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Local Culture and the Role of Social Norms in Determining Adoption of Information Technology in SMEs Batik in Indonesia

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Abstract

Batik has been recognized by UNESCO as a world cultural heritage from Indonesia . However , the performance of the industry is likely to decline . In the last four years , the value of production and employment in the industry fell respectively 7.38% and 2.56 % . One of the main problems why this industry is less able to develop the low level of adoption of information technology by businesses (SME) in this industry . This study aims to explain the determinants that determine batik SMEs in adopting information technology . The research was conducted on batik SMEs in Surakarta , Sragen , Klaten and Yogyakarta involving 40 SMEs as respondents . This study used structural equation model and Partial Least Squares estimation (PLS) to develope models of integration TAM - TPB to explain the rate of adoption of information technology in SMEs batik . The research data has very high validity and reliability . This study has found that batik SMEs will adopt information technology is determined by perceived usefulness , perceived ease of use, attitude, subjective norms, and the local culture. Internal variables are determined by perceived behavioral control, technological innovativeness, relevance, task familiarity , social norms, moral norms, knowledge of search domain, self -efficacy, accessibility, and performance risk. Suggestions from this study is that SMEs batik is still less adopt information technology in the production process , management , and marketing SMEs can maintain local cultural values and social norms believed .

***Keywords** : Batik's Small and Medium Enterprise –technology acceptance – planned behavior – local culture*

1. INTRODUCTION

Batik industry is one of the main economic activities in the corridor of Java , especially Yogyakarta - Surakarta corridor . According to the Ministry of Industry (2012) , the number of businesses in this sector as much as 48,300 , and form the majority of Small and Medium Enterprises (SMEs) . The results of the analysis of Bank Indonesia (2012) showed that in the last five years the industry 's performance tends to decrease . If in 2007 , the production value is reached Rp 3.2 trillion and absorb 800,000 workers , then in 2011 the production value of Rp 2.98 trillion stay and just absorb 780,000 workers . National batik industry tends to decrease one of which is caused by the presence of new competitors , namely batik from China (Bank Indonesia , 2012; Ngatindriatun and Ikasari , 2011) . Batik from China entered the domestic market since the ACFTA agreement

enforced , and can instantly seize the domestic market (Aldida and Santosa , 2013) . China is able to sell batik at a low price , because the batik industry in China is able to operate efficiently through the use of information technology (Low et al . , 2011; Chau , 2001; Hidayat , 2012) . Meanwhile , domestic batik SMEs have not been able to operate efficiently and marginal for the management / business management and marketing is still the traditional way , and not adopting information technology (Sabandi , testifying , and Sohidin , 2011; Susilo , 2009) . On the other hand , theoretical and empirical showed that the use of technology in SMEs has been shown to improve performance , improved planning , business management (Hossain and Quaddus , 2011) , ease of transaction activity (DYT and Halabi , 2007) , and lower transaction costs (Ramdani and Kawalek , 2007; Kleijnen et al . 2004) . The use of information technology also improves network marketing internationally (Ndubisi and Males , 2003) . Accordingly, this study aims to identify the determinants that affect the adoption of technology by SMEs batik in Surakarta - Yogyakarta corridor .

2. LITERATUR REVIEW AND HYPOTHESIS

Technology adoption is a process consisting of a technical innovation of new organizational practices for the procurement of equipment, product creation, implementation of processes, policies, and projects (Weng and Lin, 2011). Several studies have tried to formulate the critical success factors of technology adoption in SMEs. Lin and Ho in Weng and Lin (2011), found that the adoption of technology in the enterprise is influenced by three factors. First, the cost factors include the relative costs and benefits. Second, technological factors include relative advantage, compatibility, and complexity of the technology. Third, the organizational factors include organizational support, human resources, and the size of the company. Factors Fourth, the environmental factors that include stakeholder pressure, government support, and environmental uncertainty.

Technology factor

Weng and Lin (2011) , explains that the technological characteristics of an innovation will influence the technology adoption process . Karakeristik technology in question include the complexity , compatibility , relative advantage , ease of use , perceived usefulness , and intensity information . Perceived characteristics of a technological innovation is considered as cognitive beliefs that are reflected in the organization's attitude towards innovation . Based on the proposed model Lin and Ho , (2011) ; Weng and Lin (2011) , conducted a study that focuses on the complexity , compatibility and relative advantage because these three characteristics have consistently been found to influence the adoption behavior is more significant than other characteristics (Lin and Ho , 2011 ; Rogers , 2003 ; Sia et al . , 2004 ; Tornatzky and Klein , 1982) .

complexity

Complexity is defined as the extent to which a technology is considered relatively difficult to learn and use . The high complexity of a technology will increase the difficulty in the transfer of knowledge and technology diffusion to SMEs . The complexity of the technology can lead a person into a negative attitude towards the technology . Thong (1999) reported that the perceived complexity of information systems is one of the factors inhibiting SMEs in adopting information technology . Weng and Lin (2011) , found that the perception of the complexity of the technological innovation is negatively related to the adoption of technology by SMEs . This is because that a technology that has a high level of complexity that will require great effort and a long time to learn it .

Compatibility

Compatibility is defined as the degree to which an innovation is considered consistent with the existing values , experiences and needs of the company (Rogers in Weng and Lin , 2011) . SMEs will tend to use a system if the system is in accordance with the needs of the job . The suitability of a new technology with the characteristics of the company , the company's technical knowledge , and the needs of the company is a very important consideration in the adoption

of technology . Research conducted by Weng and Lin (2011) , found that the perception of compatibility is positively related to the adoption of technology by SMEs . That's because to reduce objections to the diffusion of new technologies , SMEs are more likely to choose to adopt technologies that are compatible with the operational knowledge possessed by the SMEs . Studies conducted by Thong (1999) on SMEs suggests that the information system is compatible with existing work practices in SMEs , the SMEs will tend to adopt the technology . Studies conducted Zhu , Dong , Xu and Kraemer (2006) after the company reported that the compatibility of technology adoption is the strongest predictor of the use of e -business . Crespo and Rodrigues (2008) also showed significant if compatibility is positively related to the attitude of using technology .

Organizational factors

Several studies have found that organizational characteristics influence on technology adoption . Kimberly and Evanisko ; Tornatzky and Fleischer in Weng and Lin (2011) , states that an organization characteristic variables that affect the adoption of technology in organizations , among others, the quality of human resources , skills and top management leadership , organizational support , an Organization culture , and organizational size on innovation technical . Weng and Lin (2011) , conducted a study that focused on the influence of the quality of human resources , organizational support , and company size on technology adoption of SMEs . Weng and Lin (2011) , found that the human resources in SMEs affect the successful adoption of the technology , since technology adoption is a series of complex knowledge transfer process , thus requiring individuals kompoeten and able to learn . It is therefore concluded that the SMEs that have the human resources of good quality will be faster and more ready to adopt the technology .

Quality of Human Resources

Research Weng and Lin (2011) with four HR indicators , namely the sharing of knowledge among employees , can easily learn new technologies , can easily use new technology to solve the problem and may provide new ideas for the company indicates that the quality of human resources has a positive influence against pengapdosian green innovations . Employees with competent learning ability will tend to increase their absorptive capacity through training programs that promote the adoption of a technology . An organization concerned about the new ideas will affect the propensity to adopt new technologies . Therefore , companies that have qualified human resources that will both tend to adopt new technologies . Tayor and Owusu (2012) reported that the lack of qualified staff inhibits two Gana export handicraft SMEs to adopt the technology . Thong (1999) also stated that greatly affect employee knowledge SME SMEs themselves to adopt information systems .

Top Management Support

In addition to the human resources of SMEs , organizational management support is crucial to technology adoption . Support organization is the extent to which the company helps employees use a particular technology or system . For the development of environmental management , organizational support is very important because employees will be motivated to carry out the activities and resources necessary to adopt technological innovations will be more readily available . In addition , top management plays a vital role in supporting the organization . Many innovations require the cooperation and coordination of different departments and divisions during the process of technology adoption . To ensure the successful adoption , adoption initiatives supported and driven from top management . It can be concluded that the effect of organizational support on technology adoption of SMEs (Weng and Lin, 2011).

Organizational readiness

Organizational readiness , refers to the extent to which an organization has the infrastructure , financial resources , and have

knowledge of the information technology necessary to adopt a technology . Many studies have shown that a lack of expertise and lack of IT knowledge is a major obstacle in the field of IT adoption . Thong (1999) and Jeon , Han and Lee (2006) argues that for the successful adoption of e - business , SMEs need managers or owners of SMEs who are knowledgeable about IT . Jun and Cai (2003) in a study of small manufacturing firms in the U.S. , revealed that the barriers to adopt due to the lack of knowledge in understanding IT . Furthermore , a study conducted by Tayor and Owusu (2012) on two small exporting handicraft SMEs in Gana reported that the lack of infrastructure and the high cost of internet technology inhibits the SMEs to mengadosi Internet and e - commerce . Both companies stated that they would like to use e - commerce to their export activities but because of the high cost and scarcity of some telecom infrastructure makes both frustrating SMEs to adopt Internet and e – commerce. .

Perceptions Costs

The perception of the cost was found to be an important factor in information technology adoption decisions . Cost is considered as one of the barriers to adopting information technology for small and medium businesses , as minimya financial resources . Seyal and Rahim (2006) suggested that the cost of technology adoption which includes high maintenance costs , operating costs and will reduce the cost of expensive training SMEs intention to use EDI . Chwelos , Benbasat and Dexter (2000) also reported that one of intent for IT mengadosi , determined by the financial resources of the company , the greater the financial , the greater the company's intention to adopt .

Relative advantage

Relative advantage is defined as the perception that innovation is more profitable than the idea of a replacement . Benefits or perceived benefits can be measured in terms of economic and social , such as comfort and satisfaction of SMEs to the new technology . Companies are more likely to adopt technology that can deliver better performance and higher economic returns compared with other technologies . Relative advantage is positively related to the adoption of innovations (Rogers , 2003; Tornatzky and Klein , 1982) . The same was found by Weng and Lin (2011) , that the SMEs will adopt technological innovation if the new technology is able to offer and deliver economic and social benefits are higher than other technologies .
In the course of SME , Gemino , Mackay and Reich (2006) also discusses the perception of the advantages of information technology adoption . His study reported that the use of EDI produce strategic benefits and information . Strategic benefits that can improve the competitiveness or create strategic advantage , catch up with competitors , helping to build beneficial relationships with other organizations , improving customer relationships and can respond more quickly to changes . While the benefits of information that can access information more easily , improving management information for strategic planning , improving information for management control , improving the accuracy or reliability of the information , present information in a more concise manner or better format , retrieval and delivery of information or reports more quickly , increasing the volume of information output , increasing the flexibility of information requests .
Seyal and Rahim (2006) also reported that the adoption of information technologies provide direct and indirect benefits . Chwelos , Benbasat and Dexter (2000) also found that the direct benefits in the form of operational cost savings and other internal efficiencies arising from , for example , reducing paperwork , reducing data re-entry , and the error rate is reduced and does not directly affect the intention to adopt EDI . Similarly , indirect benefits are the opportunities that arise from the use of EDI , such as improved customer service and the potential for re-engineering process . Thong (1999) also reported that the relative advantage gained from the use of information technology enables SMEs to adopt information technology . Studies conducted Zhu , Dong , Xu and Kraemer (2006) after the adoption of the company's e -business report that the use

of e - business impact on improving coordination with suppliers , decreased procurement costs , inventory costs decrease , more efficient internal processes , increase employee productivity , decreased operating costs , increase sales , sales area widened , and can improve the service to customers .

External Environmental Factors SMEs

The external environment in which the company does business is an important factor that affects the behavior of innovative and green . Environmental variables such as environmental uncertainty , the government support , the type of industry , competition and network connections shown to affect the adoption of technology in the enterprise (Jeyaraj et al . , 2006; Tornatzky and Fleischer , 1990) . Meanwhile, Weng and Lin (2011) , conducted a study that found that the uncertainty of the environment , government support , and stakeholder pressure are the variables that significantly influence the success of technology adoption in SMEs .

Environmental uncertainty

Weng and Lin (2011) , stating that it is the uncertainty of the business environment is unpredictable changes that include customer preferences , technological development , and perceived competitive behavior manager . These three things are considered as the most relevant characteristics of the environment in influencing corporate decision-making . Weng and Lin (2011) , also added that in uncertain business circumstances , corporate managers will tend to be more proactive and innovative than managers who face a stable business environment . Environmental uncertainty refers to unexpected changes in customer preferences , technological development and competitive behavior perceived by managers . This has been seen as the most relevant environmental characteristics that affect the company's decision making (Li and Atuahene - Gima , 2002) . Managers face an uncertain business environment tend to be more proactive and use more innovative strategies than managers in less turbulent environments . Under the environment of high uncertainty , the company will attempt to collect and process information frequently and quickly to cope with environmental change (Gupta and Govindrajan , 1991) , and also tend to pay more efforts to increase the level of innovation and technical innovation to maintain competitive advantage (Damanpour , 1991; Kimberly and Evanisko , 1981, Zhu and Weyant , 2003) , because it adopted the technology can be considered as a process of technical innovation that can improve the environmental performance of the company , the adoption of information technology is expected to be positively associated with perceived environmental uncertainty .

Government Support

Government support proved to be an important factor in determining the success of technology adoption of SMEs . Government plays an important role in promoting technological innovation in the company through some kebijakanm , such as providing financial incentives , technical resources , pilot projects , and tax breaks (Tornatzky and Fleischer , 1990; Scupola , 2003) . Kaynak , Tatoglu and Kula (2005) states that Internet use can reduce the barriers to exporting faced by SMEs and lower costs to expand their geographic reach . But these efforts will not be realized , if the government does not want to support SMEs . Jeon , Han and Lee (2006) reported that the presence of financial assistance , and the provision of infrastructure will motivate SMEs to willing to use information technology . Natural and Noor (2009) also stated that the government support in the form of infrastructure technology has an important role in pengapdosian ICT by SMEs . Furthermore , a study conducted by Tayor and Owusu (2012) on two small exporting handicraft SMEs in Gana reported that the lack of infrastructure and the high cost of internet technology inhibits the SMEs to mengadosi Internet and e - commerce . Both companies stated that they would like to use e - commerce to their export activities but because of the high cost and scarcity of some telecom infrastructure makes both frustrating SMEs to adopt Internet and e - commerce . Both craft SMEs also complain because of the difficulty getting financial assistance from banks or financial institutions in his country

to adopt the technology used . This makes both the SME sometimes delay in producing orders from their customers . As a consequence , they revealed that some customers have switched to the Middle East , particularly China , India , and Bangladesh to supply them because these countries are able to deliver on time .

The Role of Stakeholders

Stakeholders are individuals or groups who affect and are affected by the activities of the company , where they play an important role in the organization's environment (Weng and Lin , 2011) . In a study conducted Weng and Lin (2011) , found that the stakeholders is a prominent element in determining technology adoption . That's because many organizations carry out activities to satisfy their key stakeholders . So the pressure is significantly affected stakeholders on technology adoption in SMEs .

Business Environment Competitive Pressure

Competition , means life business environment in which the business operates . An intense competition may encourage companies to be innovative . Chwoles , Benasat and Dexter , (2000) reported that the competitive pressures associated with the company's ability to maintain or improve competitiveness in the industry affect the intention to adopt EDI or IT . This makes sense , as more and more competitors are using information technology , SMEs will also adopt information technology to maintain their own positions . Based on the description above, the following hypothesis is formulated .

Pressure Customers or Suppliers

Regardless of the government's support , another factor that drives the adoption of technology in SMEs is pressure from customers / suppliers . Studies conducted by Weng and Lin (2011) addressed that the pressure is positively related in terms of technology adoption . Amoros , Planellas and Foguet (2007) suggests that consumers and suppliers of SMEs using the Internet in their business processes , which will be a multiplier factor will be more and more companies to get involved in the use of technology . In the context of information technology by SMEs pengapdosian Batik , can be explained that when customers and suppliers of raw materials requires SMEs Batik to use information technology , it is the intention to perform pengapdopsian information technology will increasingly be realized . Based on the description above, the following hypothesis is formulated .

Pressure Regulation

Pressure regulation refers to the rules given by the government or industry associations to adopt the technology . Weng and Lin (2011) addressed that the pressure is positively related regulations in relation to the adoption of technology . Weng and Lin (2011) measured the pressure regulation with two indicators , the government set environmental regulations for business operations and industry association requires us to conform to environmental regulations .

3. RESEARCH METHOD

The study design is the first year the survey research field (field survey) . The design was chosen so that all the data generated in this study actual conditions or environment experienced by SMEs batik . Through this way , the researcher does not have control over variables , so the data obtained describe the actual behavior and circumstances . The method of analysis in the study is the first quantitative approach . This approach was chosen because in this study in addition to the description of the factual information technology adoption , a complete , in-depth , and thorough . Moreover , at this stage is also measured and the numerical data are used .

In the course of years of research into the relationship -I test and the meaning of the relationship between variables will use the Structural Equation Model (SEM) . Having obtained the following variables with parameters on the behavior of batik SMEs in adopting information technology , the next step to create a model of management information systems , accounting information system model , a model business practices ,

models of business management , and marketing models in batik SMEs . Preparation of the model / prototype will be guided technology adoption models . Targeted research in the first year is a prototype of a product of information technology in SMEs batik .

4. RESULT AND ANALYSIS

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Table 1. Value Factor Loading and AVE Convergent Validity Testing Results

Variabel	Faktor Loading
BIAYA (AVE=0,619)	
BY1 : Penggunaan TI butuh dukungan biaya yang besar	0,811
BY2 : Penggunaan TI butuh biaya perawatan yang besar	0,777
BY3: Penggunaan TI butuh biaya pelatihan yang besar	0,863
BY4 : Penggunaan TI butuh waktu pelatihan	0,750
BY5: Penggunaan TI membutuhkan biaya yang lebih besar dibandingkan manfaatnya	0,727
DUKUNGAN VENDOR (AVE=0,743)	
DV1 : Vendor menyediakan dukungan pelayanan jika terjadi kesulitan dalam menggunakan TI	0,861
DV2 : Vendor menyediakan pelatihan menggunakan TI	0,802
DV3: Vendor akan memperbaiki jika terjadi kesalahan TI	0,920
KEUNTUNGAN (AVE=0,520)	
KEU1: Penggunaan TI dapat meningkatkan reputasi	0,703
KEU2: Penggunaan TI dapat memberi manfaat ekonomi	0,696
KEU3: Penggunaan TI dapat mengurangi biaya produksi	0,668
KEU5: Penggunaan TI dapat memperbaiki hubungan dengan pelanggan	0,739
KEU6: Penggunaan TI dapat memperbaiki hubungan dengan pemasok	0,767
KEU7: Teknologi informasi dapat mendorong kinerja	0,750
KOMPLEKSITAS (AVE=0,553)	
KMPX1 : Belajar menggunakan TI merupakan hal sulit.	0.678
KMPX2 : Memahami penggunaan TI merupakan hal sulit.	0.824
KMPX3 : Berbagai pengetahuan TI merupakan hal sulit.	0.792
KMPX4 : Mengunakan TI membutuhkan ketrampilan.	0.680
KMPX5 : Menggunakan TI membutuhkan pengalaman.	0.733
KOMPATIBILITAS (AVE=0,558)	
KOM1 : Menggunakan TI sesuai budaya bisnis.	0.811
KOM2 : Menggunakan TI sesuai visi bisnis.	0.701
KOM3 : Menggunakan TI sesuai nilai-nilai bisnis.	0.780
KOM4 : Menggunakan TI sesuai praktek bisnis.	0.960
DUKUNGAN PEMERINTAH(AVE=0,666)	
DP1: Pemerintah mendorong mengadopsi TI	0,837
DP2: Pemerintah menyediakan dukungan TI	0,787
DP4: Pemerintah memberikan pelatihan penggunaan TI	0,823
KETIDAKPASTIAN LINGKUNGAN(AVE=0,582)	
KL1: UKM semakin sulit memprediksi pesaing	0,845
KL2: Pesaing UKM semakin banyak	0,874
KL3: Pesaing UKM semakin mempelajari pasar	0,736
KL4: Kesulitan UKM memprediksi preferensi pelanggan	0,697

Table 2 Value Latent Variable Correlations Discriminant Validity Testing Results

VARIABEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. BIAYA	**0,787**													
2. DUKUNGAN PEMERINTAH	-0,198	**0,816**												
3. DUKUNGAN VENDOR	-0,258	0,213	**0,862**											
4. KESIAPAN ORGANISASI	-0,188	0,453	0,424	**0,813**										
5. KETIDAKPASTIAN LINGKUNGAN	-0,036	0,281	0,143	0,198	**0,763**									
6. KEUNTUNGAN	-0,165	0,436	0,407	0,414	0,311	**0,721**								
7. KOMPATIBILITAS	-0,059	0,234	0,328	0,412	0,227	0,299	**0,747**							
8. KOMPLEKSITAS	0,88	-0,167	-0,233	-0,253	-4E-04	-0,037	-0,092	**0,744**						
9. KUALITAS SDM	-0,138	0,235	0,139	0,318	0,206	0,495	0,155	-0,015	**0,836**					
10.NIAT	-0,228	0,212	0,449	0,476	0,241	0,36	0,399	-0,133	0,268	**0,854**				
11.PERSAINGAN	-0,393	0,269	0,31	0,445	0,12	0,282	0,157	-0,349	0,19	0,357	**0,837**			
12.SIKAP	-0,389	0,559	0,488	0,668	0,322	0,616	0,389	-0,278	0,507	0,673	0,555	**0,867**		
13.TEKANAN KONSUMEN	-0,334	0,514	0,418	0,449	0,275	0,348	0,193	-0,247	0,278	0,389	0,506	0,633	**0,953**	
14.TEKANAN PERATURAN	-0,175	0,425	0,43	0,663	0,237	0,611	0,268	-0,117	0,695	0,378	0,388	0,672	0,495	**0,738**

Testing Reliability

Reliability test is used to measure the internal consistency of the measuring instrument used in this study. In a reliability study using the uni Composite Reliability and Cronbachs Alpha. Cronbachs Alpha is used to measure the lower limit value of the reliability of a construct, while the Composite Reliability is used to measure the true value of the reliability of a construct. The test results obtained in this study Cronbach's

alpha value is above 0.70. These results indicate that the constructs in this study has been reliable. While the value of the resulting composite reliability is greater than 0.7. This fact supports that the constructs in this study had been reliable.

Table 3 Value Composite Reliability and Cronbach Alpha

Variabel	Composite Reliability	Cronbachs Alpha
Biaya	0,890	0,846
Dukungan Pemerintah	0,857	0,751
Dukungan Vendor	0,896	0,828
Kesiapan Organisasi	0,907	0,871
Ketidakpastian Lingkungan	0,873	0,825
Keuntungan	0,866	0,815
Kompatibilitas	0,834	0,747
Kompleksitas	0,860	0,807
Kualitas SDM	0,872	0,794
Niat	0,931	0,907
Persaingan	0,875	0,786
Sikap	0,923	0,889
Tekanan Konsumen	0,951	0,898
Tekanan Peraturan	0,827	0,722

Perception Relations Costs, Profits, and the Vendor Support SMEs Batik Adopt intension of Technology

Based on the results of testing the structural model found that the variability of intention to adopt the technology in SMEs Batik can be explained by the attitude of 45.4% variable. While the attitude variability can be explained by the variable cost perception, perception of benefits and vendor support of 50.6%.

Table 4 Value Path Coefficients (direct effects, indirect and total effects) Relationship Testing Results Perception Costs, Profits, and Vendor Support with the intension of Technology Adoption

Variabel	R^2	Efek langsung	Tidak langsung	Total efek
Efek terhadap sikap	50,6%			
Biaya		(-0,250) 2,424	-	(-0,250) 2,424
Keuntungan relatif		(0,484) 4,378	-	(0,484) 4,378
Dukungan vendor		(0,226) 2,080	-	(0,226) 2,080
Efek terhadap niat mengadopsi	45,4%			
Biaya		-	(-0168) 2,316	(-0168) 2,316
Keuntungan relatif		-	(0,326) 4,098	(0,484) 4,098
Dukungan vendor		-	(0,152) 1,921	(0,152) 1,921
Sikap		(0,674) 8,502	-	(0,674) 8,502

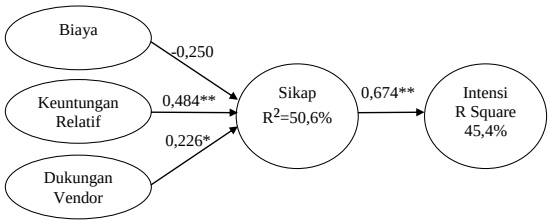

Figure 1. Structural Relationship Model Perceived Cost, Profit, and Vendor Support Against Technology Adoption Intention

Based on estimates by the PLS is known that the relationship between attitude towards SMEs Batik intention to adopt information technology is positive (beta = 0.674) and significant (t = 8.502 > 1.96) . It is clear that the use of information technology is a good idea and assessed by SMEs Batik will be beneficial because it can improve the performance of SMEs . These findings reinforce the findings of Thong (1999) which suggests that SMEs have a more positive attitude towards the characteristics of information systems is more likely to adopt high technology information . The test results showed that the perception of adoption costs had a negative impact (beta = -0.25) on attitudes . This is in line with basic economic theory , when the price offered is higher then the consumer will think again to buy the product , and this applies to SMEs . The reason this happens because of the negative attitude of SMEs Batik managers perceive that to adopt the technology required a high cost both of the price system , the cost of maintenance and training costs . In addition SMEs Batik also perceive that to adopt the necessary information technology training long enough and perceived greater costs than benefits. Meanwhile , judging from the type of business scale , generally Batik SME finance only able to produce the goods and the provision of salaries to its employees . Indirect costs are also significantly negative perception towards adopting intention . So it is natural that managers of SMEs have a low attitude and intention to adopt the system . These findings are consistent with the findings Seyal and Rahim (2006) who argued

that the high cost of technology adoption , high maintenance costs , operating costs and training costs turned out to be expensive to dissuade an SME to use information technology .

Regardless of SMEs Batik negative towards the cost , it turns on the estimation of relative advantage variable positively influence the attitudes of 0.484 with variable degrees of error of 1% and indirectly significantly to the intention to adopt . It is clear that SME managers Batik agree that the use of information technology to enhance the reputation , economic benefits , reduce production costs , may improve customer relationships , improve relations with suppliers as well as to boost performance . Positive perceptions toward information technology , was able to effect a positive attitude towards the management of SMEs Batik , and in turn will increase the SME manager 's intention to adopt information technology systems . The more benefits offered from the information technology , the more positive attitude of managers of SMEs Batik and eventually will encourage SMEs desire to adopt information technology . The results of this study are in line with research conducted by Gemino , Mackay and Reich (2006) which showed that the use of EDI produce strategic benefits and information . Strategic benefits that can improve the competitiveness or create strategic advantage , catch up with competitors , helping to build beneficial relationships with other organizations , improving customer relationships and can respond more quickly to changes . While the benefits of information that can access information more easily , improving management information for strategic planning , improving information for management control , improving the accuracy or reliability of the information , present information in a more concise manner or better format , retrieval and delivery require greater cost compared to the benefits of information or reports more quickly , increasing the volume of information output , increasing the flexibility of information requests .

SME perceptions of the need for vendor support is also welcomed by the attitude of SMEs Batik . This relationship is indicated by the value of the beta coefficient of 0.226 . The existence of support services in the event of difficulties in using information technology , and training, how to use information technology , as well as help to improve the system in the event of an error of information technology is one way to encourage SMEs Batik intention to be willing to increase the adoption of information technology in SMEs With the support of the vendor SMEs do not have to worry anymore to spend a lot of costs for training and send technician uses when the system is broken. Thus , the support of the vendors while reducing barriers to technology adoption due to the perception of high costs incurred by SMEs Batik .

Technology Factors relations with SMEs Batik Adopt intension of Technology Barriers to adopting technology SMEs Batik is not only influenced by the financial ability alone . SME managers perception of the complexity or difficulty level of technology lead to a negative attitude (beta = -0.243) . SME managers assess that information technology would be difficult to learn , understand , and to use it requires experience , knowledge and skills. This makes the management of SMEs prefer to avoid adopting technology rather than information they need to study hard and take a long time to be familiar with the information technology . The complexity of the technology is not only a negative impact on attitudes alone , but also indirectly lowers SMEs Batik intention to adopt (beta = -0.165) . Efforts to minimize concerns regarding SMEs Batik system complexity , the information technology designers need to consider factors such.

Table 5. Value Path Coefficients (direct effects, indirect and total effects) Relationship Testing Results Factor Technology with Technology Adoption Intention

Variabel	R^2	Efek langsung	Tidak langsung	Total efek
Efek terhadap sikap	21,1%			
Kompatibilitas		(0,368) 3,562	-	(0,368) 3,562
Kompleksitas teknologi		(-0,243) 2,686	-	(-0,243) 2,686
Efek terhadap niat mengadopsi	45,8%			
Kompatibilitas		-	(0,249) 3,168	(0,249) 3,168
Kompleksitas teknologi		-	(-0,165) 2,633	(-0,165) 2,633
Sikap		(0,676) 8,314	-	(0,676) 8,314

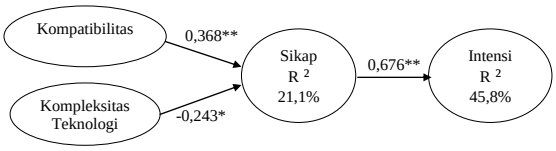

Figure 2. Structural Relationship Model with Technological Factors Technology Adoption Intention

On the other hand , managers of SMEs Batik also provide a positive attitude towards information technology compatibility . Managers of SMEs stated that if information technology is offered in accordance with the business culture , business vision , business values and business practices , the management of SMEs Batik likely will want to receive the information technology . Rationally , when it adopted systems can be applied in SMEs , the SMEs Batik activity will be easier to work with and controlled . For the designers of information systems are expected to understand the suitability of the information technology systems of culture , vision , values , and business practices , which in turn can encourage managers of SMEs Batik to adopt information technology . Environmental Factors and Organizational relationships with SMEs Batik Adopt intension of Technology Based on estimates by the PLS was found that the readiness of the organization is positively related to the attitude of 0,281 . Readiness of organizations which include a commitment to implement information technology , SMEs are ready to support financial , HR SME has the readiness to use information technology , SMEs have the readiness to use information technology infrastructure , and SME members have the knowledge to operate information technology , is a driving factor of SMEs to adopt technological information . Quality of human resources has been found to be a factor affecting SME 's intention to adopt information technology . Positive relationship between the variable quality of human resources with the attitude that the members of the SME explained easily learn to use information technology , SME members can share their knowledge of information technology , as well as members of the SMEs have the creativity to continue to learn to use the technology to use the technology will be judged as a good idea , and in turn will improve SME managers intention to adopt information technology systems . Government support for the provision of training on how to use information technology , finance and lending infrastructure manager greeted with a positive attitude SMEs . It is very reasonable considering the scale of SMEs is relatively small effort and minimal in terms of financial , while the adoption of a system requires a high cost and availability of infrastructure . Government support can motivate batik SMEs to adopt information technology . Jeon , Han and Lee (2006) reported that the presence of financial assistance , and the provision of infrastructure will motivate SMEs to willing to use information technology . Natural and Noor (2009) also stated that the government support in the form of infrastructure technology has an important role in pengapdosian ICT by SMEs . Furthermore , a study conducted by Tayor and Owusu (2012) on two small exporting handicraft SMEs in Gana reported that the lack of infrastructure and the high cost of internet technology inhibits the SMEs to mengadosi Internet and e - commerce.

Table 6. Value Path Coefficients (direct effects, indirect and total effects) Relationship Testing Results Organizational and Environmental Factors

Variabel	R^2	Efek langsung	Tidak langsung	Total efek
Efek terhadap sikap	70,5%			
Kesiapan organisasi		(0,281) 2,368	-	(0,281) 2,368
Kualitas SDM		(0,226) 2,142	-	(0,226) 2,142
Ketidakpastian Lingkungan		(0,078) 1,400	-	(0,078) 1,400
Dukungan Pemerintah		(0,175) 2,192	-	(0,175) 2,192
Tekanan konsumen		(0,199) 2,004	-	(0,199) 2,004
Tekanan kompetitor		(0,210) 2,242	-	(0,210) 2,242
Tekanan peraturan		(0,055) 0,536	-	(0,055) 0,536
Efek terhadap niat mengadopsi	45,5%			
Kesiapan organisasi		-	(0,190) 2,293	(0,190) 2,293
Kualitas SDM		-	(0,152) 2,012	(0,152) 2,012
Ketidakpastian Lingkungan		-	(0,052) 1,205	(0,052) 1,205
Dukungan Pemerintah		-	(0,118) 2,130	(0,118) 2,130
Tekanan konsumen		-	(0,134) 1,752	(0,134) 1,752
Tekanan kompetitor		-	(0,141) 2,089	(0,141) 2,089
Tekanan peraturan		-	(0,037) 0,368	(0,037) 0,368
Sikap		(0,673) 8,351	-	(0,673) 8,351

Consumer pressure is also found as factors influencing SMEs Batik to adopt information technology. Positive value (beta = 0.199) can be interpreted that consumer pressure to improve performance and standardized production requires good response by the attitude of SMEs. A positive attitude is a form of commitment and minimize the loss of customers. When SMEs Batik does not comply with the customer, then the potential for greater customer left. This finding is consistent with the finding Planellas and Foguet (2007) which suggests that consumers and suppliers of SMEs using the Internet in their business processes, which will be a multiplier factor will be more and more companies to get involved in the use of technology.

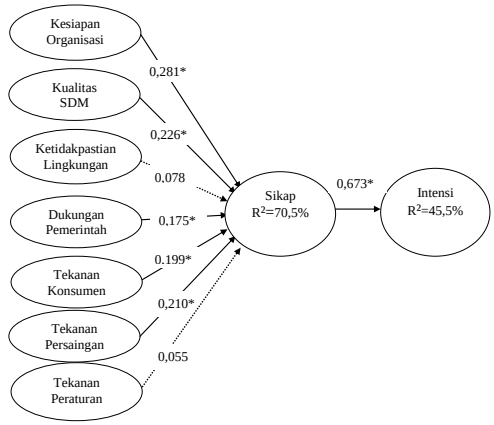

Figure 3. Structural Relations Model Factors and Organizational Environment with SMEs Batik Adopt intension of Technology

The results of the analysis addressing the positive influence (beta = 0.210) between the competitive pressures / competition with attitude. Concerns SMEs Batik compete with competitors and the fear of lagging behind the other SME members who use information technology SMEs to encourage members to adopt information technology systems. This realistic, as more and more competitors are using information technology, it is the SMEs will also be forced to adopt information technology to maintain the position. This finding is in line with the findings Chwoles, Benasat and Dexter, (2000) reported that the competitive pressures associated with the company's ability to maintain or improve competitiveness in the industry affect the intention to adopt EDI or IT.

5. CONCLUSION

The rate of adoption of information technology in SMEs Batik is largely determined by the cost incurred in the process of adoption of the technology, the benefits obtained when SMEs Batik adopting information technology, and vendor support to SMEs Batik when adopting information technology. The study also found that barriers in technology is also a factor considered by SMEs Batik adopting information technology. Factors such technology is the compatibility and complexity of the technology. Factor which determines the adoption of information technology in the next batik SMEs SME organizational readiness, quality of human resources in SMEs Batik, government support, consumer pressure and the pressure of competition. In the present study found no significant relationship between environmental regulatory pressures and uncertainty with the intention of adoption of information technology in SMEs Batik.

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Local Culture and the Role of Social Norms in Determining Adoption of Information Technology in SMEs Batik in Indonesia

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Local Culture and the Role of Social Norms in Determining Adoption of Information Technology in SMEs Batik in Indonesia

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Abstract

Batik has been recognized by UNESCO as a world cultural heritage from Indonesia . However , the performance of the industry is likely to decline . In the last four years , the value of production and employment in the industry fell respectively 7.38% and 2.56 % . One of the main problems why this industry is less able to develop the low level of adoption of information technology by businesses (SME) in this industry . This study aims to explain the determinants that determine batik SMEs in adopting information technology . The research was conducted on batik SMEs in Surakarta , Sragen , Klaten and Yogyakarta involving 40 SMEs as respondents . This study used structural equation model and Partial Least Squares estimation (PLS) to develope models of integration TAM - TPB to explain the rate of adoption of information technology in SMEs batik . The research data has very high validity and reliability . This study has found that batik SMEs will adopt information technology is determined by perceived usefulness , perceived ease of use, attitude, subjective norms, and the local culture. Internal variables are determined by perceived behavioral control, technological innovativeness, relevance, task familiarity , social norms, moral norms, knowledge of search domain, self -efficacy, accessibility, and performance risk. Suggestions from this study is that SMEs batik is still less adopt information technology in the production process , management , and marketing SMEs can maintain local cultural values and social norms believed .

Keywords *: Batik's Small and Medium Enterprise –technology acceptance – planned behavior – local culture*

1. INTRODUCTION

Batik industry is one of the main economic activities in the corridor of Java , especially Yogyakarta - Surakarta corridor . According to the Ministry of Industry (2012) , the number of businesses in this sector as much as 48,300 , and form the majority of Small and Medium Enterprises (SMEs) . The results of the analysis of Bank Indonesia (2012) showed that in the last five years the industry 's performance tends to decrease . If in 2007 , the production value is reached Rp 3.2 trillion and absorb 800,000 workers , then in 2011 the production value of Rp 2.98 trillion stay and just absorb 780,000 workers . National batik industry tends to decrease one of which is caused by the presence of new competitors , namely batik from China (Bank Indonesia , 2012; Ngatindriatun and Ikasari , 2011) . Batik from China entered the domestic market since the ACFTA agreement

enforced , and can instantly seize the domestic market (Aldida and Santosa , 2013) . China is able to sell batik at a low price , because the batik industry in China is able to operate efficiently through the use of information technology (Low et al . , 2011; Chau , 2001; Hidayat , 2012) . Meanwhile , domestic batik SMEs have not been able to operate efficiently and marginal for the management / business management and marketing is still the traditional way , and not adopting information technology (Sabandi , testifying , and Sohidin , 2011; Susilo , 2009) . On the other hand , theoretical and empirical showed that the use of technology in SMEs has been shown to improve performance , improved planning , business management (Hossain and Quaddus , 2011) , ease of transaction activity (DYT and Halabi , 2007) , and lower transaction costs (Ramdani and Kawalek , 2007; Kleijnen et al . 2004) . The use of information technology also improves network marketing internationally (Ndubisi and Males , 2003) . Accordingly, this study aims to identify the determinants that affect the adoption of technology by SMEs batik in Surakarta - Yogyakarta corridor .

2. LITERATUR REVIEW AND HYPOTHESIS

Technology adoption is a process consisting of a technical innovation of new organizational practices for the procurement of equipment, product creation, implementation of processes, policies, and projects (Weng and Lin, 2011). Several studies have tried to formulate the critical success factors of technology adoption in SMEs. Lin and Ho in Weng and Lin (2011), found that the adoption of technology in the enterprise is influenced by three factors. First, the cost factors include the relative costs and benefits. Second, technological factors include relative advantage, compatibility, and complexity of the technology. Third, the organizational factors include organizational support, human resources, and the size of the company. Factors Fourth, the environmental factors that include stakeholder pressure, government support, and environmental uncertainty.

Technology factor

Weng and Lin (2011) , explains that the technological characteristics of an innovation will influence the technology adoption process . Karakeristik technology in question include the complexity , compatibility , relative advantage , ease of use , perceived usefulness , and intensity information . Perceived characteristics of a technological innovation is considered as cognitive beliefs that are reflected in the organization's attitude towards innovation . Based on the proposed model Lin and Ho , (2011) ; Weng and Lin (2011) , conducted a study that focuses on the complexity , compatibility and relative advantage because these three characteristics have consistently been found to influence the adoption behavior is more significant than other characteristics (Lin and Ho , 2011 ; Rogers , 2003 ; Sia et al . , 2004 ; Tornatzky and Klein , 1982) .

complexity

Complexity is defined as the extent to which a technology is considered relatively difficult to learn and use . The high complexity of a technology will increase the difficulty in the transfer of knowledge and technology diffusion to SMEs . The complexity of the technology can lead a person into a negative attitude towards the technology . Thong (1999) reported that the perceived complexity of information systems is one of the factors inhibiting SMEs in adopting information technology . Weng and Lin (2011) , found that the perception of the complexity of the technological innovation is negatively related to the adoption of technology by SMEs . This is because that a technology that has a high level of complexity that will require great effort and a long time to learn it .

Compatibility

Compatibility is defined as the degree to which an innovation is considered consistent with the existing values , experiences and needs of the company (Rogers in Weng and Lin , 2011) . SMEs will tend to use a system if the system is in accordance with the needs of the job . The suitability of a new technology with the characteristics of the company , the company's technical knowledge , and the needs of the company is a very important consideration in the adoption

of technology . Research conducted by Weng and Lin (2011) , found that the perception of compatibility is positively related to the adoption of technology by SMEs . That's because to reduce objections to the diffusion of new technologies , SMEs are more likely to choose to adopt technologies that are compatible with the operational knowledge possessed by the SMEs . Studies conducted by Thong (1999) on SMEs suggests that the information system is compatible with existing work practices in SMEs , the SMEs will tend to adopt the technology . Studies conducted Zhu , Dong , Xu and Kraemer (2006) after the company reported that the compatibility of technology adoption is the strongest predictor of the use of e -business . Crespo and Rodrigues (2008) also showed significant if compatibility is positively related to the attitude of using technology .

Organizational factors

Several studies have found that organizational characteristics influence on technology adoption . Kimberly and Evanisko ; Tornatzky and Fleischer in Weng and Lin (2011) , states that an organization characteristic variables that affect the adoption of technology in organizations , among others, the quality of human resources , skills and top management leadership , organizational support , an Organization culture , and organizational size on innovation technical . Weng and Lin (2011) , conducted a study that focused on the influence of the quality of human resources , organizational support , and company size on technology adoption of SMEs . Weng and Lin (2011) , found that the human resources in SMEs affect the successful adoption of the technology , since technology adoption is a series of complex knowledge transfer process , thus requiring individuals kompoeten and able to learn . It is therefore concluded that the SMEs that have the human resources of good quality will be faster and more ready to adopt the technology .

Quality of Human Resources

Research Weng and Lin (2011) with four HR indicators , namely the sharing of knowledge among employees , can easily learn new technologies , can easily use new technology to solve the problem and may provide new ideas for the company indicates that the quality of human resources has a positive influence against pengapdosian green innovations . Employees with competent learning ability will tend to increase their absorptive capacity through training programs that promote the adoption of a technology . An organization concerned about the new ideas will affect the propensity to adopt new technologies . Therefore , companies that have qualified human resources that will both tend to adopt new technologies . Tayor and Owusu (2012) reported that the lack of qualified staff inhibits two Gana export handicraft SMEs to adopt the technology . Thong (1999) also stated that greatly affect employee knowledge SME SMEs themselves to adopt information systems .

Top Management Support

In addition to the human resources of SMEs , organizational management support is crucial to technology adoption . Support organization is the extent to which the company helps employees use a particular technology or system . For the development of environmental management , organizational support is very important because employees will be motivated to carry out the activities and resources necessary to adopt technological innovations will be more readily available . In addition , top management plays a vital role in supporting the organization . Many innovations require the cooperation and coordination of different departments and divisions during the process of technology adoption . To ensure the successful adoption , adoption initiatives supported and driven from top management . It can be concluded that the effect of organizational support on technology adoption of SMEs (Weng and Lin, 2011).

Organizational readiness

Organizational readiness , refers to the extent to which an organization has the infrastructure , financial resources , and have

knowledge of the information technology necessary to adopt a technology . Many studies have shown that a lack of expertise and lack of IT knowledge is a major obstacle in the field of IT adoption . Thong (1999) and Jeon , Han and Lee (2006) argues that for the successful adoption of e - business , SMEs need managers or owners of SMEs who are knowledgeable about IT . Jun and Cai (2003) in a study of small manufacturing firms in the U.S. , revealed that the barriers to adopt due to the lack of knowledge in understanding IT . Furthermore , a study conducted by Tayor and Owusu (2012) on two small exporting handicraft SMEs in Gana reported that the lack of infrastructure and the high cost of internet technology inhibits the SMEs to mengadosi Internet and e - commerce . Both companies stated that they would like to use e - commerce to their export activities but because of the high cost and scarcity of some telecom infrastructure makes both frustrating SMEs to adopt Internet and e – commerce. .

Perceptions Costs

The perception of the cost was found to be an important factor in information technology adoption decisions . Cost is considered as one of the barriers to adopting information technology for small and medium businesses , as minimya financial resources . Seyal and Rahim (2006) suggested that the cost of technology adoption which includes high maintenance costs , operating costs and will reduce the cost of expensive training SMEs intention to use EDI . Chwelos , Benbasat and Dexter (2000) also reported that one of intent for IT mengadosi , determined by the financial resources of the company , the greater the financial , the greater the company's intention to adopt .

Relative advantage

Relative advantage is defined as the perception that innovation is more profitable than the idea of a replacement . Benefits or perceived benefits can be measured in terms of economic and social , such as comfort and satisfaction of SMEs to the new technology . Companies are more likely to adopt technology that can deliver better performance and higher economic returns compared with other technologies . Relative advantage is positively related to the adoption of innovations (Rogers , 2003; Tornatzky and Klein , 1982) . The same was found by Weng and Lin (2011) , that the SMEs will adopt technological innovation if the new technology is able to offer and deliver economic and social benefits are higher than other technologies .
In the course of SME , Gemino , Mackay and Reich (2006) also discusses the perception of the advantages of information technology adoption . His study reported that the use of EDI produce strategic benefits and information . Strategic benefits that can improve the competitiveness or create strategic advantage , catch up with competitors , helping to build beneficial relationships with other organizations , improving customer relationships and can respond more quickly to changes . While the benefits of information that can access information more easily , improving management information for strategic planning , improving information for management control , improving the accuracy or reliability of the information , present information in a more concise manner or better format , retrieval and delivery of information or reports more quickly , increasing the volume of information output , increasing the flexibility of information requests .
Seyal and Rahim (2006) also reported that the adoption of information technologies provide direct and indirect benefits . Chwelos , Benbasat and Dexter (2000) also found that the direct benefits in the form of operational cost savings and other internal efficiencies arising from , for example , reducing paperwork , reducing data re-entry , and the error rate is reduced and does not directly affect the intention to adopt EDI . Similarly , indirect benefits are the opportunities that arise from the use of EDI , such as improved customer service and the potential for re-engineering process . Thong (1999) also reported that the relative advantage gained from the use of information technology enables SMEs to adopt information technology . Studies conducted Zhu , Dong , Xu and Kraemer (2006) after the adoption of the company's e -business report that the use

of e - business impact on improving coordination with suppliers , decreased procurement costs , inventory costs decrease , more efficient internal processes , increase employee productivity , decreased operating costs , increase sales , sales area widened , and can improve the service to customers .

External Environmental Factors SMEs

The external environment in which the company does business is an important factor that affects the behavior of innovative and green . Environmental variables such as environmental uncertainty , the government support , the type of industry , competition and network connections shown to affect the adoption of technology in the enterprise (Jeyaraj et al . , 2006; Tornatzky and Fleischer , 1990) . Meanwhile, Weng and Lin (2011) , conducted a study that found that the uncertainty of the environment , government support , and stakeholder pressure are the variables that significantly influence the success of technology adoption in SMEs .

Environmental uncertainty

Weng and Lin (2011) , stating that it is the uncertainty of the business environment is unpredictable changes that include customer preferences , technological development , and perceived competitive behavior manager . These three things are considered as the most relevant characteristics of the environment in influencing corporate decision-making . Weng and Lin (2011) , also added that in uncertain business circumstances , corporate managers will tend to be more proactive and innovative than managers who face a stable business environment . Environmental uncertainty refers to unexpected changes in customer preferences , technological development and competitive behavior perceived by managers . This has been seen as the most relevant environmental characteristics that affect the company's decision making (Li and Atuahene - Gima , 2002) . Managers face an uncertain business environment tend to be more proactive and use more innovative strategies than managers in less turbulent environments . Under the environment of high uncertainty , the company will attempt to collect and process information frequently and quickly to cope with environmental change (Gupta and Govindrajan , 1991) , and also tend to pay more efforts to increase the level of innovation and technical innovation to maintain competitive advantage (Damanpour , 1991; Kimberly and Evanisko , 1981, Zhu and Weyant , 2003) , because it adopted the technology can be considered as a process of technical innovation that can improve the environmental performance of the company , the adoption of information technology is expected to be positively associated with perceived environmental uncertainty .

Government Support

Government support proved to be an important factor in determining the success of technology adoption of SMEs . Government plays an important role in promoting technological innovation in the company through some kebijakanm , such as providing financial incentives , technical resources , pilot projects , and tax breaks (Tornatzky and Fleischer , 1990; Scupola , 2003) . Kaynak , Tatoglu and Kula (2005) states that Internet use can reduce the barriers to exporting faced by SMEs and lower costs to expand their geographic reach . But these efforts will not be realized , if the government does not want to support SMEs . Jeon , Han and Lee (2006) reported that the presence of financial assistance , and the provision of infrastructure will motivate SMEs to willing to use information technology . Natural and Noor (2009) also stated that the government support in the form of infrastructure technology has an important role in pengapdosian ICT by SMEs . Furthermore , a study conducted by Tayor and Owusu (2012) on two small exporting handicraft SMEs in Gana reported that the lack of infrastructure and the high cost of internet technology inhibits the SMEs to mengadosi Internet and e - commerce . Both companies stated that they would like to use e - commerce to their export activities but because of the high cost and scarcity of some telecom infrastructure makes both frustrating SMEs to adopt Internet and e - commerce . Both craft SMEs also complain because of the difficulty getting financial assistance from banks or financial institutions in his country

to adopt the technology used . This makes both the SME sometimes delay in producing orders from their customers . As a consequence , they revealed that some customers have switched to the Middle East , particularly China , India , and Bangladesh to supply them because these countries are able to deliver on time .

The Role of Stakeholders

Stakeholders are individuals or groups who affect and are affected by the activities of the company , where they play an important role in the organization's environment (Weng and Lin , 2011) . In a study conducted Weng and Lin (2011) , found that the stakeholders is a prominent element in determining technology adoption . That's because many organizations carry out activities to satisfy their key stakeholders . So the pressure is significantly affected stakeholders on technology adoption in SMEs .

Business Environment Competitive Pressure

Competition , means life business environment in which the business operates . An intense competition may encourage companies to be innovative . Chwoles , Benasat and Dexter , (2000) reported that the competitive pressures associated with the company's ability to maintain or improve competitiveness in the industry affect the intention to adopt EDI or IT . This makes sense , as more and more competitors are using information technology , SMEs will also adopt information technology to maintain their own positions . Based on the description above, the following hypothesis is formulated .

Pressure Customers or Suppliers

Regardless of the government's support , another factor that drives the adoption of technology in SMEs is pressure from customers / suppliers . Studies conducted by Weng and Lin (2011) addressed that the pressure is positively related in terms of technology adoption . Amoros , Planellas and Foguet (2007) suggests that consumers and suppliers of SMEs using the Internet in their business processes , which will be a multiplier factor will be more and more companies to get involved in the use of technology . In the context of information technology by SMEs pengapdosian Batik , can be explained that when customers and suppliers of raw materials requires SMEs Batik to use information technology , it is the intention to perform pengapdopsian information technology will increasingly be realized . Based on the description above, the following hypothesis is formulated .

Pressure Regulation

Pressure regulation refers to the rules given by the government or industry associations to adopt the technology . Weng and Lin (2011) addressed that the pressure is positively related regulations in relation to the adoption of technology . Weng and Lin (2011) measured the pressure regulation with two indicators , the government set environmental regulations for business operations and industry association requires us to conform to environmental regulations .

3. RESEARCH METHOD

The study design is the first year the survey research field (field survey) . The design was chosen so that all the data generated in this study actual conditions or environment experienced by SMEs batik . Through this way , the researcher does not have control over variables , so the data obtained describe the actual behavior and circumstances . The method of analysis in the study is the first quantitative approach . This approach was chosen because in this study in addition to the description of the factual information technology adoption , a complete , in-depth , and thorough . Moreover , at this stage is also measured and the numerical data are used .

In the course of years of research into the relationship -I test and the meaning of the relationship between variables will use the Structural Equation Model (SEM) . Having obtained the following variables with parameters on the behavior of batik SMEs in adopting information technology , the next step to create a model of management information systems , accounting information system model , a model business practices ,

models of business management , and marketing models in batik SMEs . Preparation of the model / prototype will be guided technology adoption models . Targeted research in the first year is a prototype of a product of information technology in SMEs batik .

4. RESULT AND ANALYSIS

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Table 1. Value Factor Loading and AVE Convergent Validity Testing Results

Variabel	Faktor Loading
BIAYA (AVE=0,619)	
BY1 : Penggunaan TI butuh dukungan biaya yang besar	0,811
BY2 : Penggunaan TI butuh biaya perawatan yang besar	0,777
BY3: Penggunaan TI butuh biaya pelatihan yang besar	0,863
BY4 : Penggunaan TI butuh waktu pelatihan	0,750
BY5: Penggunaan TI membutuhkan biaya yang lebih besar dibandingkan manfaatnya	0,727
DUKUNGAN VENDOR (AVE=0,743)	
DV1 : Vendor menyediakan dukungan pelayanan jika terjadi kesulitan dalam menggunakan TI	0,861
DV2 : Vendor menyediakan pelatihan menggunakan TI	0,802
DV3: Vendor akan memperbaiki jika terjadi kesalahan TI	0,920
KEUNTUNGAN (AVE=0,520)	
KEU1: Penggunaan TI dapat meningkatkan reputasi	0,703
KEU2: Penggunaan TI dapat memberi manfaat ekonomi	0,696
KEU3: Penggunaan TI dapat mengurangi biaya produksi	0,668
KEU5: Penggunaan TI dapat memperbaiki hubungan dengan pelanggan	0,739
KEU6: Penggunaan TI dapat memperbaiki hubungan dengan pemasok	0,767
KEU7: Teknologi informasi dapat mendorong kinerja	0,750
KOMPLEKSITAS (AVE=0,553)	
KMPX1 : Belajar menggunakan TI merupakan hal sulit.	0.678
KMPX2 : Memahami penggunaan TI merupakan hal sulit.	0.824
KMPX3 : Berbagai pengetahuan TI merupakan hal sulit.	0.792
KMPX4 : Mengunakan TI membutuhkan ketrampilan.	0.680
KMPX5 : Menggunakan TI membutuhkan pengalaman.	0.733
KOMPATIBILITAS (AVE=0,558)	
KOM1 : Menggunakan TI sesuai budaya bisnis.	0.811
KOM2 : Menggunakan TI sesuai visi bisnis.	0.701
KOM3 : Menggunakan TI sesuai nilai-nilai bisnis.	0.780
KOM4 : Menggunakan TI sesuai praktek bisnis.	0.960
DUKUNGAN PEMERINTAH(AVE=0,666)	
DP1: Pemerintah mendorong mengadopsi TI	0,837
DP2: Pemerintah menyediakan dukungan TI	0,787
DP4: Pemerintah memberikan pelatihan penggunaan TI	0,823
KETIDAKPASTIAN LINGKUNGAN(AVE=0,582)	
KL1: UKM semakin sulit memprediksi pesaing	0,845
KL2: Pesaing UKM semakin banyak	0,874
KL3: Pesaing UKM semakin mempelajari pasar	0,736
KL4: Kesulitan UKM memprediksi preferensi pelanggan	0,697

Table 2 Value Latent Variable Correlations Discriminant Validity Testing Results

VARIABEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. BIAYA	**0,787**													
2. DUKUNGAN PEMERINTAH	-0,198	**0,816**												
3. DUKUNGAN VENDOR	-0,258	0,213	**0,862**											
4. KESIAPAN ORGANISASI	-0,188	0,453	0,424	**0,813**										
5. KETIDAKPASTIAN LINGKUNGAN	-0,036	0,281	0,143	0,198	**0,763**									
6. KEUNTUNGAN	-0,165	0,436	0,407	0,414	0,311	**0,721**								
7. KOMPATIBILITAS	-0,059	0,234	0,328	0,412	0,227	0,299	**0,747**							
8. KOMPLEKSITAS	0,88	-0,167	-0,233	-0,253	-4E-04	-0,037	-0,092	**0,744**						
9. KUALITAS SDM	-0,138	0,235	0,139	0,318	0,206	0,495	0,155	-0,015	**0,836**					
10.NIAT	-0,228	0,212	0,449	0,476	0,241	0,36	0,399	-0,133	0,268	**0,854**				
11.PERSAINGAN	-0,393	0,269	0,31	0,445	0,12	0,282	0,157	-0,349	0,19	0,353	**0,837**			
12.SIKAP	-0,389	0,559	0,488	0,668	0,322	0,616	0,389	-0,278	0,507	0,673	0,555	**0,867**		
13.TEKANAN KONSUMEN	-0,334	0,514	0,418	0,449	0,275	0,348	0,193	-0,247	0,278	0,389	0,506	0,633	**0,953**	
14.TEKANAN PERATURAN	-0,175	0,425	0,43	0,663	0,237	0,611	0,268	-0,117	0,695	0,378	0,388	0,672	0,495	**0,738**

Testing Reliability

Reliability test is used to measure the internal consistency of the measuring instrument used in this study. In a reliability study using the uni Composite Reliability and Cronbachs Alpha. Cronbachs Alpha is used to measure the lower limit value of the reliability of a construct, while the Composite Reliability is used to measure the true value of the reliability of a construct. The test results obtained in this study Cronbach's

alpha value is above 0.70. These results indicate that the constructs in this study has been reliable. While the value of the resulting composite reliability is greater than 0.7. This fact supports that the constructs in this study had been reliable.

Table 3 Value Composite Reliability and Cronbach Alpha

Variabel	Composite Reliability	Cronbachs Alpha
Biaya	0,890	0,846
Dukungan Pemerintah	0,857	0,751
Dukungan Vendor	0,896	0,828
Kesiapan Organisasi	0,907	0,871
Ketidakpastian Lingkungan	0,873	0,825
Keuntungan	0,866	0,815
Kompatibilitas	0,834	0,747
Kompleksitas	0,860	0,807
Kualitas SDM	0,872	0,794
Niat	0,931	0,907
Persaingan	0,875	0,786
Sikap	0,923	0,889
Tekanan Konsumen	0,951	0,898
Tekanan Peraturan	0,827	0,722

Perception Relations Costs, Profits, and the Vendor Support SMEs Batik Adopt intension of Technology

Based on the results of testing the structural model found that the variability of intention to adopt the technology in SMEs Batik can be explained by the attitude of 45.4% variable. While the attitude variability can be explained by the variable cost perception, perception of benefits and vendor support of 50.6%.

Table 4 Value Path Coefficients (direct effects, indirect and total effects) Relationship Testing Results Perception Costs, Profits, and Vendor Support with the intension of Technology Adoption

Variabel	R^2	Efek langsung	Tidak langsung	Total efek
Efek terhadap sikap	50,6%			
Biaya		(-0,250) 2,424	-	(-0,250) 2,424
Keuntungan relatif		(0,484) 4,378	-	(0,484) 4,378
Dukungan vendor		(0,226) 2,080	-	(0,226) 2,080
Efek terhadap niat mengadopsi	45,4%			
Biaya		-	(-0168) 2,316	(-0168) 2,316
Keuntungan relatif		-	(0,326) 4,098	(0,484) 4,098
Dukungan vendor		-	(0,152) 1,921	(0,152) 1,921
Sikap		(0,674) 8,502	-	(0,674) 8,502

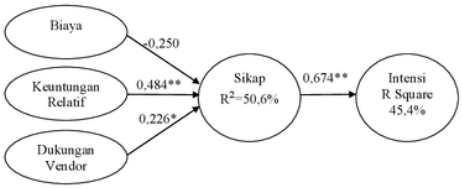

Figure 1. Structural Relationship Model Perceived Cost, Profit, and Vendor Support Against Technology Adoption Intention

Based on estimates by the PLS is known that the relationship between attitude towards SMEs Batik intention to adopt information technology is positive (beta = 0.674) and significant (t = 8.502 > 1.96) . It is clear that the use of information technology is a good idea and assessed by SMEs Batik will be beneficial because it can improve the performance of SMEs . These findings reinforce the findings of Thong (1999) which suggests that SMEs have a more positive attitude towards the characteristics of information systems is more likely to adopt high technology information . The test results showed that the perception of adoption costs had a negative impact (beta = -0.25) on attitudes . This is in line with basic economic theory , when the price offered is higher then the consumer will think again to buy the product , and this applies to SMEs . The reason this happens because of the negative attitude of SMEs Batik managers perceive that to adopt the technology required a high cost both of the price system , the cost of maintenance and training costs . In addition SMEs Batik also perceive that to adopt the necessary information technology training long enough and perceived greater costs than benefits. Meanwhile , judging from the type of business scale , generally Batik SME finance only able to produce the goods and the provision of salaries to its employees . Indirect costs are also significantly negative perception towards adopting intention . So it is natural that managers of SMEs have a low attitude and intention to adopt the system . These findings are consistent with the findings Seyal and Rahim (2006) who argued

that the high cost of technology adoption , high maintenance costs , operating costs and training costs turned out to be expensive to dissuade an SME to use information technology .

Regardless of SMEs Batik negative towards the cost , it turns on the estimation of relative advantage variable positively influence the attitudes of 0.484 with variable degrees of error of 1% and indirectly significantly to the intention to adopt . It is clear that SME managers Batik agree that the use of information technology to enhance the reputation , economic benefits , reduce production costs , may improve customer relationships , improve relations with suppliers as well as to boost performance . Positive perceptions toward information technology , was able to effect a positive attitude towards the management of SMEs Batik , and in turn will increase the SME manager 's intention to adopt information technology systems . The more benefits offered from the information technology , the more positive attitude of managers of SMEs Batik and eventually will encourage SMEs desire to adopt information technology . The results of this study are in line with research conducted by Gemino , Mackay and Reich (2006) which showed that the use of EDI produce strategic benefits and information . Strategic benefits that can improve the competitiveness or create strategic advantage , catch up with competitors , helping to build beneficial relationships with other organizations , improving customer relationships and can respond more quickly to changes . While the benefits of information that can access information more easily , improving management information for strategic planning , improving information for management control , improving the accuracy or reliability of the information , present information in a more concise manner or better format , retrieval and delivery require greater cost compared to the benefits of information or reports more quickly , increasing the volume of information output , increasing the flexibility of information requests .

SME perceptions of the need for vendor support is also welcomed by the attitude of SMEs Batik . This relationship is indicated by the value of the beta coefficient of 0.226 . The existence of support services in the event of difficulties in using information technology , and training, how to use information technology , as well as help to improve the system in the event of an error of information technology is one way to encourage SMEs Batik intention to be willing to increase the adoption of information technology in SMEs With the support of the vendor SMEs do not have to worry anymore to spend a lot of costs for training and send technician uses when the system is broken. Thus , the support of the vendors while reducing barriers to technology adoption due to the perception of high costs incurred by SMEs Batik .

Technology Factors relations with SMEs Batik Adopt intension of Technology Barriers to adopting technology SMEs Batik is not only influenced by the financial ability alone . SME managers perception of the complexity or difficulty level of technology lead to a negative attitude (beta = -0.243) . SME managers assess that information technology would be difficult to learn , understand , and to use it requires experience , knowledge and skills. This makes the management of SMEs prefer to avoid adopting technology rather than information they need to study hard and take a long time to be familiar with the information technology . The complexity of the technology is not only a negative impact on attitudes alone , but also indirectly lowers SMEs Batik intention to adopt (beta = -0.165) . Efforts to minimize concerns regarding SMEs Batik system complexity , the information technology designers need to consider factors such.

Table 5. Value Path Coefficients (direct effects, indirect and total effects) Relationship Testing Results Factor Technology with Technology Adoption Intention

Variabel	R^2	Efek langsung	Tidak langsung	Total efek
Efek terhadap sikap	21,1%			
Kompatibilitas		(0,368) 3,562	-	(0,368) 3,562
Kompleksitas teknologi		(-0,243) 2,686	-	(-0,243) 2,686
Efek terhadap niat mengadopsi	45,8%			
Kompatibilitas		-	(0,249) 3,168	(0,249) 3,168
Kompleksitas teknologi		-	(-0,165) 2,633	(-0,165) 2,633
Sikap		(0,676) 8,314	-	(0,676) 8,314

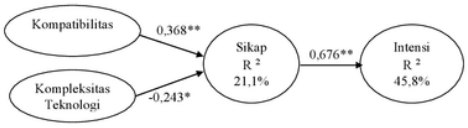

Figure 2. Structural Relationship Model with Technological Factors Technology Adoption Intention

On the other hand , managers of SMEs Batik also provide a positive attitude towards information technology compatibility . Managers of SMEs stated that if information technology is offered in accordance with the business culture , business vision , business values and business practices , the management of SMEs Batik likely will want to receive the information technology . Rationally , when it adopted systems can be applied in SMEs , the SMEs Batik activity will be easier to work with and controlled . For the designers of information systems are expected to understand the suitability of the information technology systems of culture , vision , values , and business practices , which in turn can encourage managers of SMEs Batik to adopt information technology . Environmental Factors and Organizational relationships with SMEs Batik Adopt intension of Technology Based on estimates by the PLS was found that the readiness of the organization is positively related to the attitude of 0,281 . Readiness of organizations which include a commitment to implement information technology , SMEs are ready to support financial , HR SME has the readiness to use information technology , SMEs have the readiness to use information technology infrastructure , and SME members have the knowledge to operate information technology , is a driving factor of SMEs to adopt technological information . Quality of human resources has been found to be a factor affecting SME 's intention to adopt information technology . Positive relationship between the variable quality of human resources with the attitude that the members of the SME explained easily learn to use information technology , SME members can share their knowledge of information technology , as well as members of the SMEs have the creativity to continue to learn to use the technology to use the technology will be judged as a good idea , and in turn will improve SME managers intention to adopt information technology systems . Government support for the provision of training on how to use information technology , finance and lending infrastructure manager greeted with a positive attitude SMEs . It is very reasonable considering the scale of SMEs is relatively small effort and minimal in terms of financial , while the adoption of a system requires a high cost and availability of infrastructure . Government support can motivate batik SMEs to adopt information technology . Jeon , Han and Lee (2006) reported that the presence of financial assistance , and the provision of infrastructure will motivate SMEs to willing to use information technology . Natural and Noor (2009) also stated that the government support in the form of infrastructure technology has an important role in pengapdosian ICT by SMEs . Furthermore , a study conducted by Tayor and Owusu (2012) on two small exporting handicraft SMEs in Gana reported that the lack of infrastructure and the high cost of internet technology inhibits the SMEs to mengadosi Internet and e - commerce.

Table 6. Value Path Coefficients (direct effects, indirect and total effects) Relationship Testing Results Organizational and Environmental Factors

Variabel	R^2	Efek langsung	Tidak langsung	Total efek
Efek terhadap sikap	70,5%			
Kesiapan organisasi		(0,281) 2,368	-	(0,281) 2,368
Kualitas SDM		(0,226) 2,142	-	(0,226) 2,142
Ketidakpastian Lingkungan		(0,078) 1,400	-	(0,078) 1,400
Dukungan Pemerintah		(0,175) 2,192	-	(0,175) 2,192
Tekanan konsumen		(0,199) 2,004	-	(0,199) 2,004
Tekanan kompetitor		(0,210) 2,242	-	(0,210) 2,242
Tekanan peraturan		(0,055) 0,536	-	(0,055) 0,536
Efek terhadap niat mengadopsi	45,5%			
Kesiapan organisasi		-	(0,190) 2,293	(0,190) 2,293
Kualitas SDM		-	(0,152) 2,012	(0,152) 2,012
Ketidakpastian Lingkungan		-	(0,052) 1,205	(0,052) 1,205
Dukungan Pemerintah		-	(0,118) 2,130	(0,118) 2,130
Tekanan konsumen		-	(0,134) 1,752	(0,134) 1,752
Tekanan kompetitor		-	(0,141) 2,089	(0,141) 2,089
Tekanan peraturan		-	(0,037) 0,368	(0,037) 0,368
Sikap		(0,673) 8,351	-	(0,673) 8,351

Consumer pressure is also found as factors influencing SMEs Batik to adopt information technology. Positive value (beta = 0.199) can be interpreted that consumer pressure to improve performance and standardized production requires good response by the attitude of SMEs. A positive attitude is a form of commitment and minimize the loss of customers. When SMEs Batik does not comply with the customer, then the potential for greater customer left. This finding is consistent with the finding Planellas and Foguet (2007) which suggests that consumers and suppliers of SMEs using the Internet in their business processes, which will be a multiplier factor will be more and more companies to get involved in the use of technology.

Figure 3. Structural Relations Model Factors and Organizational Environment with SMEs Batik Adopt intension of Technology

The results of the analysis addressing the positive influence (beta = 0.210) between the competitive pressures / competition with attitude. Concerns SMEs Batik compete with competitors and the fear of lagging behind the other SME members who use information technology SMEs to encourage members to adopt information technology systems. This realistic, as more and more competitors are using information technology, it is the SMEs will also be forced to adopt information technology to maintain the position. This finding is in line with the findings Chwoles, Benasat and Dexter, (2000) reported that the competitive pressures associated with the company's ability to maintain or improve competitiveness in the industry affect the intention to adopt EDI or IT.

5. CONCLUSION

The rate of adoption of information technology in SMEs Batik is largely determined by the cost incurred in the process of adoption of the technology, the benefits obtained when SMEs Batik adopting information technology, and vendor support to SMEs Batik when adopting information technology. The study also found that barriers in technology is also a factor considered by SMEs Batik adopting information technology. Factors such technology is the compatibility and complexity of the technology. Factor which determines the adoption of information technology in the next batik SMEs SME organizational readiness, quality of human resources in SMEs Batik, government support, consumer pressure and the pressure of competition. In the present study found no significant relationship between environmental regulatory pressures and uncertainty with the intention of adoption of information technology in SMEs Batik.

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Local Culture and the Role of Social Norms in Determining Adoption of Information Technology in SMEs Batik in Indonesia

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LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : ***PROSIDING** **

Judul Karya Ilmiah (paper)	:	Local Culture and The Role of Social Norms in Determining Adoption of Information Technology in SMEs Batik in Indonesia		
Jumlah Penulis	:	3 Orang (**Siti Aisyah TR**, AM. Soesilo, Muh Sabandi)		
Status Pengusul	:	Penulis pertama / ~~penulis ke~~ / ~~penulis korespondasi~~**		
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b.	Ruang lingkup dan kedalaman pembahasan (30%)	4,5		3,50
c.	Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	4,5		4,00
d.	Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	4,5		3,00
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b. Ruang lingkup dan kedalaman pembahasan : Paper ini membahas mengenai **determinan adopsi teknologi informasi pada usaha kecil menengah (UKM) Batik** di Surakarta, Sragen, Klaten dan Yogyakarta. Tujuan paper ini sangat menarik dan **sangat bermanfaat bagi pengembangan usaha Batik** yang merupakan produk unik dan unggulan dari Indonesia.

c. Kecukupan dan pemutakhiran data/informasi dan metodologi : Paper ini sudah memiliki kecukupan dan juga menggunakan data dan metodologi yang mutakhir. Penelitian ini ingin melihat **sejauh mana UKM menerapkan teknologi informasi pada usaha Batiknya** guna mendorong produktivitas dan kemajuan Batik di Indonesia pada umumnya dan di daerah-daerah tersebut pada khususnya. Hasil termuan **paper ini sangat bermanfaat bagi** pemerintah dalam melakukan kebijakan untuk mengembangkan produk Batik dan juga bermanfaat bagi pengusaha Batik itu sendiri.

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Surakarta, ... 07 APR 2020 .....

Reviewer 2

Prof. Dr. Yunastiti Purwaningsih, MP
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Jabatan : Guru Besar
Pangkat,Gol Ruang : Pembina Utama Muda/IV D
Unit Kerja : FEB UNS
Bidang Ilmu : Ekonomi Pembangunan

*Dinilai oleh dua Reviewer secara terpisah
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		Internasional ☒	Nasional ☐	
a.	Kelengkapan unsur isi paper (10%)	1.5		1,25
b.	Ruang lingkup dan kedalaman pembahasan (30%)	4.5		3,55
c.	Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	4.5		3,65
d.	Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	4.5		3,50
	Total = (100%)	**15**		**11,95**
	Nilai Pengusul = 60% x 11,95 = 7,17 (Penulis pertama)			

Catatan Penilaian artikel oleh Reviewer :

a. Kelengkapan dan kesesuaian unsur isi artikel : Paper ini telah mencukupi kelengkapan unsur yang terdiri latar belakang, perumusan masalah, kajian pustaka, metodologi, hasil dan analisis

b. Ruang lingkup dan kedalaman pembahasan : Topik studi cukup menarik yakni menyusun model adopsi teknologi informasi untuk industrk batik UMKM di sentra batik daerah Surakarta, Klaten, Sragen dan Yogyakarta. Yang mencakup 40 responden. Secara umum hasil penelitian ini adalah bahwa industry batik UMKM masih lemah dalam mengadopsi teknologi informasi, untuk itu memang perlu dukungan dari stakeholders dalam meningkatkannya.

c. Kecukupan dan pemutakhiran data/informasi dan metodologi : Secara umum paper ini telah mencukupi baik dari sudut data dan metodologi. Metode yang dipergunakan dalam studi ini adalah SEM-PLS yang telah dieksekusi dan berhasil menjelaskan studi ini

d. Kelengkapan unsur dan kualitas terbitan : Paper ini telah dipresentatasikan dalam forum ilmiah internasional yang bereputasi. Yang telah memenuhi kaidah penulisan yang ditentukan.

e. Indikasi plagiat: Tdak ada indikasi plagiarism

f. Kesesuaian bidang ilmu: Sangat sesuai bidang ekonomi terutama dalam bidang ekonomi pembangunan.

Surakarta, 09 APR 2020

Reviewer 1/2 *

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*Dinilai oleh dua Reviewer secara terpisah
**Coret yang tidak perlu