

# Moderating Effect of Innovation on Strategy-Financial Performance Relationship: Experience of "Batik" SMEs

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**Abstract**—This study aims to prove empirically that innovation moderates the relationship between strategy and financial performance. The main contribution of this study is to provide evidence of the resource-based theory, especially in the context of small medium enterprises (SMEs) research setting involving three variables, namely: strategy, innovation, and financial performance. Mixed method is used in this study for the reason that it can reveal more in-depth explanation about the phenomena. As many as 71 managers of batik SMEs in Solo city participated. The result of this study shows that innovation significantly moderates strategy-financial performance relationship. Innovation is a pure moderating variable.

**Keywords:** strategy, innovation, financial performance

## I. Background

*Batik* (hand-dyed garment) of Indonesia has been recognized by the UNESCO as the Representative List of the Intangible Cultural Heritage of Humanity in the year of 2009 because of its unique role in the Indonesian's life from birth to die. After receiving this recognition, Indonesia must have obligation in preserving *batik* as the world heritage. Since the recognition of the UNESCO, *batik* business grows rapidly, especially in small and medium enterprises. One of centers of *batik* is Solo city in the Central Java. During the period of five years, the highest growth of SMEs in Solo occurred in the district of Laweyan with growth rate of 23 percent ([www.timlo.net](http://www.timlo.net)) [1]. Laweyan is the main *batik* center of Solo.

The intensity of competition among SMEs in *batik* business is very high. *Batik* centers grows in every city in Indonesia as the result of extensive campaign by government and *batik* lover communities. Therefore, each SME must have competitive advantage to get above-average returns. According to Hitt et al. (2015), the resource-based view states that firms must have a collection of unique resources and capabilities [2]. As stated by Jacobides et al. (2012), the uniqueness of resources and capabilities is the foundation of strategy and capabilities [3]. Firms need to formulate good strategies and effective execution of those chosen strategies in order to achieve excellent performance or above-average returns.

The motivation of this study is to provide empirical evidence of the resource-based view (RBV) model or resource-based theory (RBT) of competitive advantage in the context of SMEs. How strategy affects financial performance of SMEs, and whether innovation moderates strategy-financial performance relationship is the main focus of this study.

According to RBV, the uniqueness of a bundle of valuable tangible or intangible resources will be the basis of sustainable competitive advantage (Penrose, 1959 [4], Wernerfelt, 1984 [5], Peteraf, 1993 [6]). Kozlenkova et al. (2014) also states that resources must meet certain criteria in order to become source of sustainable competitive advantage, namely: (1) valuable, (2) rare, (3) inimitability, and (4) nonsubstitutability [7].

Financial performance is the most important issue for stakeholders because it reflects the results of a firm's policies and operations. Stakeholders uses financial reports to measure financial health and to compare firms across the same industry. Kaplan and Norton (1984) states that growth and productivity are the two common financial strategies used by firms [8].

Porter (1980) states that strategy is about being different [9]. Strategy is a unique way of a firm to achieve competitive advantage. Mintzberg (1978) defines strategy as a pattern in a stream of decisions to contrast with a view of strategy as planning [10]. Each firm has its own unique way to get the above-average returns. According to Mintzberg and Quinn, managing strategy consists of 2 (two) activities, namely: (1) strategy formulation, and (2) strategy execution [11].

This study uses four strategy typologies developed by Miles and Snow (1978). Those strategies, namely: (1) defenders, (2) prospectors, and (3) analyzers, and (4) reactors are based on the pattern of strategic actions by firms in adapting to environmental changes [12]. This study is different from other studies. Firstly, the research setting is in Solo city as the biggest *batik* market in Indonesia. Secondly, this study involves the unique *batik* cultural-based SMEs as subjects. Lastly, there are still inconsistency results among researchers whether strategy affects financial performance. Study by

Bastian and Mukhlis (2012) [13] reveals that strategy negatively affect financial performance, meanwhile a study by Kalkan et al. (2014) shows that strategy positively influences financial performance [14].

Innovation is the most critical factors in the era of knowledge economy. Different from the industry era, firms in the era of knowledge economy compete each others based on intangible assets rather than tangible assets. The OECD (2005) states that “innovation is the implementation of a new or significantly improved product or process, a new marketing method, or new organizational method in business practice, workplace organization or external relations”. The interaction between strategy and innovation is expected to improve financial performance.

Based on the rationale of the study background, the following is the research questions developed in this study: (1) Does strategy affect financial performance?; and (2) Does innovation moderates the strategy–financial performance relationship? A moderated regression analysis (MRA) is used to test the hypotheses of this study.

## II. Theoretical Review and Hypothesis Development

### A. Resource-based View (RBV)

This study uses the RBV as the main theory. The RBV model of above-average returns states that performance differences among firms are primarily caused by their unique resources and capabilities rather than the industry’s structural characteristics. Resources refers to physical, human, and organization capital. As stated by Hitts et al. (2015), capability refers to the capacity of a set of resources to perform a task or an activity in an integrated manner [2].

Not all resources and capabilities can be used by a firm as the basis of competitive advantage. They must be valuable, rare, costly to immitate, and nonsubstitutability [15]. Valuable means allowing firm to take advantage of resources to gain competitive position. Rare means only few competitors have access to tose resources. Costly to immitate means competitors must pay more to get the same resources. Nonsubstitutability means there are no stuctural equivalent for those resources. Good formulation and effective execution of strategy as well as innovation capability are part of resources of a firm.

### B. Strategy and Financial Performance

Business environment has changed rapidly and dynamically. To remain competitive, survive, and grow, firms must adapt to changes. Financial performance is the most important aspect for profit-oriented organization because it shows the final result of the whole activities conducted by a firm during a period of time. It portays the main interest of stockholders or investors, in terms of profit, revenue, expenses, cashflow, leverage, risks, and other financial indicators.

Excellent financial performance is determined by its unique way or a strategy to achieve it. Financial performance also a source of an above-average return which also indicates good competitive advantage. Therefore, the better strategy

formulation and execution, the better financial performance will be. From the previous justification, the first hypothesis is formulated as follows:

H1 : Strategy affects financial performance

### C. Strategy, Innovation, and Financial Performance

In the era of knowledge economy, competition is based on knowledge-based assets. The capability human capital to innovate is the success key of firms. Financial performance of firms is driven by customer performance, internal business process performance, and learning & growth performance (Kaplan and Norton, 2004) [8]. Therefore, the interaction between strategy and organization, marketing, process, and product innovation capabilities will certainly improve higher financial performance. From the previous justification, the second hypothesis is formulated as follows:

H2 :Innovation moderates strategy–financial performance relationship

## III. Methodology

### A. Design

The design of this study is mixed method. The quantitative method is used to test the hypotheses and make generalization. Furthermore, the qualitative method is used to confirm the result of the quantitative method. In-depth interview to several informen is conducted to reveal and to enrich the findings of quantitative method.

### B. Population and Sample

Population of this study is 192 *batik* SMEs managers in Solo city. Because the population is limited and the response rate is usually quite low in Indonesia, questionnaires were sent to all managers. As many as 71 managers participated in this studi, or the response rate was 37%.

### C. Analytical Technique

The MRA (Moderated Regression Analysis) is used to test the hypotheses with the following steps :

- (1) To test the direct effect of Strategy (ST) on Financial Performance (FP) using the following formula:

$$FP = a + b ST + e.$$

- (2) To test the moderating effect of Innovation (IN) on Strategy-Financial Performance using the following formula :

$$FP = a + b1 ST + b2 IN + b3 ST*IN + e.$$

Then, the following rule is applied to assess the type of moderator:

- (1) If b2 nonsignificant and b3 significant, the innovation is pure moderator;
- (2) If b2 significant and b3 significant, the innovation is quasi moderator;
- (3) If b2 is significant and b3 nonsignificant, the innovation is predictor moderator

- (4) If b2 is nonsignificant and b3 is nonsignificant, the innovation is homoligiser mediator

#### D. Operational Definitions

This study involves three variables which are operationally defined and measured as the following.

##### (1) Financial Performance

Financial performance is defined as perception of the SMEs managers regarding the performance trend of sales growth, profit, and assets turnover. It is measured using using 1-5 Likert scale. Data were collected using questionnaire developed by Hajipour et al. (2011) [16].

##### (2) Strategy

Strategy is defined as perception of the SMEs managers regarding the tendency to be a prospector, defender, analyzer, or reactor. It is measured using using 1-5 Likert scale. Data were collected using questionnaire developed by Hajipour et al. (2011) [16].

##### (3) Innovation

Innovation is defined as perception of the SMEs managers regarding organizational innovation, marketing innovation, process innovation, and product innovation. It is measured using using 1-5 Likert scale. Data were collected using questionnaire developed by Gunday et al. (2011) [17] .

#### E. Research Model

The model of this study is presented in Fig. 1 as follows.

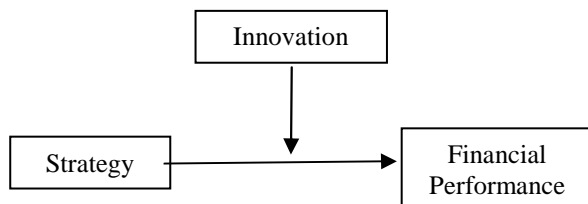


Fig. 1 Research Model

#### IV. Results and Discussion

##### A. Descriptive Statistic

The descriptive statistic of the age of respondents is presented in Table I. It can be seen that the age of the SMEs managers is relatively young (less than 50 years old). This age portrays that managers are still in productive age.

Table II shows the descriptive statistic of the age of firms. It shows that the age of SMEs is less than 10 years. This reflects of SMEs that can survive in competitive environment, because an SME can easily go bankrupt.

TABLE I : Age of Managers

Age	Total	Percentage
20-<25 years	2	2.8
25-<35 years	16	22.5
35-<45 years	30	42.3
45-<50 years	19	26.8
>50 years	4	5.6
Total	71	100

TABLE II : Age of SMEs

Age	Total	Persentage
1-<3 years	9	12.7
3-<5 years	17	23.9
5-<10 years	33	46.5
>10 years	12	16.9
Total	71	100

#### B. Hypotheses Test

##### Hypothesis I :

A simple regression analysis was used to test H1. The result generated the following equation:

$$FP = 4.005 + 0.206 ST + e$$

The results also showed that coefficient of determination ( $R^2$ ) was 25% and p-value of 0.000 or less than 1%. Based on the result, H1 cannot be rejected. Therefore, it can be concluded that strategy significantly affect financial performance.

##### Hypothesis II :

A moderated regression analysis was conducted to test the moderating effect of innovation to strategy-financial performance relationship. The result generated the following equation:

$$FP = -0,050 + 0,478 ST - 0,107 IN + 0,255 ST*IN + e$$

The results also showed coefficient of determination ( $R^2$ ) was 32% and p-value of 0.006 or less than 1%. Based on the result, H2 cannot be rejected. Therefore, it can be concluded that innovation moderates strategy-financial performance relationship.

To assess the type of moderator of innovation variable, the following procedure was conducted:

- (1) p-value of innovation was 0.293 meaning non-significant because it was more than 1%

(2) p-value of strategy\*innovation was 0.006 meaning significant because it was less than 1%

Therefore, it is concluded that innovation is a pure mediator in strategy-financial performance relationship.

### C. Discussions

A strategy-defender, prospector, analyzer, or reactor-is a unique way of a firm to achieve competitive advantage or to get an above-average return. As theoretically expected, empirical result of this study confirms that the SMEs managers in Solo city were aware of the important role of strategy in their financial success of the firms. It provides empirical evidence to support resource-based view (RBV). Therefore, it supports the statement that strategy formulation and execution capability can affect financial performance of SMEs in batik business in Solo city.

In-depth interview was conducted with informen. The important role of strategy on financial performance is supported by statement of an informan as follows:

*“Persaingan antar penjual batik sangat tajam. Semakin banyak saja UKM batik di kota Solo ini. Jadi kita harus pandai-pandai mencari cara untuk menarik pelanggan dan membuat pelanggan membeli lagi. Kalau tidak pandai ... ya tidak laku jualannya... Competition among batik sellers is very intense. SMEs in batik business grow rapidly in Solo city. So we have to be clever enough in finding a way to get customers and make them keep buying from us. Otherwise, ... we don't get sales ... ”*

Another statement by an informan also confirms the important role of adaptation and a defender strategy in his financial success.

*“Bisnis batik sudah berubah. Sekarang tidak banyak lagi orang membeli batik tulis yang harganya mahal. Jadi saya harus punya cara agar dapat tetap bertahan di bisnis ini. Salah satu cara ya harus efisien dan menjual baju batik berharga murah, seperti batik printing. Batik tulis lama sekali lakunya ... Batik business has changed. Now, not many people want to buy hand-made batik anymore because it is to expensive. So, I have to find a way to remain survive in this business. One way is to be cost-efficient seller and to sell low-priced batik dresses, just like printing batik ... hand-made batik takes too long to sell ... ”*

The acceptance of H1 in this study did not support the study of Bastian and Mukhlis (2012) [13] revealing that strategy negatively affect financial performance. However, this study is in line with the study of Kalkan et al. (2014) [14] showing that strategy positively influences financial performance.

As also theoretically expected, innovation moderates the relationship between strategy and financial performance. The result of this study showed that innovation is pure moderator variable. This provides empirical evidence that in the knowledge-based era, innovation capability plays a strategic role to achieve financial success. The innovation capabilities involves organizational inovasion, marketing innovation, process inovasion, and product innovation. Organization innovation concerns with improvements in production

systems, standard operating procedures, human capital management, organization structure, information systems, teamworks, as well as supply chain management. In-depth interview with an informan revealed those organizational innovation concerns. This informan is aware of adapting strategy to business environmental changes by conducting organizational innovations.

*“Persaingan penjual batik ke arah persaingan harga murah mendorong saya melakukan beragam inovasi agar bertahan ... Agar efisien, jumlah karyawan saya kurangi. Cara kerja juga harus lebih cepat dan ringkas. Sekarang saya juga lebih mengandalkan berjualan secara on-line. Saya juga harus mencari pemasok yang harganya murah ... Competition among batik sellers toward low price competition drives me to make innovations in order to survive. To be more efficient, I reduce my employees. The way we work must faster and simple. At present, I have to rely on on-line business. I have to find low price suppliers ... ”*

Marketing innovation concerns with price, product, promotion, and distribution. Other informan made the following statement regarding marketing innovation.

*“Persaingan bisnis batik yang makin tajam memaksa saya memikirkan inovasi produk-produk apa yang akan saya jual. Saya harus fokus pada beberapa produk yang laku cepat meskipun labanya sedikit. Saya bikin produk batik yang tidak rumit pengerjaannya. Yang penting perputarannya cepat. Kembali lagi ya harganya harus murah ... tetapi kualitas dan desainnya juga tidak boleh sembarangan. Saya lebih banyak menggunakan IT untuk berjualan maupun promosi. Lebih mudah dan jauh lebih murah ... Intense competition in batik business drives me to think about product innovations. I have to focus on several fast-moving products although it margin is low. The important thing is its fast turnover. So, back to low price again ... but the product quality and desain must meet expectation. Mostly, I use IT to sell and to do promotion. It is easier and cheaper ... ”*

Most SMEs managers were also aware of the role of process innovations concerning with cost efficiency, fast delivery, production quality, lean production process, and nonvalue-added processes elimination. In-depth interview revealed those issues as stated by informen.

*“Kebanyakan UKM menjual produk batik printing buatan pabrik besar atau impor dari Cina dan bersaing dengan harga termurah. Kalau batik buatan tangan kita akali dengan proses pewarna kimia dan hanya satu warna saja. Ya memang ada yang menjual produk batik yang unik, seluruhnya menggunakan tangan, diwarnai beberapa warna, dan jatuhnya mahal, tetapi tidak banyak yang demikian itu .... Untuk produksi massal digunakan cap, atau kombinasi antara tulis dengan cantthing dan cap ... Most SMEs sell printing batik which is produced by machine in large companies or imported from China. If hand-made batik, we use chemical coloring and one color only. Indeed, there are sellers who sell unique batik products with several colors, and finally it is expensive, but not many sellers do that. For mass production, we use copper block stamps or combination between stamps and hand-made ... ”*



“Saat ini kebanyakan dari kami berinovasi dalam proses produksi untuk corak warna tunggal serta desain gambar yang besar-besar untuk mengurangi biaya dan meningkatkan kecepatan penyelesaian produk. Pengiriman biasanya dilakukan melalui perusahaan jasa swasta atau kantor pos yang lebih murah. Kalau pelanggan ingin lebih cepat ya kita layani, ongkos kirim dan tanggungan pembeli ... At present, most of us innovate in single color product and large picture design to reduce costs and accelerate the speed of product finishing. We usually deliver product using cheap delivery service companies or post office. If customers want fast delivery, we will fulfill what they want, delivery cost is not our obligation ...”

Most SMEs managers were also aware of the important role of product innovations concerning with new product improvements, customer satisfaction, new materials usage, product quality improvement. In-depth interview revealed those issues as stated by the following informen. These informen are representative of managers who did not want to compete based on low price.

“Susah kalau bersaing dengan harga murah. Margin terlalu sedikit. Lebih baik saya membuat desain batik yang eksklusif dan memilih segmen pasar kalangan menengah atas. Tentu saja memerlukan kreativitas dan kemampuan inovasi yang tinggi untuk memuaskan golongan tersebut. Mereka menginginkan bahan kualitas prima dan desain gambar batikan yang rumit. Kalau mereka puas, harga tidak menjadi perhitungan lagi ... It is difficult to compete based on low price. Margin is too thin. It is much better for me to create exclusive design of *batik* and choose middle up market segment. Of course, they demand creativity and innovation capability to satisfy those groups. They want premium quality and complicated *batik* work. If they are satisfied, price does not become their consideration anymore ...”

## V. Conclusion and Future Research

### A. Conclusion

Based on the previous results and discussions, the following conclusion can be made:

- (1) Strategy affects financial performance of the *batik* SMEs in Solo city;
- (2) Innovation purely moderates the strategy-financial performance relationship of the *batik* SMEs in Solo city

### B. Further Research

This study has limitations as the following. First, it is conducted in the Solo city, so the generalization is limited only for the Solo city. Second, it is related to the *batik* business SMEs only. Third, the simple research model may mislead the conclusion that only those strategy and innovation influence financial performance. Fourth, there is the possibility that the moderated regression analysis (MRA) is not the best method to test the cause and effect relationship between strategy and financial performance.

Future research should address those limitations. Future study can be expanded to other cities in Indonesia for better generalization. All types of SMEs can be considered as future research setting. Other variables, namely performance management and organizational entrepreneurship can be included in the model. Other research method, such as experiment can be use to improve internal validity.

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