Information Technology's Impact on Business Performance as Measured by TOBIN'SQ

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Abstract:- This study's major goal is to find out how information technology (IT) skills affect business performance and value. Various approaches to measuring company performance have been widely used in scientific studies. This shows a variety of thoughts about the company's performance; the company's performance is important to measure its value. This paper tries to re-explain Tobinsq as an indicator of company performance measurement. So that until now Tobins'q is still the main choice for researchers as an indicator of company performance measurement.

Keywords:- Company, Information Technology, Tobins'q.

I. INTRODUCTION

In this modern era, the development of information technology is growing rapidly. Various companies are trying to maximize the development of information technology as much as possible. Not even a few companies make information technology a competitive advantage for the company, [1]. Information systems include information technology, which is the term for the technology used to transmit and process information, [2]. This is evidenced by many companies using information technology to increase efficiency, improve customer relationships, save costs, and create new products and businesses. For the business world, Even though the business partner is in another country, the influence of information technology offers convenience and smoothness in carrying out interests. Utilizing free, always-available video conferencing or internet calls can help you get around this problem. As information technology becomes more advanced, the business sector is likewise impacted, leading to implementation of numerous information technology-based business strategies. Corporate strategies based on information technology are crucial to succeeding in business rivalry. The direction and scope of the company's information technology-based business plan will benefit it in the long run. [3]. These benefits can be through existing resources in a very supportive environment to meet market needs and meet the expectations of stakeholders or investors. Information technology is not just business support, it has become an integrated part of running the company's business. Businesses are prompted to add products and services by the increasingly competitive environment in order to retain and develop their consumer base. The corporation itself also raised its investment in capital and merchandise.

A. Pertaining IT Investments to q

As mentioned earlier, the majority of the literature on IT and company performance has focused on bearing on IT investments to accounting measures of firm overall performance [4], [5] A excellent exception is a study by [6] which hired a financial marketplace-based technique for comparing IT investments. the use of the event study method, the authors analyzed the effect of announcements of IT investments on a company's stock charges and determined that even as announcements of modern IT investments tended to definitely impact the market price of corporations, investments in noninnovative IT spending tended to have zero or terrible effect on stock fees. The study becomes important in establishing that capital markets have been responding to statistics about IT investments, and consequently offering some justification for the use of market-based measures for comparing IT investments. The only preceding try at using Tobin's q as an outcome degree is reported in [7], investing in information technology (IT spending) can deliver benefits and competitive advantages for the company [8]. IT spending is expected to provide a competitive advantage that can be expected because using IT spending can improve company performance and provide more benefits. The importance of information technology to information technology in business strategy has resulted in the importance of investing in news technology (IT Spending) to support business activities. The theory of capital expenditures is in the form of assets that can be claimed as investments. A central question, then, is: Why is the value created from IT investments better reflected in a measure such as the q? We summarize the arguments that can be made in support of this hypothesis in two basic categories: Both of these contributions—(a) to long-term firm performance and (b) to firm intangible value—are better represented by the q ratio. The effect of the origin of the investment is Profitability which is incorrectly reflected using stock prices. The stock price reflection has resulted in investors being able to convey an assessment of a company. A telecommunications company listed on impact exchanges across Southeast Asia is used in this study's reexamination of the original study's findings before using Tobin's Q to test the effect of IT spending on firm value.

B. Using Tobin's q to gauge business performance

Using Tobin's q to gauge a company's overall performance In order to estimate a company's future investments, James Tobin introduced the q ratio in 1969 [9]. Considering that the metric has been employed to explain a vast array of events. for instance, it's been used as: (a) an alternate measure of commercial enterprise performance [10], (b) a predictor of worthwhile investment opportunities [11], (c) a degree of the capitalized value of monopoly rents [12], (d) a degree of returns from diversification [13], (e) a hallmark of a company's intangible value [14], (d) a measure of emblem fairness [15] and, (g) a degree of the fee of technological property [16]. A degree in economics and the marketplace, the q has many alluring features. It is not always based only on the reliable empirical and theoretical underpinnings of efficient market hypothesis. [17], but also takes into account the expanding concerns regarding the limitations of accounting measures of overall performance [18], [19]. Market measures, which have a long history in the literature on corporate finance, are thought to have the following advantages: (a) stock prices are the only direct measure of stockholder cost; (b) inventory costs accurately reflect all elements of performance; (c) stock costs are not only reported objectively but also are readily available for publicly traded firms; and (d) stock costs can "see through" managers' attempts to control pronoun usage; Stock costs serve as a foundation for gauging how customers perceive the effects of managerial decisions, and they can be modified for inflation, market volatility, and a firm's market risk. [20]. The q ratio has been utilized by industrial firm economists and approach researchers to examine the effects of market power on performance, particularly when accounting measurements have been unable to identify any performance results. For instance, a business might use market dominance to reduce risk rather than increase rate-price margin. so in that case, Even while no discernible relationship between market energy and accounting quotes of return can be seen throughout that time, the firm's market worth may be higher. However, in keeping with the forward-looking character of the capital markets, the q ratio assesses market power from both the firm's current assets and potential for future growth. the relationship between a company's overall success and a variety of industry characteristics, such as industry concentration [21], capital depth, and law [15], and other firm-specific factors such as market share, corporate diversification [22], advertising, and research and development [16], [23] The application of the q ratio has also been tested. specially, Significant use has been made of the q ratio as a measure of a company's intangible value. The idea that a company's long-run equilibrium market fee must equal the replacement value of its assets, giving a q value close to cohesion, is the foundation for using q to measure intangible cost. Deviations from this dating (where q is significantly greater than "1") are considered to represent an unmeasured source of value, and are typically attributed to the intangible fee the firm receives. Research has taken advantage of the relationship between q and intangible costs to examine the effects of variables like R&D, advertising, and brand equity. [14], [15], [23] which are deemed to make a contribution to a company's intangible price.

II. THE RESEARCH METHOD

A. Population and Sample

The research subjects are all companies in Indonesia. Sampling was carried out using the "matched sample comparison group" method, where this method matched samples based on the same company size and type of industry, and compared the two samples. In this study, the sample compared is companies that have information technology capacity identified through the TOP IT & Telco Award winners with control companies that have similarities in terms of company size and type of industry.

In Indonesia, there is an event called TOP IT & TELCO Award which gives the highest and largest award in Indonesia to companies that are considered successful in terms of using IT & TELCO to improve performance, business competitiveness and services in Indonesia. This event was held from 2014 until now by Itech Magazine in collaboration with six TELCO IT associations and supported by the Indonesian Ministry of Communication and Information (Kominfo) and nine other institutions.

The steps used in identifying the research sample are as follows:
a) Identify companies that won TOP IT & TELCO awards in the TOP IT – Corporate Best Practice category from 2014 – 2016.
b) Identify TOP IT & TELCO winning companies in the TOP IT – Corporate Best Practice category from 2014 – 2016 which publish financial reports and share prices.
c) Identify control companies in the same type of industry and with sales levels ranging from 70%-130% with companies that have an information technology capability.

B. Research variable

➤ *Company performace*

The company is defined as the activity that is carried out to realize the organization's goals, objectives, mission, and vision. [24]. As explained earlier, in this study the company's performance was measured using data from Rita Rahayu, Silfia Riski, and Verni Juita accounting, in this case using the profitability ratio. The profitability ratios in question are Return On Assets (ROA) and Return On Sales (ROS).

C. Data and Data Collection Methods
a) Annual report (annual report). This annual report is obtained through access to the company's official website or the Indonesia Stock Exchange (IDX) website.
b) TOP IT & TELCO Press Release 11 This TOP IT & TELCO Press Release was obtained directly from the editor of Itech magazine. TOP IT & TELCO Award is an award event given to companies, government agencies, and TELCO IT vendors managed by Itech Magazine with six TELCO IT associations (ASPEKTI, IKTII, MASTEL, ATSI, and ABDI) and supported by the Ministry of Communication and Information (Komifo) and the Nine Institutes (Indonesian Research Council, LIPI, APTIKOM, ASPILUKI, AOSI, PANDI, IDTUG, AITI, and Indo Globit).

III. RESULTS AND DISCUSSIONS

❖ *Descriptive statistics*

The following presents the average company performance as measured using ROA and ROS for each sample group. As previously explained, the number of companies for each sample group is 23 companies. The company's average performance consists of:

➢ *Sample Group*

Companies with superior IT capabilities have:

a). Average ROA = 0.403

b). Average ROS = 0.176

The control company has:

a). Average ROA = 0.430

b). Average ROS = 0.196

From the explanation above, it can be seen that the average (mean) ROA of companies with superior IT capabilities is 0.403 and this number is 12 less than the ROA of control companies (which is 0.430). This shows that the ROA of companies with superior IT capabilities is lower than the ROA of control companies. The same thing is also seen in the average ROS, which shows that the average ROS of companies with superior IT capabilities is 0.176 and the average ROS of control companies is 0.196. This shows that the ROS of companies with superior IT capabilities is lower than the ROS of control companies. This result is certainly quite surprising because, in theory, companies with superior IT capabilities should have higher performance than companies that do not have high IT capabilities.

➢ *Hypothesis Testing*

To conclude the average company performance and the average company in the group with lower or higher IT capabilities than the control group. it can be seen that the ROS data is homogeneous as seen from the Levene's Test value where $0.265 > 0.05$ so that there is no difference in variance in the ROS of the leader company and the control company. Furthermore, it is known that the significance value (2-tailed) is $0.621 > 0.05$, indicating that there is no difference in ROS between companies with superior information technology capabilities and control companies. This shows that the performance of companies that have superior information technology capabilities is no different from the company's control.

IV. CONCLUSION

The statements "Information technology is part of information systems" and "Information technology refers to the technology used in conveying and processing information" are examples of statements that can be made. For the business world, the influence of information technology provides convenience and smoothness in carrying out interests even though the business partner is in another country. Information technology-based business strategies are very important to winning the business competition. Not even a few companies make information technology a competitive advantage for the company. Mesuaring company overall performance using Tobin's Q.

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