Determinants Small-Medium Enterprise Performance: Case of Batik Pekalongan in Indonesia

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Abstract: Previous studies have found that SME’s performance can be influenced by many factors including entrepreneurial and management skills factors. However, religious values and technology adoption are rarely being examined. This study focuses on examining whether or not they are contributing to overall SME’s performance. Batik SME’s in Pekalongan, Central Java was chosen as the city is well-known for its religious citizens’ background and also as the batik central industry in Indonesia. The population of this study is all of the Batik SME’s owners in Pekalongan in 17 sub-districts. As many as 152 questionnaires were distributed to Batik SME’s owners in Pekalongan by proportional purposive sampling technique. Structural Equation Modeling (SEM)-AMOS technique is used to test both the measurement and structural model. The results revealed that Islamic work ethics has no direct effect on SME’s performance. Moreover, employee competence has also no direct effect on SME’s performance. Employee competence in this study significantly affects technology adoption. Furthermore, the result showed that SME’s performance is highly affected by technology adoption.

Keywords: Islamic work ethics, competency, technology adoption intention, small-medium enterprise, performance.

1. INTRODUCTION

Pekalongan is known as the City of Batik since the 19th century and has been recognized by UNESCO as a City of Batik. The Batik industry has grown rapidly from year to year despite experiencing ups and downs. The people in Pekalongan are very unique because most of them are Moslem, but they are able to live side by side and transact business with other people who have Arab and Chinese tribes. In the middle of a very high level of competition, Batik industry in Pekalongan is able to prove that it has survived from one generation to the next.

Facing the Industry 4.0, Batik has been set by the Government of Indonesia as one of the industries that must be ready and able to compete by taking advantage of the increasing export and domestic market opportunities. The increasingly complex competition in the business world and the emergence of new competitors, such as Vietnam, Malaysia, and China have made the challenge of the Pekalongan Batik industry to immediately transform its business in a more modern direction. The Industry 4.0 era makes its own dilemma for Batik industry in Pekalongan since it must be prepared from all aspects, such as human resource, information technology, capital, and other resources.

The majorities of people in Pekalongan have low education and are only concerned with religious education (Triana, 2016). Thus, it is predicted to be a limiting factor in facing the Industry 4.0.

Several studies have proven that technological competence is able to improve organizational performance (Hsu, 2008: Thomson & Mabey, 1994; Igbaria& Tan 1997) and are able to adopt the technology (Blanchard & Thacker, 2005; Jabar et al., 2010). Technological adoption can also improve organizational performance (Masa’deh, 2018; Tsou et al., 2014). Nevertheless, in the scope of the Moslem community, Batik MSMEs in Pekalongan must be able to implement Islamic work ethics. Based on the researcher observation in the field, the community in Pekalongan City has a very strong religious observance and can implement it well although there is still some cheating in conducting business transactions. The facts show that some of batik entrepreneurs in Pekalongan...
City experienced bankruptcy because of the behaviour of their business partners who cheat in conducting a business transaction. The research result from Sofiani, 2016 stated that the fraudulent behaviour of batik entrepreneurs in Pekalongan City is very diverse (Sofiani, 2016). Therefore, human resources competence and technology adoption are not enough; because it also needs an implementation of perfect Islamic work ethics (kaffah) because business is not only aimed at seeking profit, but also provide benefits to the public and its surroundings. It is in accordance with the principles of Islam, rahmatan lil alamin, which is to give mercy benefits to all nature.

2. LITERATURE REVIEW
2.1. Employee Competency and Organizational Performance

Employee competence is a vital asset for an organization as it has a direct effect on organizational performance (Hsu, 2008). The competence terminology interpreted differently and inconsistently by the organization (Puteh et al., 2016; Palan, 2005). It is because each job has each unique characteristic that require a different measurement. For instance, the core competence for a marketer is different from an accountant, so a manager cannot measure the accountant’s competence with marketer’s competence measurement, and so forth. However, generally speaking, competence can be defined as the individual core characteristics in a form of motivation, trait, skills, self-image or social role (Boyatzis, 1982, p.21).

Eventhough Thomson & Mabey (1994) said that employee competence alone is not enough to judge good organizational management, however, several works confirmed that competence is the predictor of organizational performance. Therefore, according to Puteh et al., (2016), the organization should be able to identify which competence and how it is affecting organizational performance. Their argument supports Cheng et al., (2005).

Each job requires a different competence. Udin et al., (2012) mentioned that in the field of tax and accounting, communication and interpersonal skills, general business knowledge, accounting knowledge, problem-solving skill, information technology, managerial and jobs knowledge are the must-have competence for employee. Moreover, Junaidah (2008) argued that as a whole, an employee must have at least three core competencies, they are communication, managerial, and jobs skills and knowledge. In the service industry, general knowledge and skills about people, business, technology, and techniques are the most important (Tome 2011). Igbaria & Tan (1997) also mentioned in their research that technological information has a positive effect on individual as well as organizational performance. From the argument, the author hypothesized,

Hypotheses 1: Employee competence positively affects organizational performance

2.2. Employee Competency and Technology Adoption

Organization must be able to adapt to information technology advancement. It is not an option but a requirement to compete in today’s business competition. Many companies use big data to map the competition effectively and efficiently. Technology can improve work productivity (Chang & Lee, 2018), individual and organizational performance (Igbaria & Tan, 1997). According to Blanchard & Thacker (2005), competence can be defined as the cluster of related knowledge, skills and attitude differentiated good employee and the bad one. Jabar et al., (2010) stated that knowledgeable employees are those with measurable competence internally and externally by using tangible aspect such as productivity.

Youndt et al., (1996) believed that human resource is a core of organizational performance. Without skillful and knowledgeable employees, organization might not be able to adopt technology and eventually the organization its self will fail to survive in competition. The authors then hypothesize that,

Hypotheses 2: Employee competence positively affects technology adoption

2.3. Technology Adoption and Organizational Performance

Today’s business environment is very dynamic. Organizations will try to minimize the negative effect of the price war, cost efficiency, and at the same time try to maximize new market opportunity (Masa’deh et al., 2015). They will force themselves to improve technological skills to compete in the industry (Osman, 2014 in Masa’deh, 2018). Technology orientation is said as “as one where firms have an R&D focus and emphasize on acquiring and incorporating new technologies in product development” (Deshpande et al., 2013). It also can be defined as organizational openness to new ideas to adopt new technology during product development (Tsou et al., 2014).

After analyzing the business environment, small-medium industry must expand its strategy effectively (Singh et al., 2010). In a rapidly changing environment, the market becomes more competitive, mainly in relation to quality improvement and competitive price. Organization can response it by resetting its working process through the better customer-orientated adoption strategy (Tuanmat and Smith, 2011).

Every organization must be eager to improve its organizational performance. It is considered as the core of corporate management strategy (Tseng & Lee, 2014). However, to define, create a concept, and to
measure it is not easy to be done by the organization. Each organization represents a group of people allocated based on their responsibility to achieve certain objectives and goals by adapting and adjusting with the rapidly changing environment (Masa’deh et al., 2018).

Performance refers to the level of target achieved by an organization, or the effectiveness of an individual, group and organization (Masa’deh et al., 2018). In the individual level, performance refers to job satisfaction, goals, and self-adjustment. In a group level, it refers to moral cohesion, efficiency and productivity. Whereas in the organizational level, it refers to efficiency, productivity, absence rate, turnover rate and adaptation ability (Tseng and Lee, 2014). From the process point of view, performance means transferring into the output in order to meet certain goals. From an economics perspective, it refers to the relationship between costs and results (Jarad et al., 2010).

Technological orientation (or can also be said as innovation orientation) appears when the organization implementing a new idea, product and process. It is done by coordinating company structure, system and resource with technology, therefore using it as competence (Kateb et al., 2015). Moreover, technological orientation in the context of technical skills, resources and R&D, and technological basis perceived as important to produce innovative well-design products. The technological-oriented organization will be proactive in looking for new technology and implement it to develop new products or services (Tsou et al., 2014). Nonetheless, a technological-oriented company works very hard to invest and improving featured products instead of analyzing customer needs (Freitas et al., 2013). This because customer value and long-term success can be achieved by innovation (Hakala, 2011), therefore make technological orientation as an important part of strategic orientation.

Company digitalization across industries such as IoT, big data analytics, artificial intelligence, and cloud computing is a new rising phenomenon. A company must transform itself responding to it, so that improvement in customer experience and involvement, lean process and new business model can be met (Fitzgerald et al., 2014).

Teece (2013) in Khin and Ho (2018) argued that dynamic ability provides an organization with a coherent working framework to develop and manage competitive advantage. Based on the theory of dynamic capability, a digital competence can be considered as dynamic capability illustrated as organizational performance to create new products and processes by responding change in the market (Teece and Pisano, 1994). As so, a digital company must also commit and ready to embrace new technology to create and maintain a competitive advantage. Therefore, digital competence and orientation are compatible and supplement each other for product innovation (Zhou & Li, 2010; Renkoet al., 2009). Based on the argument, the authors hypothesize,

**Hypotheses 3:** Technology adoption positively affects organizational performance

### 2.4. Islamic Working Ethics and Organizational Performance

According to Thompson (1985), work ethics is the implementation of moral principles on individual and organizational behaviour. The word ethics has a connection with manners which defined in Arabic dictionary “Al-Qamoos Al-Muheet” as the true nature of a person, chivalry and religiousness, that holds either positive or negative effect (Habanka, Abdul-Rahman in Alhyasat, 2012). Ethics is a rule and abstract principle regulating human behaviour and used as a benchmark to evaluate it (Badran, 1981 in Alhyasat, 2012).

Islam offers a unique perspective about jobs and has formulated a specific working ethics concept. In all possibilities, Muslims working ethics and behaviour strengthen their faith and speed up social and economic change. Ibn Khaldun and Abd-al-Rahman (1989) in Ali and Al-Owaihan (2008), Arabic sociologist in the middle of century argued that getting involved in a business has four main objectives: facilitating cooperation and trust among people, satisfying people needs, improving the wealth and growth of the city (Ali and Al-Owaihan, 2008).

The belief about working ethics is different across time and countries. Weber’s book entitled ‘Protestant Ethic and the Spirit of Capitalism’ is an important development in working and organizational literature (Ali and Al-Kazemi, 2007). Empirically, it is proven that working ethics commitment is attached in the culture, regardless of the religion. In fact, economics achievement from different groups in various societies showed that the willingness to achieve, work hard, accumulate wealth, and improve life quality can be found in the society and among diver groups (for example Chines ethnic in Malaysia, Islam and Arab in the middle of century, Babilonia civilization and ancient Egypt) (Ali and Al-Kazemi, 2007).

Islam perceived the commercial activity as not only a divine calling but also an important aspect of human life, social satisfaction, and psychological pleasure. Prophet Muhammad peace be upon him preached that a businessman must do a job that is accused not only morally but also socially. He stated that “I commend the merchants to you, for they are the couriers of the horizons and God’s trusted servants on Earth” and “the honest, truthful Muslim merchant will stand with the martyrs on the Day of Judgement” (Ali and Al-Owaihan, 2008).
Islamic working ethics concept rooted in the Quran and the teaching of Prophet Muhammad peace be upon him. Almighty God mentioned in the Quran, “To all are ranks according to their deeds” (6:13). He also emphasizes the believers’ direct involvement and commitment in business (Quran 53: 59), “That human being can have nothing but what is striven for” and “God hath permitted trade and forbidden usury” (Quran 2:275). Prophet Muhammad peace be upon him said that hard work can abort sins and that “no one eats better food than that which he eats out of his work” (Ali and Al-Kazemi, 2007). Islamic working ethics is the orientation that form and influence believers participate in the job. The concept perceives the job as the tool to upgrade self-interest economically, socially, and psychologically, and to maintain social prestige.

Amin et al., (2014) presented a positive and significant relationship between HRM practice and organizational performance through job satisfaction and employee commitment. In addition, Youndt et al., (1996) stated that human resource is a core of organizational performance. They argued that there are two general perspectives that correlate between human resource and organizational performance: contingency and universal. Therefore, since Islamic working ethics emphasize employees’ good moral principle and the employee its self is the centre for the organization to perform, the authors hypothesize that,

**Hypotheses 4:** Islamic working ethics positively affect organizational performance

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**3. RESEARCH METHODS**

**3.1. Sampling and Data Collection**

This research used a purposive sampling technique. Respondents are limited to those who owned Batik small business. Another limitation for the respondent is the religion, in which the respondent must be a Muslim. As a consequence, respondents who do not meet those requirements are deleted or excluded from the analysis. The questionnaires were distributed directly by selected enumerators to 152 Batik owners in 17 sub-districts in Pekalongan City, Central Java Indonesia. Students from Faculty of Economics Universitas Islam Indonesia were also employed to do technical data processing.

**3.2. Measure And Questionnaire Development**

There are two sections in the questionnaires booklet. The first is asking about respondent demographics, including filtering questions, such as religion, sex, age, education, and tenure. The second part of the questionnaires containing variable items measurement questions. In this part, there are total 20 questions adapted from previous studies. Islamic work ethics (IWE) items were adopted from Hassan (1996), SME’s performance scales were measured by Maduekwe and Kamala’s (2016) items. This paper used Renyut et al., (2017) scale to measure employee competence. The questionnaire used a five-point Likert scale, ranging from “strongly agree” to “strongly disagree”.

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*Figure 1: Research model*
Table 1. The Rule of Thumbs for Model Fit (Hooper et al., 2008)

<table>
<thead>
<tr>
<th>No</th>
<th>Criteria</th>
<th>Threshold</th>
<th>Rule of Thumb</th>
<th>Source</th>
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<tbody>
<tr>
<td></td>
<td>Absolute Fit Indices</td>
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<tr>
<td>1</td>
<td>CMIN/DF</td>
<td>&lt;2.00</td>
<td>Good</td>
<td>Tabachnick and Fidell (2007)</td>
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<td></td>
<td></td>
<td>&lt;5.00</td>
<td>Acceptable</td>
<td>Wheaton et al., (1977)</td>
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<td>4</td>
<td>RMSEA</td>
<td>&lt;0.06</td>
<td>Good</td>
<td>Hu and Bentler (1999)</td>
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<td>0.05-0.10</td>
<td>Fair</td>
<td>MacCallum et al., (1996)</td>
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<td>&gt;0.10</td>
<td>Poor</td>
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<td>Incremental Fit Indices</td>
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<td>1</td>
<td>NFI</td>
<td>&gt;0.95</td>
<td>Great</td>
<td>Hu and Bentler (1999)</td>
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<td>&gt;0.90</td>
<td>Good</td>
<td>Bentler and Bonnet (1980)</td>
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<tr>
<td>2</td>
<td>CFI</td>
<td>&gt;0.95</td>
<td>Great</td>
<td>Hu and Bentler (1999)</td>
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<td></td>
<td>&gt;0.90</td>
<td>Good</td>
<td>Hooper, Coughlan, and Moolen (2008)</td>
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Note: *depends on the factor loadings and sample sizes. The lower the sample sizes the greater the GFI should be.

3.3. Data Analysis

This study used Structural Equation Modeling (SEM) to analyze the measurement and structural model. The AMOS-IBM software was used to run the analysis. A pilot test was conducted to ensure that the items can be used for further analysis. Items are said to be valid if they converge into specified factors based on the theory, with loading factors equal to or above 0.50. In addition, the data can be said reliable if the Cronbach Alpha score is greater than 0.70 (Nunally, 1978).

The fitness of the model in CFA can be reviewed based on criteria from several scholars in the field that is summarized in Table 1.

Table 2. Factor loading results

<table>
<thead>
<tr>
<th>Items</th>
<th>Factors</th>
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<td></td>
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<td>IWE 3</td>
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<td>IWE 6</td>
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<td>COMP 1</td>
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<td>COMP 4</td>
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<td>PERF 1</td>
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<td>PERF 5</td>
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<td>ADOPT 1</td>
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<td>ADOPT 2</td>
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4. RESULTS AND DISCUSSION

From the initial data analysis, it is found that all Batik SME owners in Pekalongan City are Muslim. Based on the gender proportion, there are 91 male respondents (59.9%) and 51 female respondents (33.6%). It is interesting to find out that there are 39 respondents (25.7%) from the age group < 20 years old and another 25.7% from the age group 31-40 years old. The data indicate that Batik SME industry in Pekalongan City does not have to worry about regeneration. Even though, most respondents (28.3%) are aged greater than 40 years old.

Another interesting fact from the data is that mostly the Batik SME owner in Pekalongan did not pursue higher education. There are only as many as 6 respondents (3.9%) got a bachelor degree and 4 respondents (2.6%) obtained a master and doctoral degree. Majority of them, as many as 61 respondents (40.1%) are junior high graduate, 50 respondents (32.9%) are senior high graduate and the rest are elementary school graduate.

As shown in table 2, the items are converged to specified factors confirming the theory. However, several items must be deleted because its loading factors are lesser than 0.50 and converge in a different factor. In total, there are 4 items, 3 items, 3 items and 2 items for variable Islamic working ethics, employee
Also settled by Amin, 39(6), Accounting and Business Research, the authors suggest future research is going to be. In addition, the Cronbach Alpha score for all variables is greater than 0.70. It shows that this model is also reliable. Therefore, these items can be used for further structural analysis.

From the statistical computation, it is found that organizational performance is directly influenced by technology adoption (β=0.893, p-value < 0.05). That result supported Teece and Pisano (1994) who said that organizational performance is correlated with digital competence. It also gives support to Zhou & Li (2010) and Renko et al., (2009) findings that organizational performance on innovation highly influenced by its digital or technological orientation. However, the result also shows that organizational performance is not directly affected by employee competence and Islamic working ethics as hypothesized in H1 and H4. The estimate (β) score is -0.085 and 0.029 with p-value > 0.05 respectively. There is no direct effect of Islamic working ethics on organizational performance. However, the author argues that the relationship is fully mediated by another unobserved variable. The argument is supported by Amin et al.,’s (2014) finding. They found that the link between HRM practice and organization performance is mediated by job satisfaction and employee commitment.

The effect of employee competence on organizational performance as stated in H1 is also unsupported. It contradicts Tome (2011) and Igbaria & Tan (1997) who said in general that competence and organizational performance are highly correlated. The argument of Eventhough Thomson & Mabey (1994), Puteh et al., (2016), and Cheng et al., (2005) who are in agreement that employee competence alone is not enough to judge good organizational management can be the best explanation for the result. Another reason is because of the nature of competence itself that are specific to the profession. Therefore, it is going to be very worthy if future research specifies which employee competence that directly affects organizational performance.

5. CONCLUSION

It can be concluded that technological adoption plays a significant role in affecting SME’s organizational performance. Employee competence and Islamic working ethics do not directly affect SME’s performance, but, the relationship is argued to be indirect. Therefore, the authors suggest future research to examine variables possibly mediate the relationship.

Acknowledgement:
This research is fully funded by The Ministry of Research, Technology and Higher Education (Kemenristekdikti), The Republic of Indonesia under the Basic Research Grant scheme for 2019/2020.

We Thank To The Any

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