THE IMPACT OF KNOWLEDGE MANAGEMENT, TECHNOLOGY READINESS AND EXTERNAL ENVIRONMENT ON THE EXTENT OF e-BUSINESS ADOPTION

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***Abstract:** In a competitive environment, the company is required to follow the strategies of its competitors. In order for information about competitors to be obtained quickly and then disseminated throughout the organization, the implementation of e-business needs to be done to support the creation of competitive advantage. The formulation of the problem in this study are as follows: (1). Is there any effect of knowledge management capability on e-business adoption in Medium-sized Enterprises in East Java? (2). Is there any effect of technology readiness on e-business adoption in Medium-sized Enterprises in East Java? (3). Is there an influence of the environmental context on e-business adoption in Medium-sized Enterprises in East Java? The design in this study is quantitative research. The design of quantitative research is done through the distribution of questionnaires to certain respondents according to the specified criteria. The quantitative research design used is causal research which is explanatory research. Causal research is research that aims to test the research hypotheses that are determined based on literature to answer the research problem formulation. The test results of the influence of the implementation of management practices on the performance of the company indicate that: (1). Simultaneously, shows that knowledge management technology readiness and environmental context have a significant influence on e-business adoption. (2). Partially, it can be concluded that variable knowledge, variable technology readiness and environmental variables have a significant influence on e-business adoption. Based on this research, it can then be carried out further on the exploration of the types of e commerce used by MSME actors, and focusing on Small and Medium Enterprises (SMEs) who have adopted E Commerce in more complex forms.*

***Key words:** Knowledge Management, technology readiness, environment context, and e-business.*

1. INTRODUCTION:
1.1. Background of the Study

Current technological developments are very rapid in various parts of the world, including in Indonesia. This development was also supported by the growing use of mobile phones and the internet so that communication exchanges became increasingly fast and affordable for all groups. This is what caused the industry to develop more rapidly and resulted in competition getting tighter. The development of the internet causes consumers to obtain data and developments that exist throughout the world easily, quickly, and real time. In addition, with the growth of internet users, it further increases people's desire to utilize existing technology to transact.

The impact of the high number of internet usage in Indonesia is the increasing number of sellers and buyers who make transactions with internet media. This also causes, online shopping to be a new business development where consumers can get the desired product through the internet and so sellers can reach buyers through internet access (Al Somali, et al., 2015). This was then used by many companies to be involved in e-business by utilizing technology. Thus, companies as organizations must be able to create competitive advantages by using existing information systems and technologies such as creating ways to shop online (Abu-Musa, 2004).

Some studies try to uncover the use of technology in the business world. One of them that is often used in the world of marketing is technology acceptance models (Davis, et al., 2014) and diffusion of innovation (Rogers, 2003). Both theories generally explain how consumers can adapt to technology so that marketing strategies can be determined appropriately through the use of technology. However, there are still few studies that seek to see technological adaptation from the business side. This means that technological adaptation is not only seen from the marketing aspect, but also from the strategic aspect. Wheeler (2002), formulates that information technology is a very valuable resource that can be utilized by business people to create sustainable value for the company. At present it seems that technology has become one of the requirements for companies to be able to maintain their continued existence in increasingly fierce competition. External factors, namely the rapid development of information technology, are the driving force for companies to have technology as a resource that must be developed. The development of information technology not only facilitates the

process of selling goods, but also in the company's internal business processes. Thus, information technology is indeed a resource that can be utilized by companies to improve their business capabilities so they can achieve competitive advantage for companies. This is in accordance with the theory of Resource Based View (Barney, 1991).

Although Wheeler (2002) states that companies can use information technology to create value for the company. However, the empirical fact is that there are still many companies or businesses that fail in carrying out information technology strategies and e-business utilization. This means that not all utilization of information technology and e-business can run well, of course there are other factors that influence the implementation, which in turn has an impact on e-business performance of the company. That is the main research gap in this research. This study wants to look for factors that can affect the overall performance of e-business, so that later can be used by startup companies and established companies in improving the performance of e-business owned.

According to Daghfous and Al-Nahas (2006), companies must have resources, namely the advantages of information technology before implementing e-business. However, it turns out that having adequate information technology is not enough to determine the success of e-business from the company, companies also need good knowledge management. According to Nonaka and Takeuchi (1995), Japanese companies became successful because of their expertise in creating organization knowledge, spreading it to all organizations, and making it happen in products, services, and systems. Knowledge is a new competitive resource, and its creation and utilization is a dynamic and interactive process.

Successful companies are companies that have competitive advantages, because now competition is getting tougher and the threat of newcomers is increasing (Ellitan, 2017a). Therefore, companies need to better understand the competitive environment and develop strategies that create sustainable competitive advantages (Kraja and Osmani, 2015). According to Ellitan (2017b), in a competitive environment, the company is required to follow the strategies of its competitors. In order for information about competitors to be obtained quickly and then disseminated throughout the organization, the implementation of e-business needs to be done to support the creation of competitive advantage.

As one of the provinces in Indonesia, East Java is a province that has a significant role in the national economy, where 14.67% of Indonesia's Gross Domestic Product is a contribution from the East Java Gross Domestic Product (https://www.wartaekonomi.co. id). Moreover, the city of Surabaya is a big city which is one of the references for the online business trend in Indonesia. The online business growth trend should be utilized by business people, especially medium-sized businesses in East Java to be able to improve their performance. Therefore, this study seeks to uncover the factors that influence the e-business performance of Medium Enterprises in East Java.

1.2. Research purposes
Based on the background of the problem, the purpose of this study is to test and analyze the influence of:
- Knowledge management capability for e-business adoption in Medium-sized Enterprises in East Java.
- Technology readiness towards e-business adoption in Medium-sized Enterprises in East Java.
- Environmental context for e-business adoption in Medium-sized Enterprises in East Java.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT:
2.1. Relationship between knowledge management capability and e-business adoption
Grant's research (1996) states that companies must consider organizational capabilities through knowledge management in terms of developing technological innovations. Efficient knowledge management processes, such as knowledge acquisition, application, and sharing are very important for the adoption of new technologies. Moodley (2003) states that the implementation of e-business systems is not only a matter of e-commerce applications, but also driven by knowledge management.

The results of the research by Lin and Lee (2005) show that the knowledge management dimension, such as knowledge level, knowledge acquisition, and knowledge application has a positive and significant effect on the e-business adoption system. This is supported by several studies that state that knowledge management has a positive and significant effect on e-business adoption Moodley (2003). Tsironis and Psychogios (2012) research found that knowledge management is one of the critical success factors in e-business implementation. However, the results of Lin's (2013) study show that not all knowledge management dimensions have an effect on e-business adoption, namely only knowledge dissemination influences all stages of e-business adoption. Based on the review of the theory, hypothesis 1 is formulated, namely:

H1: knowledge management refeent capability has a significant effect on e-business adoption.

2.2. Relationship between technology readiness and e-business adoption
According to Zhu et al. (2003), the success of e-business adoption can occur if companies have adequate technology infrastructure. Research by Salwani et al. (2009) prove that technology competence influences e-commerce

adoption. Chatzoglou and Chatzoudes (2016) research proves that IT infrastructure has a significant effect on e-business adoption, where IT infrastructure is a part of technology readiness. The results of the Al-Somali study (2015) prove that information technology readiness has a significant effect on e-business adoption. Several studies have shown that technology readiness is an important factor in terms of e-business decision adoption (Zhu et al., 2003). Several other studies also prove that technology readiness has a significant effect on e-business adoption (Mishra and Agarwal, 2010). Based on the review of the theory, hypothesis 2 is formulated, namely:

H2: technology readiness has a significant effect on e-business adoption.

2.3. Relationship of environmental context with e-business adoption

According to Salwani et al. (2009), when in a competitive environment, the company is required to follow the strategies carried out by its competitors. This is what makes the popularity of e-business adoption increasingly. The Al-Somali et al. (2015) shows that only regulatory and legal environment variables that represent environment context have a significant effect on each e-business adoption stage, while competitive pressure has no significant effect on e-business adoption. However, this result is different from Permana dkk et al. (2017) which states that pressure intensity has a significant effect on e-commerce adoption. Support for significant competitive pressure on e-business adoption was also shown by several studies (Oliveira and Martins, 2010). Based on a review of the theory, hypothesis 3 is formulated, namely:

H3: environmental context has a significant effect on e-business adoption.

3. RESEARCH METHODS:
3.1. Conceptual Framework

This study explains the effect of knowledge management, technology readiness, environment context, on e-business adoption and. According to Grant (1995), knowledge is something that can not only be obtained by an individual, but can also be obtained collectively. Some studies that state that knowledge management has a positive and significant effect on e-business adoption (Cegarra-Navarro and Martinez-Conesa, 2007). According to Zhu et al. (2003), the success of e-business adoption can occur if companies have adequate technology infrastructure. Research by Salwani et al. (2009) prove that technology competence influences e-commerce adoption. According to Zhu et al. (2003), when in a competitive environment, the company is required to follow the strategies carried out by its competitors. This is what makes the popularity of e-business adoption increasingly. The Al-Somali et al. (2015) shows that only regulatory and legal environment variables that represent environment context have a significant effect on each e-business adoption stage, while competitive pressure has no significant effect on e-business adoption. The variables in this study are classified into independent variables and dependent variables. Independent variables consist of knowledge management, technology readiness, environment context while the dependent variable consists of e-business adoption

3.2. Research design

The design in this study is quantitative research. The design of quantitative research is done through the distribution of questionnaires to certain respondents according to the specified criteria. The quantitative research design used is causal research which is explanatory research. Causal research is research that aims to test the research hypotheses that are determined based on literature to answer the research problem formulation.

3.3. Population and Samples

According to Sekarang (2006), the population is the overall symptom or unit to be studied, and the population refers to the whole group of people, events, or things of interest that researchers want to investigate. The population used in this study is a manufacturing company that belongs to the category of Medium Enterprises that implement e-business in Indonesia.

3.4. Sample Size and Sampling Technique

According to Sekaran (2006), the sample is a portion of the population. The sampling technique used in this study is probability sampling, with reasons for generalization. This study uses a questionnaire as the main tool in data collection. The researcher used a purposive sampling technique, where researchers chose samples based on an assessment of some characteristics of the sample members that were adjusted to the research objectives. According to Ferdinand (2002) some guidelines for determining sample size are as follows:1. 100-200 samples for maximum Likehood Estimation; 2. Depends on the number of parameters estimated. The guidelines are 5-10 times the number of parameters estimated; 3. Depends on the number of indicators used in all latent variables. The number of samples is an indicator multiplied by 5 to 10.

3.5. Operational Definition and Data Analysis

In this study, there are four variables that will be examined, namely: knowledge management, technology readiness, environment context, and e-business adoption. The operational definitions for each variable are as follows: Knowledge Management According to Lin (2013), knowledge management is the process by which organizations create, capture, acquire and use knowledge to support and improve organizational performance. Technology Readiness According to Zhu et al. (2006), technology readiness is technology infrastructure and IT human resources. Environment Context According to Porter (1979), environment context is the external environment of an organization including competitors, customers and suppliers. E-Business Adoption According to Hafeez et al. (2006), e-business adoption is the readiness of companies to have appropriate attitudes, expertise, knowledge and technology to facilitate e-business processes.

The testing of research instruments carried out is testing unidimensionality and reliability. According to Ferdinand (2002), unidimensionality is an assumption used in calculating reliability from a model which shows that in a one-dimensional model, the indicators used have a good degree of conformity. Data will be analyzed by multiple linear regression.

4. RESEARCH FINDINGS:

4.1. Response Rate

A total of 200 questionnaires were sent to manufacturing and service companies in Bandung, Medan, Surabaya, Gersik, Subang, Sidoarjo and Kediri. Of the 200 questionnaires that were sent via e-mail to Contact Person, 6 companies were not willing to participate, the researcher also sent an e-mail follow-up after 2 weeks the questionnaire was sent.

Tabel 1   Response Rate

Total questionnaires sent	200
The company refused to participate	6
Total questionnaires returned and can be processed	34
The return rate is based on a processed questionnaire	34/200 x 100% = 17,00 %

4.2. Validity and Reliability Test

Testing the validity and reliability of the instrument is still carried out even though the instrument used was adopted and modified from various existing literature. Instruments are considered to have high reliability if the Chronbach's Alpha value is higher than 0.6 (Nunnaly, 1978). In addition, additional testing was also carried out by looking at instrument reliability instruments by calculating the efficiency of homegeneity. The homogeneity coefficient is the correlation between individual items with the total score of all items. If the correlation between individual items with total scores is not significant then the item is invalid.

The results of testing the reliability and validity of the instruments are presented in Table 10. The results of this study indicate that instrument reliability is quite high. Cronbach'a alpha for all instruments to measure each variable ranged from .7188– 0.9110. Judging from the homogeneity coefficient the items are significant questions at alpha .01 and .05, This shows that the items - questions used in this study are reliable and valid.

Tabel 2   Chronbach Alpha and Items Homogenity

Variable	Total items	Item Excluded	Cronbach Alpha	Item Homogenitas
Knowledge Management	3	0	.7933	0.525 – 0.762
Technology Readiness	3	0	.7892	0.595 – 0.720
Environmental Context	3	0	.7188	0.674 – 0.801
Internet Business Adoption	5	0	.9110	0.526 - 0.806

4.3. Statistic Descriptive

Knowledge management variables measured from 3 indicators, namely: (1). The company has a process of gaining knowledge about new products or services (a mean of 3.3121, and SD. 94574). (2). The company has a process to spread knowledge across the entire organization (mean 3.1264, and SD 1.06727), the lowest average value with the highest variation of respondents' answers. (3). The company uses knowledge to solve new problems (a mean of 3.8221, and SD. 83546), with the highest average value with the lowest variation of respondents' answers. The average knowledge management variable is 3.4202 rated at moderate level. These findings indicate that the level of knowledge management by SMEs is still at a moderate level.

The average readiness of technology variables or the readiness of technology in implementing e-business measured from 3 indicators, namely: (1). The company provides a viable information technology infrastructure. (mean of 3.1677, and SD 1.04458), the lowest average value with the highest variation of respondents' answers. (2). The company helps consumers find products online. (mean of 3.6862 and SD. 88124) with the highest average value with the lowest variation of respondents' answers. (3). The company uses the latest technology to achieve business goals (a mean of 3.5666, and SD .88572). The average technology readiness variable is 3.4735 rated at moderate level. These findings indicate that the level of technological readiness in implementing e-business by SMEs is still at a moderate level.

The mean value of the context context environment level of competition faced by SMEs from 3 indocators, namely: (1). The company experienced competition pressure which forced the company to implement e-business (mean of 3.2308, and SD 1.11347), the lowest average value with the highest variation of respondents' answers. (2). New technology is rapidly being used in the company industry, (a mean of 4.2308 and SD. 89914) with the highest average value with the lowest variation of respondents' answers. (3). Competitors have strength in terms of information technology (a mean of 3.4038, and SD .99528). The average variable level of SMEs business competition is 3.6218 which is valued at a high enough level. This finding shows that the level of competition in implementing e-business by SMEs is already quite high.

The average e-business adoption variable by SMEs from 5 indocators, namely: (1). The company develops its own website, but only provides basic information about the company. (mean of 3.9808, and SD 1.32740), the lowest average value with the highest variation of respondents' answers. (2). The company developed a website with an intranet where the website can help internal business processes, (mean of 4.2308 and SD. 89914) (3). The company develops business to business e-commerce and business to customer e-commerce that connects employees, suppliers and consumers to enable them to make transactions online. (mean of 4.4038, and SD 1.01868). (4). The company integrates ERP and SCM systems that have advanced features to support business strategies (mean of 4.4615 and SD of 1.01868) (5). The business strategy of the company has completely transformed into e-business that focuses on developing new businesses (mean of 4.4808 and SD of .87426) with the highest average value with the lowest variation of respondents' answers. The average variable level of SME business competition is is 4,3115 rated at a relatively high level. This finding shows that the level of e-business implementation by SMEs is relatively high.

4.4. Hypothesis testing

Hypothesis testing is done by using multiple regression to see the effect of Knowledge Management, Technology Readyness and Environmental Context on e-business adoption seen from the influence partially or simultaneously. If the regression coefficient is significant at $p < 0.05$, it means that the independent variable has a significant influence on the dependent variable. Regression coefficients indicate the accuracy of the regression line and measure the ability of the model in explaining variations in the dependent variable. The greater R^2 the better the model is in explaining the variation of the dependent variable. The test results are presented in Table 13.

The results of testing the first hypothesis which states that Knowledge Management has an effect on e-business adoption shows that the hypothesis is accepted. This shows that partial testing has a 5 percent significance level. These findings indicate that companies have a process of gaining knowledge about new products or services, companies that have a process of disseminating information on knowledge and companies that use knowledge to solve proactive problems having a tendency to address information technology and e-business. Business competition that is getting tighter from time to time encourages businesses to obtain data and information infiltration to be better able to compete in the market. Companies are required to expand their knowledge of their respective business capabilities. In this case knowledge management will be a strong focus in all aspects of the business. E-business is expected to be able to provide convenience in providing youth to transfer knowledge both internally and externally. Furthermore knowledge management will continue to create new knowledge and encourage business people to implement e-business (Ho and Kuo, 2013).

Based on the results of data analysis in Table 3, it was also found that technological readiness factors had a positive effect on e-business adoption. This is seen from t with a significance number of 0.011 smaller than 0.05. This means that if the technology readiness factor increases, e-commerce adoption will increase. Can be explained in this case, costs become one of the factors that influence MSMEs in Indonesia in adopting e commerce. Usually the cheaper the cost of technology used, the faster it will be adopted and implemented in an organization in Rahayu & Day, 2015. Technological factors consist of several indicators, such as perceived benefits, suitability, and costs that affect the adoption of e commerce technology. The better understanding of managerial parties regarding the benefits of adopting e commerce will make the company allocate several resources, such as managerial, financial and technological resources. Conformity is the extent to which e commerce is in accordance with the existing technological, cultural, value and work practices of the company (Rahayu & Day, 2015). An innovation will be easy to accept by an organization if

it is in accordance with the prevailing values in the organization, can understand the needs and according to the organizational culture, as well as the level of technological readiness by the organization.

Based on Table 3 the results show that environmental factors have a positive effect on e commerce adoption, where t count <t table of significance numbers 0.003 or significant at the level of 1 percent. This means that if environmental factors increase, e-commerce adoption will increase. The results of this study are in line with the results of research conducted by Rahayu and Day (2015), where environmental influences have a positive and insignificant effect on e-commerce adoption. This indicates that pressure from customers / suppliers, pressure from competitors and encouragement from external parties is not considered as a factor that influences them in adopting e commerce. A very possible explanation for this condition is that consumers in Indonesia, especially Semarang are "online shopper with conventional behavior, which means consumers only visit stores online to see the products offered, but if they are interested, they will directly transact well through telephone, social media and direct face to face. Mentoring support and training facilitation from the government and from business partners is not a guarantee that SMEs will adopt e commerce.

Table 3 Regression Analysis

Dep Var	Para meter	B	SE	t	Sig	F	Sig	R2
E Business Adoption	Knowledge Management	.617	.285	2.161	.037	3.430	.002[a]	485
	Technology Readiness	1.015	.379	-2.677	.011			
	Environmental contex	.830	.267	3.106	.003			

5. CONCLUSION:

The results of testing the influence of the implementation of management practices on the performance of the company indicate that: 1. Simultaneously, shows that knowledge management technology readiness and envirimnetal context have a significant influence on e-business adoption. 2. It can be concluded partially that: a. Knowledge management variables have a significant influence on e-business adoption b. The technology readiness variable has a significant influence on e-business adoption. C. Environmental variables have a significant influence on e-business adoption. Based on this research, it can then be carried out further on the exploration of the types of e commerce used by SME actors, and focusing on Small and Medium Enterprises (SMEs) who have adopted E Commerce more in more complex forms. SMEs that have adopted E-Commerce in their business activities should be able to use the website and can routinely update the website to be able to continue to interact with consumers and to convince consumers that these MSMEs really exist so they can expand their business. Carry out socialization, training, and more thoroughly on matters relating to E Commerce activities. SMEs are advised to have access to information on training and seminars related to E-Committees held by various parties so that SMEs can maximize performance through E Commerce.

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