

COMPARATIVE ANALYSIS OF PROFITABILITY BEFORE AND AFTER USING E-COMMERCE

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Abstract: The dynamics of people's behavior in shopping are changing and increasingly diverse. Advances in technology encourage each business sector to innovate and adapt to changing needs. The world of buying and selling online or e-Commerce has changed the landscape of the offline retail business. Many of the retail companies turned to e-Commerce. Kawan Lama Retail Group that houses Ace Hardware, one of the large companies which are a pioneer and the most complete home and lifestyle equipment center, continues to innovate and increase the number of sales by providing the customer's needs with official e-Commerce Ruparupa.com. This study is to determine how significant the difference in profitability is caused by the application of e-Commerce. Based on the increase in profits, this research is associated with the company's profitability ratios including NPM, ROE, and ROA. Data testing conducted in this study is a comparative hypothesis test with statistic parametric (t-Test) and statistic nonparametric (Wilcoxon Test). The results of the statistical analysis of the comparative hypothesis test, the significance value of the difference in NPM, ROE, and ROA values are greater than 0.05. These results explain that the period before and after the implementation of e-Commerce showed no significant difference in profitability.

Keywords: E-Commerce, Profitability Ratio, Comparative Hypothesis Test

INTRODUCTION

The dynamics of people's behavior in shopping are now changing and increasingly diverse. The ease of access to information and the rapid development of technology play a role in creating a new phenomenon of how to shop that is more practical, fast, and safe. Advances in technology encourage each business sector to continue to innovate and adapt to changing needs very quickly. One of the roles of technology is information technology for electronic commerce, e-Commerce is a trading model that was born thanks to the advancement of the internet so that through this network, electronic transactions become an attractive choice for organizations and individuals (Kadir & Triwahyuni). The world of buying and selling online or e-Commerce has greatly changed the landscape of the offline retail business. Gradually, many of the retail companies turned to e-Commerce. Kawan Lama is the retail group that houses Ace Hardware, Informa, and Toys Kingdom retail. One of the big companies which

are a pioneer and the most complete home accessories and lifestyle center, namely PT. ACE Hardware Indonesia continues to innovate and continue to increase sales by providing the customer's needs. PT. ACE Hardware Indonesia, Tbk (AHI) has an innovation to continue to facilitate its customers by expanding its business to the e-Commerce sector through the ruparupa.com site (Ace Hardware Indonesia, 2016). The site is an exclusive channel for products belonging to three Kawan Lama Group retailers, namely ACE Hardware, Informa, and Toys Kingdom.

Annual Report Ace Hardware Indonesia (2016) the service provided by Ruparupa.com is a combination of offline stores and online store, that is, with STOPS system or store & pickups, customers can pick up products that they buy online at the desired store or offline stores, with the launch of Ruparupa.com, the presence this online commerce is expected to be a solution for people who want to shop for ACE Hardware Indonesia products, and other

Group products even though the brand is not yet present in their city, although in this sector customers are more satisfied if they choose directly at the offline stores but this innovation is enough to help customers who in this era prefer to shop online rather than having to come to the offline stores directly, it is included in one of the eight unique features that exist in e-Commerce theory namely Ubiquity which explains that e-Commerce is everywhere by using internet and web technology so can be accessed anywhere (Laudon, 2011).

Home products and lifestyles have become one of the types of household needs. The function of home products and lifestyles is very diverse because it is a necessity in all activities starting with household needs and other activities. The design also now appears more diverse and modern with certain materials that are stronger while appearing futuristic. The need for home products and lifestyles will never cease because it supports every activity, besides that home products and lifestyle are a necessity in beautifying the appearance of a room.

The high market demand makes PT. ACE Hardware Indonesia, Tbk to facilitate the customer's needs. Now PT. ACE Hardware Indonesia, Tbk not only focuses on sales in offline stores but adds online methods in sales activities. As explained by Sukmono & Hendratno (2017) explained that "the sales sector is one sector that receives positive benefits by increasing company sales after the application of information technology based on financial statement data published by the company". Data from the financial statements of the period after the adoption of e-Commerce showed an increase in terms of sales and net income of the company.

As explained in the AHI Annual Report, based on profits obtained by PT. ACE Hardware Indonesia, Tbk each year increases, so based on increased sales and profits at PT. ACE Hardware Indonesia, Tbk ratio related to financial

statement analysis in assessing financial performance is the profitability ratio. Profitability Ratios describe the ability of a company to make a profit through all capabilities, and existing sources (Harahap, 2015). This study emphasizes the comparison of profitability seen from Net Profit Margin (NPM), Return on Equity (ROE), and Return on Assets (ROA) before and after using e-Commerce. These three ratios are used to determine whether the use of e-Commerce can increase the net profit of PT. ACE Hardware Indonesia, Tbk, so it can be seen how much the total net sales generated through operational activities to generate net income can be seen from the value of NPM, how much total equity is decided by investors or owners to produce net income that can be seen from the value ROE, and how much the total assets decided by management to generate net income can be seen from the value of ROA. Based on what has been explained in the background regarding the phenomena and theories used in research, this research is entitled "Comparative Analysis of Profitability Before and After Using e-Commerce".

Research objectives at PT. ACE Hardware Indonesia, Tbk is:

1. To determine the level of comparison of Net Profit Margin (NPM) before and after using e-Commerce.
2. To determine the level of comparison of Return on Equity (ROE) before and after using e-Commerce.
3. To determine the level of comparison of Return on Assets (ROA) before and after using e-Commerce.

Purbo & Wahyudi (2001) electronic commerce describes a broad range of technologies, processes, and practices that can help in conducting business transactions without using paper as a means of transaction mechanisms that can be done via e-Mail, Electronic Data Interchange (EDI),

or the World Wide Web. With e-Commerce, operational costs can be reduced to compete and struggle with the increasing number of requests that require fast and accurate service.

Harahap (2015) financial statements are information media that summarize all matters related to company activities. Financial statements are very useful for the decision-making process, financial reports are usually obtained from the running process of the accounting system.

A profitability ratio is the ability of a company to make a profit through all available sources, sales, cash, assets, and capital (Harahap, 2015). Several types of profitability ratios can be formulated as follows.

It is the ratio used to measure net income after tax and then compared to net sales (Sujarweni, 2017).

Sujarweni (2017) ROE is a ratio used to measure the ability of own capital to generate income for all shareholders, both common stock and preferred stock.

The amount of net income generated from each fund that is embedded in total assets (Herry, 2016).

The analysis conducted in this study is a horizontal analysis that is the comparison of financial statements in two or several years to get a picture of changes over the last few years whether there is an increase or decrease (Harahap, 2015).

METHODS

This study has only one object of research that supports the phenomenon and research topic. Then the sampling technique used is total sampling or (census) where all members of the population are sampled all. So that the sample in this study is the same as the population, namely PT. ACE Hardware Indonesia, Tbk. This type of research is quantitative research. In getting the data needed in research, the data collection

strategy used is an archive strategy in which this study uses secondary data, namely PT. ACE Hardware Indonesia, Tbk. The quarterly period from 2012-2019. While the source of the data obtained is the official website of the company PT. ACE Hardware Indonesia, Tbk because the company is going public then annual financial statement data can be downloaded on the company's official website. As well as additional company performance data contained on the official website of the IDX.

Sugiyono (2017) descriptive statistics are statistics used to analyze a sample or study population but are not used to make broader conclusions (generalizations/inferences).

Before determining the hypothesis testing technique in research must know whether the data is normally distributed or not. One of the normality test methods that can be done is the Kolmogorov-Smirnov test (KS test). Normally distributed data is tested using parametric statistics and if the data are distributed abnormally, then parametric statistical techniques cannot be used for analytical tools but are tested using non-parametric statistical tests (Sugiyono, 2017).

Sugiyono (2017) comparative hypothesis testing is used to prove the same variable but the population or the sample is different or this situation occurs at different times, in this study the initial hypothesis is used that there are differences in the variables before and after using e-commerce.

RESULTS AND DISCUSSION

Descriptive Statistics

Descriptive statistics explain the ways of presenting data, group explanations through minimum, maximum, average and standard deviation resulting from research variables.

Table 1. Descriptive statistics

	N	Mean	D
NPM_before_ecommerce	14	0.1254	0,01
NPM_after_ecommerce	14	0.1354	
ROE_before_ecommerce	14	0.0652	-0,0003
ROE_after_ecommerce	14	0.0649	
ROA_before_ecommerce	14	0.0523	-0,0002
ROA_after_ecommerce	14	0.0521	
Valid N (listwise)	14		

Source: processed data (2020)

- There was an increase in the Net Profit Margin (NPM) after the application of e-Commerce by 1%.
- There was a decrease in Return on Equity (ROE) after the application of e-Commerce by 0.03%.

- There was a decrease in Return on Assets (ROA) after implementing e-Commerce by 0.02%.

Data Normality Test

One of the normality test methods that can be done is the Kolmogorov-Smirnov test (KS test).

Table 2. Data Normality Test

	Kolmogorov-Smirnov ^a		
	Statistic	Df	Sig.
NPM_before_ecommerce	0,203	14	0.187
NPM_after_ecommerce	0,149	14	0.172
ROE_before_ecommerce	0,139	14	0.058
ROE_after_ecommerce	0,127	14	.200*
ROA_before_ecommerce	0,144	14	0.041
ROA_after_ecommerce	0,127	14	0.105

Source: processed data (2020)

based on the table above then:

- The significance value of NPM is greater than 0.05, so the data are normally distributed.
- The significance value of ROE is greater than 0.05, so the data are normally distributed.
- The significance value of ROA before using e-Commerce is smaller than 0.05 and the significance value of ROA after using e-Commerce is greater than 0.05, so the data is abnormally distributed.

Comparative Hypothesis Test

Sugiyono (2017) comparative hypothesis testing divided into two tests namely parametric statistical tests for normally distributed data (t-test) and

non-parametric statistical tests if the data are distributed abnormally (Wilcoxon sign test).

The formula for hypothesis testing

is:

H0: There is no difference in NPM, ROE, and ROA between before and after the implementation of e-Commerce.

H1: There is a difference in NPM, ROE, and ROA between before and after the implementation of e-Commerce.

The testing criteria are:

H0: Is accepted if the significance \geq 0.05 and H0 is rejected if the significance $<$ 0.05

Table 3. Comparative Hypothesis Test (Paired Sample t-Test)

Paired Sample Test			
Paired Differences			
	Sig0, (2-tailed)		Sig0, (2-tailed)
NPM_before - NPM_after	0.418	ROE_before - ROE_after	0.953

Source: processed data (2020)

Table 4. Comparative Hypothesis Test (Wilcoxon Signed Rank Test)

ROA_after_ecommerce - ROA_before_ecommerce	
Z	-.031 ^b
Asymp. Sig. (2-tailed)	.975
a. Wilcoxon Signed Ranks Test	
b. Based on negative ranks.	

Source: processed data (2020)

Based on table 3 and 4, then:

- The significance value of NPM before and after is $0.418 > 0.05$, then the difference is not significant
- The significance value of ROE before and after is $0.953 > 0.05$, then the difference is not significant
- The significance value of ROA before and after is $0.975 > 0.05$, then the difference is not significant

These results indicate the difference is not significant in the value of Net Profit Margin (NPM), Return on Equity (ROE), and Return on Assets (ROA) between the period before and after the implementation of e-Commerce, or in other words the first hypothesis test shows H₀ is accepted and H₁ rejected.

CONCLUSION

In previous studies using the variable ROI while in this study using the variable ROA because it discusses the effectiveness of management in generating net profit on assets owned and also the object used is different from previous studies. The results of testing the data that has been done on the ratio of Net Profit Margin (NPM) between the period before and after the application of e-Commerce shows there is no significant difference in profitability, these results explain that operational activities in generating net sales have not shown significant differences.

Return on Equity (ROE) between the period before and after the implementation of e-Commerce shows that there is no significant difference in profitability, thus explaining that the ability to provide profits to the owner has not shown significant. Return on Assets (ROA) between the period before and after the implementation of e-Commerce shows that there is no significant difference in profitability, thus explaining that management's decision to use assets has not shown significant differences. Thus research related to NPM, ROE, and ROA with the application of e-Commerce does not show a significant difference.

REFERENCES

- Ace Hardware Indonesia. (2016). *Laporan Tahunan Annual Report. 2016*.
- Harahap, Sofyan Syafri. (2015). *Analisis Kritis atas Laporan Keuangan* (1st ed.). Jakarta: PT. Raja Grafindo Persada.
- Herry. (2016). *Analisis Laporan Keuangan*. Jakarta: PT Grasindo.
- Kadir, A., & Triwahyuni, T. C. (2003). *Pengenalan Teknologi Informasi* (2nd ed.). Yogyakarta: Andi.
- Laudon. (2011). *Management Information Systems (12th ed.)*. The United States of America: Prentice-Hall.

- Purbo, Onno Widodo & Wahyudi, Aang Arif. (2001). *Mengenal e-Commerce* (1st ed.). Jakarta: PT. Elex Media Komputindo.
- Sugiyono. (2017). *Metode Penelitian Kuantitatif Kualitatif dan R&D* (2nd ed.). Bandung: Alfabeta.
- Sujarweni, V. W. (2017). *Analisis Laporan Keuangan Teori, Aplikasi, dan Hasil Penelitian*. Yogyakarta: Pustaka Baru Press.
- Sukmono, C. U., & Hendratno. (2017). Analisis Perbandingan Profitabilitas Sebelum dan Sesudah Menggunakan Teknologi Informasi (Studi Kasus : PT . Mitra Adiperkasa, Tbk). *Sosiohumanitas*, Xx(1). Retrieved from <http://journal.unla.ac.id/index.php/sosiohumanitas/article/view/50>