

THE EFFECT OF INNOVATION CAPABILITY AND NEW PRODUCT DEVELOPMENT ON MARKETING PERFORMANCE OF BATIK SMES

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Abstract: The role of innovation capability to produce new product becomes crucial and important factor for sustainable marketing performance. The purpose of this paper is to explain the causes of different or contradictory results of research the innovation capabilities on marketing performance. This study discusses about success finding of new product development in increasing marketing performance. This study was conducted on 322 traditional textile batik SMEs in Central Java. The main objective of this study is to analyze on how innovation capability, mediated with new product development, can increase marketing performance. The finding shows that marketing performance can be increased by innovation capability through new product development mediation. This study describes each concept and suggestions for the betterment of new product development in the future.

Key words: innovation capability, new product development, marketing performance

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Introduction

This study started from empirical contradiction problem on the study finding of innovation capability in relation on business performance. Studies conducted by previous researchers proved that the role of innovation capability on business performance is founded in different findings, so that it is interesting to be further developed. Some study findings have proven the strong connection between innovation capability and business performance, (Jiménez-Jiménez and Sanz-Valle, 2011; Saunila et al, 2014), whereas other study findings did not support connection between innovation capability and business performance (Campo et al, 2014; Löfsten, 2014). The research gap still needs exploration on company's innovation capability through relation built from innovation capability which in the end will effect on the development of business performance. Those problems are very important to be investigated because it is useful for the development of marketing science related to company's innovation capability in increasing business

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performance. This study is expected to be able to explain the cause of differences or contradiction of study research on innovation capability on business performance and to explain the effort in developing company's innovation capability on business performance of batik in the scale of Micro, Small, Medium Enterprises (SMEs) in Central Java. Besides having capability in absorbing quite big human resources, SMEs have significant role in the national development. Batik is traditional waxed craft painting acknowledged by UNESCO as one of the world valuable inheritance.

Relation Between Innovation Capability and Marketing Performance

The study of Guan and Ma (2003) reveal the following findings : main innovation asset is able to increase sustainable export growth and that innovation asset interaction and harmonization is the main factor in increasing international company competitiveness in China. Research findings of Oke et al. (2007) shows that there is a relation between innovation and the omzet growth of SMEs sellings. Research findings of Egbetokum et al. (2008) states that innovation has influence on marketing performance in SMEs.

There is a positive relation between innovation capability and business performance (Sukato, 2014). Research of Huhtala et al., (2014) reveals that innovation capability is able to mediate market orientation influence (which consists of customer orientation, competitor orientation, and coordination among functions) on business performance and there is a positive relation between innovation capability and business performance.

Research of Rosenbusch et al. (2011) implements meta-analysis technique to previously collect empirical study on the relation between innovation and performance by deciding on the direction and innovation effect strength on the performance of SMEs. The finding of the research shows that innovation has positive influence on SMEs performance. Research of Misra Çağla Gül (2011) has a purpose to investigate relation among environment dynamics, innovation, and company's performance. The finding of this research shows that environment dynamics does not have direct influence on company's performance and innovation has positive direct effect on business performance. Research finding by Gunday et al. (2011) shows that product innovation capability has positive and significant relation with market performance. Research by Zainal Abidin et al. (2011) explains theoretical framework of relation among innovation process, innovation finding, and company's performance. Various literature discussion about innovation, the understanding about innovation in organization must be differentiated on how innovation is done and the kind of innovation finding which in the end will influence company's performance.

Research finding by Jiménez-Jiménez and Sanz-Valle (2011) shows that variable of organization learning and innovation have positive contribution on business performance, and learning of organization influences innovation. Research of Saunila et al. (2014) investigates effect of moderation of performance

measurement in the relation among determinant factors of innovation capability and business performance. The research finding shows that companies which measuring determinant factors of innovation capabilities, especially through active exploitation of external knowledge has positive effect on business performance. Performance measurement can be used as means to increase SMEs performance through innovation capability.

H₁. Innovation capability has positive effect on marketing performance.

Relation Between Innovation Capability and New Product Development

Research of Wolff and Pett (2006) states that innovation capability has positive and significant influence on new product improvement. Development ability of explorative products involves new technology knowledge and the newest product development for customers as well as develops new ideas with features with different possibility will cause differentiation in products (Atuahene-Gima and Murray, 2007). Atuahene-Gima (2005) states that capability of exploitative product development involves incremental improvement in the existed product and technology or extension path. Besides, Yalcinkaya et al. (2007) reveals his finding although the change of product is not radical, some modified product features indicate that there is product evolution involved in certain level. Therefore, product features can be increased on specific products and can facilitate product differentiation significantly.

Lisboa et al. (2010) shows that innovation capability (the ability of explorative product development) has positive and significant relation on product differentiation. Besides, research finding of Ozkaya (2011) says that innovation capability (exploration) has positive effect on the kind of product innovation, but the increase of quality capability (exploitation) has negative effect on market-based innovation. Forsman (2011) states that most of SMEs produce the following various kinds of innovation: product, service, process, production method and function. Innovation capability is an ability consisting of the whole innovation capability, process innovation ability, market innovation ability, strategic innovation ability, organization ability, manufacture ability, network ability, entrepreneurship ability, and R & D ability (Forsman, 2009). Research finding of Tajudin et al. (2012) proves that innovation is proven to have significant direct effect on new product performance.

H₂. Innovation capability has positive effect on new product development.

Relation between New Product Development and Marketing Performance

Li (2005) states that manufacture ability for new product will contribute on market development by increasing customer satisfaction and increasing customer relation. Research finding by James and Timothy (2006) states that orientation of new product development has positive and significant influence on the growth as business performance dimension and bigger profit than process development.

Other research by Lin and Chen (2007) reveals that product innovation has close relation with the increase of company's sales. Meeker et al. (2009) suggests that adding product complexity can make bigger profit if complexity is managed effectively. Research finding by Gunday et al. (2011) shows that product innovation has positive influence on market performance with innovation performance as mediator. Competitive innovation and company's performance mostly depend on their ability to create new product and innovation (Hall et al., 2008). Product differentiation has relation positively and significantly on market effectivity (Lisboa et al, 2010). Finding of Ruiz-Jiménez and del Mar Fuentes-Fuentes (2013) shows that there is a significant relation between knowledge combination ability and product and process innovation, between product innovation and business performance.

H₃. New product development has positive effect on marketing performance.

Based on the research hypothesis, research empirical model projected in the following diagram model are proposed:

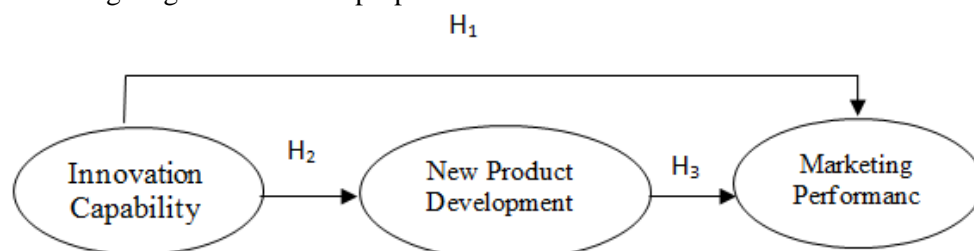


Figure 1. Research Model

This research examines direct and indirect influence of innovation capability on new product development and marketing performance. Furthermore, this research also investigates mechanism of innovation capability as a determinant for new product development. Many previous literatures reveal the importance of innovation capability, new product development, and marketing performance of SMEs. However, there is a slight prove of innovation capability influence and new product development on marketing performance. Therefore, we try to identify new product development as key variable on increasing SMEs performance. In general, research model directly relates innovation capability on new product development and marketing performance. In addition, innovation capability is indirectly related to marketing performance through new product development.

Material and Methods

This research has an objective to confirm basic theoretical and empirical models developed based on theories related to innovation capability, new product development and marketing performance. Based on the conducted field observation, in 2013, the study was found that listed respondents in the Department of Industry and Trade in the Province of Central Java were not entirely chosen

as respondents. There were many different data found because of some reasons: the company was no longer operating anymore, the owner had already passed away and the business did not have successor, respondents were not available and respondents were not willing to be interviewed. This condition brought to the conclusion that the population of Batik SMEs was unknown so that non probability sampling is used.

Sampling method uses purposive sampling method which criteria are: 1) Sample has business experience of minimum 2 years because it is assumed that they have experiences in batik industry, 2) SMEs has fixed workers, which means that the company is assumed to be relatively stable and can produce continuously, 3) It has done production process activity. The next sampling determination is to make sure that the subjected sample has decided criteria and is willing to fill in questionnaires. If the sample is not willing and does not meet the criteria, the subjected company will be passed and the next step is to find another company round about the center which meets the criteria and is willing to fill in questionnaires.

Data taking was done in October, November, and December 2015. Object determination in this research are businessmen or managers of Batik SMEs in Central Java consisting of: 1) Batik Keraton: District of Sragen, District of Sukoharjo, City of Surakarta, 2) Batik Pesisir: District of Pekalongan, District of Rembang-Lasem, District of Klaten, and City of Semarang which total sample is 460. Data screening is done manually by researching each respondent's answers, whether the respondent's answers are consistent or not, and it is done by using simple statistic aids, thus data is produced in proper number to be further analyzed is 322 data. Analysis technique used in this research is Structural Equation Modeling (SEM) with AMOS/Amos Graph program. According to Ferdinand (2014), this technique is meant as a group of statistic testing technique enabling to examine a series of relatively complicated relation/model. The innovation of this analysis technique is in the study of management, because of its ability to examine structural and measurement model in the same time.

Analysis with SEM can confirm some indicators/dimension of a concept/construct and can measure relations among theoretically existed variables. This study will analyze influence among variables, where there are some dependent variables and these dependent variables can become independent variables for other dependent variables. This technique is used because it has complicated relationship among variables. Using SEM with AMOS software is predicted to be able to examine the desired finding in this study. Model has been formulated as seen in the figure for conducting first analysis on measurement model in order to examine uni-dimensionality. Indicators formulating construct are by viewing parameters findings by goodness of fit. Measurement model will produce convergent validity to examine those indicators, whether they are valid or not in measuring what is meant to be measured and indicator significance needs to be examined, whether those indicators have the same dimension in formulating latent variables. Validity

is discriminant to examine relation between two constructs so that correlation number will be founded to be made into the guideline in treating construct as independent or dependent variables.

Findings

The measurement basis of mahalanobis distance is the value of Chi-Square on degree of freedom (df) as much as 74 on the significant rate of 0.05 (0.05; 74), from distribution table χ^2 number of 95.08 is gained and if we see from value of p1 and p2 from the above table that all value either p1 or p1 is above 0.000, or there is no zero value, thus data is proven as normally distributed. Normality of data is measured by using value criteria of *critical ratio skewness* ± 2.58 (for failure rate of 10%). Analysis finding of data normality shows that all construct has critical value below 2.58. Besides that, multivariate value of 6.207 is smaller than the limit of multivariate value (8 - 20) (Kline, 2011), thus data distribution is multi-variance said as normal. The conclusion of the finding of data normality measurement of SEM full model can be stated that all distributed data is normal.

Outlier is an observation or data having unique characteristics which looks different with other data and appears in the form of extreme data, either for single or combined construct. Although outliers cannot be categorized as dangerous, they still must be valued in the context of analysis. Testing on outlier's multivariate can be done by paying attention on the value of mahalanobis distance (Hair et al, 2010). The number of construct in this study is examined its reliability as many as 3 (three construct). The finding of the measurement of construct reliability value, the three constructs are bigger than 0.7 and variance extracted construct value for all constructs is also bigger than 0.5. Thus a conclusion can be drawn that indicators used in this study as observed variable are able to explain formulated constructs.

The number of questionnaires distributed was 460 exemplars and the broken questionnaires were 69. The questionnaires which were screened did not meet the requirements of 25 with various reasons that could be accepted. While the early questionnaires which were processed were 366 and after data processing with AMOS 22.00 was done, it was found that there were 44 data including outlier data. Therefore those 44 data were dropped from research data. So that data which was ready to be processed was 322 sample data. The number of data has met the requirements for data processing by using Structural Equation Modeling (SEM) based on the minimum size of representative sample which can be processed by AMOS program of 100 samples (Ferdinand, 2014).

Testing of Model Fit

The finding analysis on structural model of SEM analysis by using AMOS 22.0 program is presented in the following table:

Table 1. Structural/Path Model Fit Index

Goodness of fit	Cut off Value	Model Finding	Remarks
χ^2 – Chi-Square	95.08 (df = 74 ; $\alpha = 0,05$)	88.519	$\chi^2 = 88.519$ smaller than 95.08
χ^2 –Significance Probability	≥ 0.05	0.120	Fit
Relative χ^2 (CMIN/DF)	≤ 2.00	1.196	Fit
GFI	≥ 0.90	0.963	Fit
TLI	≥ 0.95	0.992	Fit
AGFI	≥ 0.90	0.948	Fit
CFI	≥ 0.95	0.993	Fit
RMSEA	≤ 0.08	0.025	Fit

Generally, findings of analysis support hypothesis stating that the model of research is in accordance with the data or fit with the data. Statistics index of chi-square is used to compare covariance matrix predicted with the observed covariance matrix. A non-significant value of chi-square shows a good fit. Research finding of model fitness shows chi-square value is relatively small which is $X^2 = 88.519$, smaller than 95.08. Value of probability is 0,120, bigger than recommended 0.05 and value of *chi-square/df* is 1.196, smaller than 2.0.

Statistics index for model fitness of RMSEA value of 0.025 finding by model is smaller than the range number of 0,08. This shows that prediction failure of model is small. The next model fitness index is absolute fit measure which goodness of fit index value is 0.963 and incremental fit index which covers AGFI, TLI, and CFI. The three indexes are the number of index which does not depend much on the size of sample. Analysis finding shows that the value index of the three measures is above 0.94 and shows that model is better fit.

Testing finding on hypothesis 1 stating that Innovation capability has positive and significant effect on marketing performance is proven. This means that the higher the innovation capability is able to guarantee the more increased marketing performance. Innovation capability is company's ability to transform knowledge and new ideas into products, process, and system for the benefit of the company and its stakeholders (Cohen and Levinthal, 1990). Thus innovation capability in UMKM can influence marketing performance. The results of this study support previous research that examined by (Saunila et al., 2014).

Testing finding on hypothesis 2 stating that innovation capability has positive and significant effect on new product development is proven. This research finding shows that the higher the company's innovation ability the higher the finding of new product development will be. This research finding supports the study of Monsef and Ismail (2012) showing detailed analysis about the effect of open innovation on the success of new product development and the three organizational factors, i.e. formalization, centralization, and complexity become the moderators of this effect. This synthesis model can also be used for a better understanding

of open innovation which gives contribution in describing new products. Open innovation model can trigger innovation by combining different external sources which will be able to cause the increase of product variation and product adjustment and better customer preference (Boudreau, 2007). Interaction of innovation capability has positive and significant effect on the company's ability of new product development (Perin et al, 2010).

Hypothesis 3 stating that new product development has positive and significant effect on marketing performance is proven. This means that SMEs have higher New Product Development related to the innovations of unique motif of region, design with cultural diversity nuance, identity symbol of local area, and uniqueness of local culture identity will increase marketing performance. Nevertheless, SMEs have new product development will take action to design product and marketing mixture in order to create specific memory for the customers, such that customers from segmented market target understand and comprehend the innovations of batik product of the company. This research finding is in line with research by James and Timothy (2006) that the increase of new product gives real effect on business performance and bigger profit. The success of new product will still become the important attention of managerial, not only because successful new products are as main source of finance market and performance development but also they can show business opportunity which is not yet discovered (McNally et al, 2011).

Conclusion

The first research finding is the direct effect of innovation capability on marketing performance is potential and can solve the gap between innovation capability and marketing performance because it has significant effect value from the result of measurement value. This research finding shows that innovation capability does have significant effect in increasing marketing performance. It is in accordance with the previous research that innovation capability can increase marketing performance.

The second research finding is the indirect effect of innovation capability on marketing performance through new product development. Direct effect on the first path between innovation capability and marketing performance shows significant result, second path alternative has big potential in increasing marketing performance. This means that innovation capability has also indirect effect on marketing performance through new product development. Thus it can be said that in order that innovation capability is able and can increase marketing performance, another way can be done, which is by creating company's innovation by developing new products.

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WPLYW ZDOLNOŚCI INNOWACYJNEJ I ROZWOJU NOWEGO PRODUKTU NA WYDAJNOŚĆ MARKETINGOWĄ MŚP BATIKARSKICH

Streszczenie: Rola potencjału innowacji w wytwarzaniu nowego produktu staje się istotnym i ważnym czynnikiem dla zrównoważonej wydajności marketingu. Celem artykułu jest wyjaśnienie przyczyn odmiennych lub sprzecznych wyników badań nad możliwościami innowacyjnymi w odniesieniu do wydajności marketingowej. Niniejsze opracowanie rozpatruje rozwój nowego produktu w zwiększaniu wydajności marketingowej. Badanie zostało przeprowadzone na 322 tradycyjnych batikarskich MŚP włókienniczych w Centralnej Jawie. Głównym celem tego badania jest analiza, w jaki sposób zdolność innowacyjna, pośrednicząca w rozwoju nowych produktów, może promować wydajność marketingową. Wyniki wskazują, że wydajność marketingowa może być zwiększona przez zdolności innowacyjne poprzez pośrednictwo w rozwoju nowego produktu. W artykule opisano różne koncepcje i sugestie dotyczące lepszego rozwoju nowych produktów w przyszłości.

Słowa kluczowe: zdolność innowacyjna, rozwój nowych produktów, wydajność marketingowa

創新能力和新產品開發對BATIK中小企業營銷績效的影響

摘要：創新能力在生產新產品中的作用成為可持續營銷績效的關鍵和重要因素。本文的目的是解釋營銷績效創新能力研究不同或矛盾結果的原因。本研究討論了新產品開發在提高營銷績效方面的成功發現。這項研究是針對中爪哇省的322家傳統紡織蠟染中小企業進行的。本研究的主要目的是分析創新能力，以新產品開發為中介，能夠促進營銷績效。這一發現表明，通過新產品開發調解的創新能力可以提高營銷績效。本研究介紹了未來新產品開發改進的各種概念和建議。

關鍵詞：創新能力，新產品開發，營銷績效。