INFORMATION AND COMMUNICATION TECHNOLOGY (ICT): CAN IT IMPROVE CUSTOMIZATION CAPABILITIES AND BUSINESS PERFORMANCE OF SMALL AND MEDIUM SCALE MANUFACTURING INDUSTRY?

Supriyadi

Abstract: The development of information and communication technology (ICT), very rapidly. Various application systems created to support and simplify business processes. Many companies provide a lot of fund to invest and adopt ICT. This study aims to investigate the impact of the adoption of ICTs on the customization capabilities and performance of the business, which includes the marketing performance and financial performance. A total of 77 companies of small and medium scale manufacturing industries included in the sample. Data were collected by questionnaire, and analyzed with multiple linear regression. The results showed that the adoption of ICT significantly positive impact on the customization capabilities and financial performance, but no significant effect on the marketing performance. Customization capabilities have a significant effect, both on marketing performance and financial performance.

Keywords: Adoption of ICT, Customization Capabilities, Marketing Performance, Financial Performance

INTRODUCTION

The development of information and communication technology (ICT), very rapidly. Integration of computer technology, information systems and communication technologies, as well as the existence of the Internet, has spawned a very favorable synergies. Various application systems were created, to support and simplify business processes. In a moment, ICT becomes at rend that is implicated. Almost all parties be infected to invest and adopt ICT. No exception for large enterprises, medium and small scale. With its unique characteristics, ICT is believed to bring a positive impact on the development and performance of a business.

As the characteristics of other types of SMEs, small and medium scale manufacturing industry has resilience to the crisis better than large-scale

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industry. One key is greater flexibility. Small and medium scale manufacturing industry is able to make modifications quickly both in product, process, design, and distribution. Thus, dynamic customer demand can still be served. In the operations management literature, it’s called customization capabilities. Yes, small and medium scale manufacturing industry can survive, through its ability to customize.

In Bekasi, the development of small and medium-scale manufacturing industry, there is quite significant. They are generally a buffer for large-scale industry in the region. Associated with the development of ICT, initial observations show an increase quite rapidly, on investment activity, and adoption of ICT, which is carried out by small and medium scale manufacturing industry in the Bekasi area.

This study aims to investigate how the impact of the adoption of ICTs on the customization capabilities in small and medium scale manufacturing industries. Moreover, it also analyzed the impact on business performance, which includes the performance of marketing and financial performance.

LITERATURE REVIEW

1. Adoption Of Information and Communication Technology (ICT)

Information technology can be defined either broadly or narrowly. Turban & Volonino (2010: 12) states, that information technology is defined broadly as follows: “Broadly, the collection of computing system used by an organization is termed information technology. Its use, strategy and management”.

While information technology in the narrow sense, according to Turban & Volonino (2010: 13) is: “Information technology, in its narrow definition, refers to the technological side of an information system. It includes the hardware, data bases, software, networks, and other electronic devices. It can be viewed as a subsystem of an information system. Sometimes, though, the term information technology is also used interchangeably with information system”.

OECD defines the Information and Communication Technology (ICT), as a series of activities that facilitated electronic equipment that includes processing, transmission and presentation of information. IT is a convergence of three areas, namely information technology, data and information, as well as problems of socio-economic (Budi Hermana, 2008).

Information technology is often matched with computer technology. In this regard Besterfield et.al. (2003: 223), states: “Information technology is defined as computer technology (either hardware or software) for processing and storing information, as well as communication technology for transmitting information”.

In the literature diffusion and adoption of information technology, in various ICT research, there is no definition of ICT generally accepted as a standard definition. ICT can be considered as the technological aspects of Information Systems (IS) which is aimed at the creation of computer-based information systems. ICT can be defined as “the technology involved in the operation, collection, transport, retrieve, storage, presentation access, and transformation of information in all its forms” (Ghobakhloo et al. 2011).

ICT adoption is defined by Tanetal. (in Ghobakhloo et al. 2011) as the application of Information and Communication Technology (ICT), including computer hardware appliance, software, and network necessary to connect to the internet. According Attaran (in Ghobakhloo et al. 2011), “Information technology is defined as the ability offered to the organization by the computer, application software, and telecommunications to provide data, information, and knowledge to people and process”.

Furthermore, with regard to the concept of relationships with suppliers, Carrand Smeltzer (in Ghobakhloo et al. 2011) defines ICT as the use of automated purchasing systems, link suppliers through electronic data interchange (EDI), the relationship of computer-to-computer with a major supplier and finally information Systems. In that view, the terms of ICT will cover a wide range of information processing and computer applications in organizations. ICT will include IS, ICT, internet and their infrastructure, including computer hardware and software, technological process or transmit information to improve the effectiveness of individuals and organizations.

Furthermore, the term ICT also includes computer applications and hardware devices are required, Computer Aided Design (CAD), Computer Aided Manufacturing (CAM), EDI, and Enterprisere sources planning (ERP), which increases the productivity of the business, as well as any technology used for electronic commerce (EC) such as electronic funds transfer (EFT), intranet, extranet, collaborative planning, forecasting, and replenishment (CPFR) application, supply chain communication systems, and electronic supply chain management system.

Definition of ICT adoption in the organization can be found in some literature. IT adoption is a decision to accept and use IT innovations (Premkumar and Roberts, 1999; Tanetal. 2009; Thong, 1999; Zaltmanetal. 1973), the full use of innovation as intended by the designer (Boving and Bødker, 2004), successful implementation (Thong, 2001), the rate of use (Davis, 1989, Grandon and Pearson, 2004) and the effectiveness and success of ICT is adopted, based on acceptance or satisfaction with the ICT (Al-Gahtanietal. 2007; Al-Gahtaniand King, 1999; Foong, 1999; Palvia, 1996; Palviaand Palvia, 1999). While Thong and Yap (1995) defines ICT adoption are as implementing computer hardware and software solutions that provide operations support, management, and decision making in the organization.
Forth & Mason (2004) examines the adoption and utilization of ICTs. In their research they measure the adoption of ICT through ICT facilities and equipment used by the company 1). Computers/PCs used by employee, 2). Network - computers/PCs networked or interconnected for communication purpose, 3). Remote access – employee able to access company’s computer system remotely from non-company site, 4). Email used for internal and external communication, 5). Electronic data interchange (EDI) used to communicate with supplier or customer, 6). Internet – employee have access to internet for other than email use, 7). Website – company has ste on world wide web, 8). Internet and/or extranet – private secure networking running on internet protocol.

Gallego et.al (2011) divides the three groups of ICT adoption: 1) ICT improve employee productivity. This group includes the number of PCs per employee, ICTs pending per employee, number of employees who work with the PC, the number of PCs connected to the Internet. 2) ICT improve overall organizational performance, including the company has been using internet access, and the company has a website. 3) ICT improve corporate connections too other companies or customers, covers an area of internet and internet applications.

2. Customization Capabilities
Increasingly sophisticated technology, requiring goods and services according to the needs of consumers. The company can produce goods and services selection, through what is known as mass customization. With flexible manufacturing, mass customization is now possible. According to Piller and Tseng (2010: 7) mass customization is the process to implement personalization.

According to Heizer & Render (2011:286) Mass customization is the rapid, low-cost production of goods and service that fulfill increasingly unique customer desires. Mass customization is the creation of products and services that can meet the customer is getting a unique, fast and cheap. Mass customization give a variety of products that are usually supplied by low-volume manufacturing (focus on the process) at a cost, same as high-volume manufacturing and standardized (focus on product).

Mass customization is the ability to offer highly configure bundles of non-price factors configured to suit different market segments (with the ideal target of total customization : i.e. market size of 1) – but to do this without incurring cost penalties and the setting up of a trade-off of agility versus prices (Bessant&Tidd, 2011: 219).

According to Schroeder, Goldstein & Rungtusanatham (2011: 75) mass customization, is a strategy to provide products in many sizes and high volume.
Masscustomization is “the company’s ability to quickly produce customized products on a large scale at a cost that is comparable to the non-customized products” (Tuetal., InFinch, 2008:124).

According Coletti & Aichner (2011: 28-29), there are two kinds of mass customization definition, namely the definition of work and the definition of a visionary. Based on the working definition, Mass customization is a strategy that creates value with some form of customer-company interactions at the operating level stage fabrication/assembly to create products that are tailored to the cost of production and prices are similar to mass-produced products. Meanwhile, according to the definition of a visionary, mass customization is a strategy that creates value by some form of company-customer interaction on stage design level operations to create customized products, following a hybrid strategy combining cost leadership and differentiation.

According Heizer & Render (2011: 287-288) Mass customization showed high volume systems where product build-to-order. build-to-order means producing to customer orders, not forecasts. Build-to-order to be successful and become a winning strategy when executed successfully. But the build-to-order with high volume is difficult. Some key challenges are: 1). product design should be imaginative and fast; 2). Process design must be flexible and able to accommodate changes in both design and technology; 3). inventory management requires strict control; 4). tight schedule to keep track of orders and material from design through delivery are other needs of mass customization.; 5). Being are sponsive partner in the supply chain can result ineffective collaboration.

When a company must be able to integrate the flexibility and customization with low cost per unit and perform efficient production with high output volume the company has a mass customization capability (Finch, 2008:124).

According to Pillerand Tseng (2010: 17) companies that control mass customization, find a unified way to address the challenges faced. This requires the company to obtain the competencies of the three core capabilities that drive business sustainable mass customization. The main advantage of mass customization is to see it as a package of organizational capabilities that can complement and enrich the existing system.

Further more Salvadoretal. (2009), call them as Solution Space Development, Robust Value Chain Design, and Choice Simplification. Theme thod behind this capability is often not new. Some of them have been there for years. But a successful mass customization demands to assemble these methods into capabilities in a meaningful way and integrated.
At first, mass customization is applied only to tangible products, but it turns out the same procedure can also be applied to the product and services. Mass customization services will be felt at the time consumed and produced simultaneously, as customers in the services involved in the production process. With mass customization there is a lot of effort to adapt the services offered to the public area to the needs of the individual (Coletti & Aichner, 2011:24).

Mass Customization is not just about the variety of products, but how economically, knows exactly what customers want and whenever the customer wants it. Mass Customization is a challenge that requires improvement of operational capabilities. The manager must use the organization’s resources are imaginative and aggressive to establish an agile process, which produces a specific product quickly and cheaply (Heizer & Render, 2011:75).

Kind of customization capabilities proposed by Bessant & Tidd (2011: 219) includes:

1. Distribution customization, Customers may customise product/service packaging, delivery schedule and delivery location but the actual product/services is standardised.
2. Assembly customization, Customers are offered a number of predefined options. Product/services are made to order using standardises components.
3. Fabrication customization, Customers are offered a number of predefined design. Products/services are manufactured to order.
4. Design customization, Customers input stretches to the start of the production process. Product do not exist until initiated by a customer order.

3. Business Performance

Performance is a condition that must be known and confirmed to certain parties, to determine the level of achievement of an institution associated with the organization’s vision, and to know the positive and negative impact of an operational policy (Whit more in Rival et.al, 2011:2). The performance of the organization is the ability of the organization to achieve its goals through the use of resources efficiently and effectively (Daft, 2008:15).

Organizational effectiveness is the degree of how far the organization successfully achieve the targets set. The effectiveness of the organization means giving a product or service that is valued customer. While the efficiency of the organization, associated with the amount of resources used to achieve an organizational goal (Daft, 2008:14).
The company’s performance is the result of accumulative all work activities, within the company. Measurement of company performance commonly used include the productivity of the organization, organizational effectiveness, and industry rankings (Robbins & Coulter, 2012:188).

Some performance measures of the company is: (1) profitability; (2) market position; (3) productivity; (4) product leadership; (5) personnel development; (6) employee attitudes; and(7) social responsibility (Certo & Certo, 2009:520-523).

The company’s performance can also be measured through the balance score card perspectives, ie use certain generic measures. The generic indicators, tend to be measures of outcome that reflects the many common objectives and strategies similar structures throughout the process industry or scope of the company. Generic outcome measures is tend to be alagindikators, such as profitability, market share, customer satisfaction, customer retention and employee skills.

In some literature, it is mentioned that the measurement of business performance the most common is marketing performance and financial performance. Marketing performance is a representation of a business position in the competition. Marketing performance can be measured by market share, customer acquisition, customer satisfaction and customer retention. Meanwhile, the financial performance is a measure of how well the company meets the owner’s expectations and create a profit. Financial performance can be measured by earnings growth, sales, and return on investment.

4. The Relationship Between Adoption of ICT, Customization Capabilities and Business Performance

Many people seem to agree that mass customization is based on flexible manufacturing technology and information technology which allows the manufacturing system to provide a high variety of products at low cost (Piller & Tseng, 2010:46).

With the technological advances of manufacturing, information technology, communication, and product design, higher levels of mass customization can be realized (Ramani et.al. 2012). Peng et.al (2011) found that IT positive effect on the ability of mass customization in manufacturing companies.

The relationship between ICT with customization capabilities can be explained by organizational information processing theory. These theory suggests a positive relationship between task uncertainty and the amount of information that must be processed by decision makers during task execution (Galbraith, 1974; Kitchen and Spickett-Jones, 2003). Greater uncertainty indicates that more information is required and processed during task performance. Consequently, uncertainty
heightens an organization’s information processing needs. Therefore, the organization must enhance its information processing capabilities to cope with the increased information processing needs so as to keep its operations effective and efficient (Premkumar et al., 2005).

Task complexities are enhanced in a Mass Customization environment. The Mass Customization tasks involve customizing products to specific customer needs in a quick and cost effective manner. Because Mass Customization involves manufacturing tasks that vary across different customer orders, Mass Customization manufacturers must process more information to execute these tasks precisely and timely. Mass Customization also increases the inter-dependency among multiple functional units. Within the firm, Mass Customization requires marketing and operations to coordinate closely in order to respond better to the increasingly differentiated customer needs (Liu et al., 2010). Wind and Rangaswamy (2001) state that understanding customer needs is critical to MC and thus Mass Customization offers opportunity for better channel management and closer manufacturing-marketing relationships. Between firms, these differentiated needs must be quickly sensed at customer touch points and transferred to supply chain partners. Thus, in a Mass Customization environment, differentiated customer needs, high product variety and increased interdependency across the supply chain increase the task uncertainty and the amount of information that must be processed. In such an environment, a firm must improve its information processing capabilities in order to deal with the enhanced information processing needs.

ICT can be used to process large amounts of information effectively and therefore should be conducive to Mass Customization. Modern ICT has the potential to enhance information processing and coordination both within the firm and across firm boundaries (Gattiker and Goodhue, 2004). ICT makes information processing less costly, rendering the governance of MC-related activities more efficient (Argyres, 1999). The general need for ICT support in manufacturing operations has been highlighted in the literature (Boynton and Victor, 1991; Boynton et al., 1993; Yassine et al., 2004; Warschat et al., 2006). For example, Banker et al. (2006) observe that ICT significantly impacts manufacturing practices and operational performance.

Mass Customization is an instance of manufacturing operations characterized by high uncertainty and information richness in task execution. ICT enhances a firm’s information processing capabilities thus accommodating the increased information processing needs of a Mass Customization system. Therefore, ICT should play an even more important enabling role in a MC environment than in a traditional mass production environment.
Research results indicate that CNC, FMS, and Internet had a positive and significant impact on MC in broad market firms which may be derived from their ability to improve one MC dimension at no expense to the other. However, results indicated that different technologies were associated to improvement in different mass customization dimensions. On one hand, CNC and Internet had a positive impact on product customization ability, at no expense to labor productivity. On the other hand, FMS had a positive impact on labor productivity, at no expense to product customization ability. (Silveira & Fogliato, 2005).

The relationship between the ability of customization with business performance can be explained by the theory of Resource-Based View (RBV). RBV is an approach to achieving competitive advantage that emerged in 1980s and 1990s, after the major works published by Wernerfelt, B. (“The Resource-Based View of the Firm”), Prahalad and Hamel (“The Core Competence of The Corporation”), Barney, J. (“Firm resources and sustained competitive advantage”) and others. The supporters of this view argue that organizations should look inside the company to find the sources of competitive advantage instead of looking at competitive environment for it.

According to this theory, companies can gain a competitive advantage through unique resource. Resource consists of two types, resource tangible and intangible resources. Customization capability is one of the intangible resources (Whellen & Hunger, 2009)

According to RBV proponents, it is much more feasible to exploit external opportunities using existing resources in a new way rather than trying to acquire new skills for each different opportunity. In RBV model, resources are given the major role in helping companies to achieve higher organizational performance (Hit et. al, 2005).

Based on the above framework of thinking, we developed a hypothesis to be tested in this study as follows:

**Hipotesis 1**: Adoption of ICT has a positive impact on the ability of customization on small and medium scale manufacturing industries.

**Hipotesis 2**: ICT adoption and customization capabilities have a positive effect on the performance of marketing, both sumult an or partially.

**Hipotesis 3**: ICT adoption and customization capabilities have a positive impact on financial performance either simultaneously or partially.

Visually, the hypothesis to be tested can be illustrated in the research model as illustrated in Figure 1 below:
RESEARCH METHODS
The unit of analysis in this study is the SME manufacturing in Bekasi. We used purposive sampling method, where samples must meet the following criteria: 1) Has been established for more than 5 years; 2) Incorporated, minimum of CV; 3) The employee has at least 10 people. With these criteria, elect a total of 77 SMEs which can be taken as a sample.

Data were collected through questionnaires, compiled by the rating scale models. To obtain relevant data and accountable, respondents each represented by SME manager-level employees.


To analyze the relationship between variables, statistic used is multiple linear regression. Statistical significance testing performed by t test and f.
RESULTS AND DISCUSSION

1. Effect of adoption of ICT on Customization Capabilities

To analyze the effect of the adoption of ICT on customization capabilities simultaneously, we use the parameter R square.

Table 1
Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.385ₐ</td>
<td>.148</td>
<td>.137</td>
<td>31.96269</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), ICT

Table 1 shows that R² which is a parameter for the effect of the adoption of ICT on customization capabilities simultaneously is equal to 0.148. That is, 14.8% change in the customization capabilities are determined by changes in the adoption of ICT. While the other 85.2% is determined by other factors not analyzed. This value is significant, the F value of 13.061, significant at the 1% level (see table 2).

Table 2
ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>13343,292</td>
<td>1</td>
<td>13343,292</td>
<td>13.061</td>
<td>.001ₐ</td>
</tr>
<tr>
<td>Residual</td>
<td>76621,020</td>
<td>75</td>
<td>1021,614</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89964,312</td>
<td>76</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), ICT

b. Dependent Variable: Customization

Partially, the effect of the adoption of ICT on customization capabilities can be seen from the regression coefficient of 5.325. That is, every increase of one unit will increase the adoption of ICT 5.325 units customization capabilities.
Table 3

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>75,128</td>
<td>12,778</td>
<td>5,880</td>
<td>,000</td>
</tr>
<tr>
<td>ICT</td>
<td>5,325</td>
<td>1,474</td>
<td>,385</td>
<td>3,614</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Customization

Regression coefficient of the influence of ICT adoption, on customization capabilities, partially, has at-value of 3.614 with 0.001 sig that showed a significant effect at α =1%. Thus, these results support the hypothesis 1, where there is clear evidence that the adoption of ICT have a positive influence on customization capabilities the small and medium scale manufacturing industries.

2. Effect of Adoption of ICT and Customization Capabilities On Marketing Performance In Simultaneous and Partial.

Effect of Adoption of ICT and Customization Capabilities To Performance Marketing simultaneously can be seen from R square values in Table 4, where the value is 0.407. This means that 40.7% of marketing performance changes are determined by changes in ICT adoption and customization capabilities.

Table 4

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimension0</td>
<td>1</td>
<td>,638a</td>
<td>,407</td>
<td>,391</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Customization, ICT

Table 5 shows the F value of 25.350 with 0,000 sig. This shows that the adoption of ICT and customization capabilities simultaneously have a significant influence on the performance of marketing.
Table 5
ANOVA\(^b\)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>2</td>
<td>63421,046</td>
<td>25,350</td>
<td>,000(^b)</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>74</td>
<td>2501,811</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>76</td>
<td>311976,078</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Predictors: (Constant), Customization, ICT
\(^b\) Dependent Variable: MarketPerf

Table 6 shows the effect of ICT adoption on performance marketing has a regression coefficient of 2.909 with at-value of 1.164 and 0.248 sig. That is not significant at \(\alpha=5\%\). It can be concluded that, partially, ICT adoption did not have a significant effect on the performance of marketing.

The customization abilities influence on the performance of marketing, has a regression coefficient of 1.090 with at-value of 6.034 and 0.000 sig. That is significant at \(\alpha=1\%\). It can be concluded, that partially, customization capabilities significant positive effect on the performance of marketing.

Table 6
Coefficients\(^a\)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>782,015</td>
<td>24,168</td>
<td>32,357</td>
</tr>
<tr>
<td></td>
<td>ICT</td>
<td>2,909</td>
<td>2,499</td>
<td>,113</td>
</tr>
<tr>
<td></td>
<td>Customization</td>
<td>1,090</td>
<td>,181</td>
<td>,586</td>
</tr>
</tbody>
</table>

\(^a\) Dependent Variable: MarketPerf

3. Effect of Adoption of ICT and Customization Capabilities To Financial Performance In Simultaneous and Partial.

Effect of Adoption of ICT and Customization Capabilities To financial performance, simultaneously can be seen from R square values in Table 7, where the value is 0.383. This means that 38.3\% change in financial performance is determined by changes in ICT adoption and customization capabilities.
Table 7
Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.619&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.383</td>
<td>.366</td>
<td>161,07615</td>
</tr>
</tbody>
</table>

<sup>a</sup> Predictors: (Constant), Customization, ICT

Table 8 shows the F value of 22.981 with 0.000 sig. This shows that the adoption of ICT and customization capabilities simultaneously significant effect on financial performance.

Table 8
ANOVA<sup>b</sup>

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig. &lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Regression</td>
<td>1192482,809</td>
<td>2</td>
<td>596241,404</td>
<td>22,981</td>
<td>.000&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Residual</td>
<td>1919969,009</td>
<td>74</td>
<td>25945,527</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3112451,818</td>
<td>76</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Predictors: (Constant), Customization, ICT
<sup>b</sup> Dependent Variable: Financial Perf

Table 9 shows the adoption of ICT on financial performance, has a regression coefficient of 23.459 with at-value of 2.915 and 0.005 sig. That is significant at α=1%. It can be concluded, that partially, the adoption of ICT significant positive effect on financial performance.

Table 9
Coefficients<sup>a</sup>

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig. &lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>-251,764</td>
<td>77,831</td>
<td>-3,235</td>
<td>.002</td>
</tr>
<tr>
<td>ICT</td>
<td>23,459</td>
<td>8,046</td>
<td>.288</td>
<td>2.915</td>
</tr>
<tr>
<td>Customization</td>
<td>2,634</td>
<td>.582</td>
<td>.448</td>
<td>4.526</td>
</tr>
</tbody>
</table>

<sup>a</sup> Dependent Variable: FinancialPerf
Customization capabilities on financial performance has a regression coefficient of 2.634 with at-value of 4.526 and 0.000 sig. That is significant at $\alpha=1\%$. It can be concluded, that partially, customization capabilities significant positive effect on financial performance.

4. DISCUSSION

This study has successfully revealed that the adoption of ICT positive and significant effect, on customization capabilities in small and medium scale manufacturing industries. Other results, partially, ICT adoption did not have a significant effect on the performance of marketing. Meanwhile, customization capabilities, significant positive effect on marketing performance.

This result shows that capabilities customization, an intervening variable that connects between the adoption of ICT and marketing performance. That is, the impact of the adoption of ICT on the performance of marketing absolutely must go through the customization capabilities. This is reasonable, considering the manufacturing industry, ICT functioned more as a support in the production process. ICT is not too functioned in support of marketing activities. Therefore, marketing performance is determined more by the customization capabilities, which result from such customization can be felt directly by consumers.

In the other test, ICT adoption and customization capabilities significant effect partially and simultaneously to financial performance. These results indicate that the adoption of ICT plays a major role in improving financial performance. The direct impact is generated through the accuracy, speed, and flexibility offered by ICT, so that financially the company can operate more efficiently. Meanwhile, the direct impact of customization capabilities on financial performance is on the increase in sales volume. Customization capabilities will allow the creation of a strong relationship with the customer, because the customer can more freely make choices in accordance with his wishes. This will increase the volume of sales.

CONCLUSIONS AND RECOMMENDATIONS

We have obtained evidence that the adoption of ICT significant positive effect on the customization capabilities in small and medium scale manufacturing industry in Bekasi. In addition, we also get a clear evidence that the customization capabilities and significant positive effect on the performance of the market, and financial performance. Meanwhile, the adoption of ICT significant positive effect on financial performance. However, no significant effect on the performance of marketing.
However, the adoption of ICT have a positive impact. Therefore were commend that the small and medium scale manufacturing industries is appropriate to provide an adequate budget to adopt ICT to support the process of production and operation of enterprises. With the adoption of ICT companies get several benefits at once, first, customization capabilities will be increased. Customization capability is an intangible resource companies. Second, the performance of the company can boost both performance marketing and financial performance.

References


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