Instruments (Y)

No Instrument	SS	S	KS	TS	STS	n	Score X1	Mean	Desc
<b>General or overall satisfaction (Overall Satisfaction)</b>									
1. I am satisfied with the service provided by PT Aetra Air Tangerang to customers.	31	64	3	0	0	98	420	4,29	VG
2. I am satisfied with the quality of water that PT Aetra Air Tangerang distributes to customers	49	44	5	0	0	98	436	4,45	VG
3. I am satisfied with the professionalism and competence of PT Aetra Air Tangerang officers/employees in handling customer complaints	28	68	2	0	0	98	418	4,27	VG
Average Indicator Score							1274	4,33	VG
<b>Konfirmasi harapan (Confirmation of expectations)</b>									
4. Current digital payment methods meet my expectations	30	68	0	0	0	98	422	4,31	VG
5. Satisfied with the ease of digital payment of PT Aetra Air Tangerang	35	62	1	0	0	98	426	4,35	VG
6. The information I received about PT Aetra Air Tangerang met my expectations.	44	53	1	0	0	98	435	4,44	VG
Average Indicator Score							1283	4,36	VG
<b>Comparison to ideal situation (Comparison to ideal)</b>									
7. I am satisfied that PT Aetra Air Tangerang is better than other similar service providers	35	61	2	0	0	98	425	4,34	VG
8. The completeness of the PT Aetra Air Tangerang digital payment method that I received was in accordance with the information that was offered to me beforehand.	40	52	6	0	0	98	426	4,35	VG
Average Indicator Score							851	4,34	VG
<b>Exceeding customer expectations</b>									
9. PT Aetra Air Tagerang's service speed exceeds my expectations	42	55	1	0	0	98	433	4,42	VG
10. The ease of accessing information on PT Aetra Air Tangerang's products and services through the internet network exceeds my expectations.	29	69	0	0	0	98	421	4,30	VG
Average Indicator Score							854	4,36	VG
	363	596	21	0	0	980	4262	4,35	VG
	37,0%	60,8%	2,1%	0,0%	0,0%	100%			

Sumber: Processed Questionnaire Data (2024)

Based on Table 5, it can be explained that, the percentage of answers Strongly Agree (SA) is 37%, the answer Agree (A) is 60.8%, Neutral (N) is 2.1% and the answers Disagree (D) and Strongly Disagree (SD) are 0%. The total score of the Customer Satisfaction instrument is 4262 with an average value of 4.35 included in the score interval between 4.21 - 5.00 in the Strongly Agree category. Based on these results, it can be concluded that the Digital payment variable based on respondents' opinions is stated to be strongly agree. The highest score on the Customer Satisfaction variable is on instrument no. 2 with the statement "I am satisfied with the quality of water supplied by PT Aetra Air Tangerang to customers" with an average score of 4.45.

While the lowest score is on instrument no. 3 with the statement "I am satisfied with the professionalism and competence of PT Aetra Air Tangerang officers / employees in handling customer complaints" with an average score of 4.27. Based on these lowest results, it can be suggested that PT Aetra Air Tangerang employees improve their professionalism at work so that the handling of customer complaints can be resolved immediately.

## 1. Data Analysis

### 1.1 Validity Test

This validity test is a requirement for the accuracy of the questionnaire measuring instrument. In this study, the authors tested each item with the product moment correlation formula. The criterion for determining the value of  $r$  table is  $dk = n - 2$  ( $98 - 2 = 96$ ) with a level of 5%. The decision-making criteria in the validity test in this study is:

1. If  $r \text{ count} \leq r \text{ table}$  0.199 with a level of 5% then the instrument item is declared invalid
2. If  $r \text{ count} > r \text{ table}$  0.199 with a level of 5% then the instrument item is declared valid

The following are the results of the validity test of each research variable, namely:

#### Customer Satisfaction Variable Validity Test Results (Y)

The validity test of the customer satisfaction instrument with 10 (ten) statement instruments is as follows:

Table 6. Customer Satisfaction Variable Validity Test Results (Y)

Instrument Statement	R Count	R Table	Ket
1. I am satisfied with the service provided by PT Aetra Air Tangerang to customers.	0,455	0,199	Valid
2. I am satisfied with the quality of water supplied by PT Aetra Air Tangerang to customers.	0,611	0,199	Valid
3. I am satisfied with the professionalism and competence of PT Aetra Air Tangerang officers/employees in handling customer complaints.	0,475	0,199	Valid
4. The current digital payment method meets my expectations	0,453	0,199	Valid
5. Satisfied with the ease of digital payment of PT Aetra Air Tangerang	0,622	0,199	Valid
6. The information I receive about PT Aetra Air Tangerang matches my expectations.	0,617	0,199	Valid
7. I am satisfied that PT Aetra Air Tangerang is better than other similar service providers.	0,561	0,199	Valid
8. The completeness of the PT Aetra Air Tangerang digital payment method that I received is in accordance with the information that was offered to me beforehand.	0,542	0,199	Valid
9. PT Aetra Air Tagerang's service speed exceeds my expectations	0,562	0,199	Valid
10. The ease of accessing information on PT Aetra Air Tangerang's products and services through the internet network exceeds my expectations.	0,421	0,199	Valid

Sumber: Processed Data SPSS 26 (2024)

Based on Table 6 above, it can be explained that all statement instruments show the value of  $r \text{ count} > r \text{ table}$  0.199 at the 5% level, so the instrument items are declared valid, meaning that the instruments used have validity and accuracy in becoming research measuring instruments.

#### Digital payment variable validity test results (X2)

The validity test of the Digital payment instrument with 14 (fourteen) statement instruments is as follows:

Table 7. Results of the Validity Test for Digital payment Variables (X2)

Instrument Statement	R Count	R Table	Desc
1. PT Aetra Air Tangerang digital payment service provides convenience	0,521	0,199	Valid

Instrument Statement	R <sub>Count</sub>	R <sub>Table</sub>	Desc
2. PT Aetra Air Tangerang's digital payment service provides time efficiency	0,536	0,199	Valid
3. I feel that digital payment regulations are able to protect customers	0,535	0,199	Valid
4. I am aware of and understand the requirements regarding the regulation on PT Aetra Air Tangerang digital payment.	0,418	0,199	Valid
5. PT Aetra Air Tangerang water bill payment using digital payment method can be done from anywhere within 24 hours.	0,561	0,199	Valid
6. Accessibility features of the digital payment application or website in collaboration with PT Aetra Air Tangerang are easily accessible by mobile and computer application devices	0,506	0,199	Valid
7. I feel facilitated in making digital payments to PT Aetra Air Tangerang.	0,616	0,199	Valid
8. I feel that PT Aetra Air Tangerang's digital payment feature is practical and effective in completing various transaction needs needed by customers.	0,528	0,199	Valid
9. PT Aetra Air Tangerang digital payment is safe and trustworthy	0,379	0,199	Valid
10. I feel that PT Aetra Air Tangerang digital payment service provider has a solid policy in strengthening security to protect customer data, funds, and transaction information.	0,471	0,199	Valid
11. PT Aetra Air Tangerang digital payment transaction fees are cheap and economical	0,407	0,199	Valid
12. PT Aetra Air Tangerang's digital payment rates are very competitive	0,322	0,199	Valid
13. I currently prefer PT Aetra Air Tangerang's digital payments to cash payments.	0,439	0,199	Valid
14. I feel digital payment systems offer a unique experience for customers	0,482	0,199	Valid

Source: SPSS 26 Processed Data (2024)

Based on Table 7, it can be explained that, all statement instruments show the value of r count > r table 0.199 at the 5% level, so the instrument items are declared valid, meaning that the instrument used has validity and accuracy in becoming research measuring instrument.

**Customer Satisfaction Variable Reliability Test Results (Y)**

The reliability test of the Customer Satisfaction instrument with 10 (ten) statement instruments is as follows:

Table 8. Customer Satisfaction Variable Reliability Test Output (Y)

Reliability Statistics	
Cronbach's Alpha	N of Items
.721	10

Source: SPSS 26 processed data (2024)

Based on Table 8 above, it can be explained that the Cronbach Alpha value shows  $r_{11} 0.721 > 0.7$ , so the instrument items are declared reliable, meaning that the instrument used is reliable and consistent as a data collection tool.

**Digital payment variable reliability test results (X2)**

The reliability test of the Digital payment instrument with 14 (fourteen) statement instruments is as follows:

Table 9. Output of Reliability Test for Digital payment Variables (X2)

Reliability Statistics	
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Cronbach's Alpha	N of Items
.745	14

Source: SPSS 26 Processed Data (2024)

Based on Table 9 above, it can be explained that the Cronbach Alpha value shows  $r_{11} 0.745 > 0.7$ , so the instrument items are declared reliable, meaning that the instrument used is reliable and consistent as a data collection tool.

## 1.2 Hypothesis Testing

### 1.2.1 Multiple Linear Regression Analysis

Multiple regression analysis is used to predict how the value of the dependent variable changes if the value of two or more independent variables is increased/decreased. This relationship model is **arranged in** a multiple regression function or equation as follows:  $Y = a + b_1X_1 + b_2X_2 + \epsilon$  the results of the multiple linear regression test are as follows:

Table 10. Multiple Linear Regression Test Output

Model		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.716	4.756		1.412	.161
	<i>E-commerce (X1)</i>	.338	.077	.374	4.416	.000
	<i>Digital payment (X2)</i>	.316	.068	.394	4.656	.000

a. Dependent Variable: Customer Satisfaction (Y)

Source: SPSS 26 Processed Data (2024)

Based on Table 10 above, it can be explained that, the multiple linear regression equation  $Y = a + b_1X_1 + b_2X_2$  is  $Y = 6.716 + 0.338 X_1 + 0.316 X_2$ . This regression equation can be concluded:

1. Constant (a) = 6.716 can be interpreted, the current value of the customer satisfaction variable is 6.716 units, assuming the E-commerce and Digital payment variables are fixed or no change occurs.
2. The regression coefficient (b1) = 0.338 indicates that, if the E-commerce variable increases by one unit or 1 point, it will increase the satisfaction value by 0.338 units.
3. The regression coefficient (b2) = 0.316 indicates that, if the Digital payment variable increases by one unit or 1 point, it will increase the satisfaction value by 0.316 units.

Based on the results of the multiple regression equation, it can be concluded that the E-commerce and Digital payment variables are able to provide a positive direction of influence on the Customer Satisfaction variable.

### 1.2.2 Correlation Coefficient Analysis

Correlation coefficient analysis is a test to determine the level of relationship between the independent variable (free) and the dependent variable (bound) both partially and simultaneously. To interpret the results of the correlation coefficient, you can be guided by the following Table 11:

Table 11. Correlation Coefficient Interpretation Guidelines

Correlation Coefficient Value Interval	Relationship Level
0,000 – 0,199	Very Low
0,200 – 0,399	Low
0,400 – 0,599	Medium
0,600 – 0,799	Strong
0,800 – 1,000	Very strong

Source: Sugiyono (2019:250)

### 1.3 Partial Hypothesis Test (t-test)

The t test basically shows how far the influence of one independent variable individually in explaining the variation in the dependent variable. The criterion for determining the t table value is  $dk = n - 2$  ( $98 - 2 = 96$ ) with a 5% level. The significance level used is  $\alpha = 0.05$ , meaning that the possible results in drawing conclusions have a 95% probability or 5% error tolerance.

In carrying out this test, using SPSS software version 26. The criteria for hypothesis acceptance or rejection are by comparing the t value with the t table with the following criteria:

1. If the  $t_{\text{Count}} \leq t_{\text{table}}$  1,985 or Sig value  $\geq 0,05$ , then  $H_0$  is accepted and  $H_a$  is rejected.
2. If the  $t_{\text{Count}} > t_{\text{table}}$  1,985 or Sig value  $< 0.05$ , then  $H_0$  is rejected and  $H_a$  is accepted

The partial hypothesis that will be tested is as follows:

1. The first hypothesis:

$H_{o1} = 0$ : E-commerce variables do not have a positive effect on PT Aetra Air Tangerang Customer Satisfaction

$H_{a1} \neq 0$ : E-commerce variable has a positive effect on Customer Satisfaction of PT Aetra Air Tangerang

2. Second hypothesis:

$H_{o2} = 0$ : Digital payment variables do not have a positive effect on customer satisfaction of PT Aetra Air Tangerang.

$H_{a2} \neq 0$ : Digital payment variables have a positive effect on PT Aetra Air Tangerang Customer Satisfaction

Based on the results of the second hypothesis testing output, the t value shows the t test results are as follows:

Table 12. Partial Hypothesis Test Output (t-test)

Model		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
B	Std. Error	Beta				
1	(Constant)	6.716	4.756		1.412	.161
	E-commerce (X1)	.338	.077	.374	4.416	.000
	Digital payment (X2)	.316	.068	.394	4.656	.000

a. Dependent Variable: Customer Satisfaction (Y)

Source: SPSS 26 Processed Data (2024)

Based on Table 12, it can be explained that,

1. Testing the first hypothesis:

Based on the results of the first hypothesis testing output, it shows that the t value is  $4.416 > t$  table 1.985 or the Sig value is  $0.000 < 0.05$ , then H01 is rejected and Ha1 is accepted, it can be concluded that the E-commerce variable has a positive effect on customer satisfaction of PT Aetra Air Tangerang.

2. Testing the second hypothesis:

Based on the results of the second hypothesis testing output, it shows that the t value is  $4.656 > t$  table 1.985 or the Sig value is  $0.000 < 0.05$ , then H02 is rejected and Ha2 is accepted, it can be concluded that the Digital payment variable has a positive effect on customer satisfaction of PT Aetra Air Tangerang.

## V. DISCUSSION

Based on the results of data analysis, it is known that the correlation value  $R_{x12.y}$  0.622 is in the interval range of 0.600 - 0.799 with a strong level of relationship, it can be concluded that together the e-commerce and digital payment variables have a strong level of relationship to the customer satisfaction variable (Susanto *et al.*, 2023). The result of R Square determination is 0.387 or 38.7% ( $0.387 \times 100\%$ ), it can be concluded, the contribution of the influence of e-commerce and digital payment variables together on customer satisfaction is 38.7% and the remaining 61.3% is influenced by other factors outside the model and the results of the third hypothesis testing output show the value of F count  $29.979 > F$  table 3.092 or Sig value  $0.000 < 0.05$ , then H03 is rejected and Ha3 is accepted, it can be concluded that the E-commerce and Digital payment variables simultaneously have a positive effect on customer satisfaction of PT Aetra Air Tangerang.

This study's results align with previous research conducted by Dwi Rorin Mauludin Isna (2020), which concluded that there is a positive relationship and significant influence between e-commerce variables and customer satisfaction. This is evidenced by the correlation number between e-commerce, and customer satisfaction is 0.568, which means that it has a positive relationship, while from the results of hypothesis testing (Scheel *et al.*, 2021), it is obtained count of 5.50 and table of 1.681, this means that count  $>$  table, then Ha is accepted and Ho is rejected. So, it can be concluded that e-commerce has a significant influence on customer satisfaction. This means that good and professional e-commerce can increase customer satisfaction. Then, research conducted by Achmad Fauzi (2023) concluded that the relationship between Purchasing Decisions on the Use of Digital Payment / Digital payment and Digital Marketing, the relationship between the variable Use of Digital Payment / Digital payment with Purchasing Decisions, and the relationship between the Digital Marketing variable and Purchasing Decisions shows a positive value relationship (Novitasari, 2022). In this study also aims to understand the factors that influence user interest in digital payments and perceptions of trust uploaded through digital marketing. Furthermore, the following research implications are drawn:

### 1. *Implications of the Effect of E-commerce (X1) on Customer Satisfaction (Y)*

The results showed that the E-commerce variable had a positive effect on customer satisfaction of PT Aetra Air Tangerang. E-commerce has an important role in conveying information on company products and services in disseminating product knowledge to customers (Bilgies *et al.*, 2023). Therefore, the research implication that the company can do is to improve the E-commerce application up to date as part of customer service so that customer service that has not been covered or handled at the counter by employees can be resolved in accordance with the expectations of the company, employees and customers.

### 2. *Implications of the Effect of Digital payment (X2) on Customer Satisfaction (Y)*

The results showed that the Digital payment variable (X2) had a positive effect on customer satisfaction of PT Aetra Air Tangerang. Digital payments through electronic wallets are advances in technology that are currently rife and trending, digital payments have many benefits and conveniences for customers and companies. Therefore, the research implication that the company can do is to increase cooperation with electronic payment services through bank financial services and non-bank financial services, this must be done in order to facilitate timely payments by customers and minimize queues at the payment counter.

### 3. *Implications of the Effect of E-commerce (X1) and Digital payment (X2) on Customer Satisfaction (Y)*

The results showed that the E-commerce and Digital payment variables simultaneously had a positive effect on Customer Satisfaction of PT Aetra Air Tangerang. Customer satisfaction has a very important role in improving the company's image, by increasing customer satisfaction, one of the company's goals in increasing customer trust can be achieved. In general, companies that want to apply the concept of customer satisfaction must have good quality products and services and excellent service, because many factors can affect customer satisfaction. Therefore, the research implication that companies can do through E-commerce and Digital payment in increasing customer satisfaction is that companies should not ignore the advances in digital technology that are developing in Indonesia today, companies must continue to upgrade and develop digital-based technology service applications that can make it easier for customers to conduct electronic transactions in searching for information on company products and services (Meilinda, Anjani and Ridwan, 2023).

## VI. CONCLUSIONS AND RECOMMENDATION

Based on the results of the t-test, it was found that there is a partial and significant influence of digital payment systems (X1) on sales effectiveness and efficiency (Y). This is evident from the calculated t-value of 8.012, which is greater than the tabulated t-value of 1.982 with a significance level of 0.000, indicating that this influence indeed has a substantial impact on sales effectiveness and efficiency. Partially and simultaneously this study shows that the variables of E-commerce and Digital payment have an effect on Customer Satisfaction of PT Aetra Air Tangerang, these results also answer the research objectives to determine the partial and simultaneous effects of E-commerce and Digital payment on Customer Satisfaction of PT Aetra Air Tangerang. The results of the conclusion on the research methods carried out in the study show the use of descriptive methods in analyzing the results of the questionnaire answers show that it is suspected that there are still respondents who have not answered objectively, while the conclusion of quantitative methods in the study shows the use of statistical analysis in answering the test results in accordance with the procedures and requirements in statistical analysis so that the results of this study are relevant to the results of research that has been done by previous researchers. However, the limited utilization of alternative research methods such as qualitative research methods in studies with similar research titles could pose challenges for other researchers in comparing their findings (Busetto, Wick, & Gumbinger, 2020). Therefore, it is hoped that future research endeavors will employ more accurate qualitative research methods. It is recommended to use larger samples to ensure more convincing results. This study only incorporates a few dependent variables; hence, future research is encouraged to include additional variables, particularly those related to customer satisfaction.

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