Original Research Article

The impact of information and coordination innovation on relationship and firm performance: The case of small and medium enterprises in Indonesia

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Abstract.*Acknowledging the essential role of small and medium enterprises (SMEs) for empirical evidences economic growth indicates that networking among SMEs with business partners becomes a determinant factor for improving growth. The coordination capability among channel members in distribution channel for instance, suppliers, manufacturers, distributors, retailers, financial institutions,as well as other relevant agencies,brings competitiveness, which in turn enhances performance. Since information sharing and coordination innovation possess a significantly positive influence in improving the growth of firms among the channel members,a few empirical evidences have been found on the effect of information and coordination innovation in lending on the relationship performance between SMEs and financial institutions(bankings) that led to SMEs' growth. By using structural equation model (SEM) for 103 samples of respondents,it was found that* ***relationship performance*** *led to the growth of SMEs in Indonesia, which in turn contributed to economic growth.*

Keywords: Innovation, information and coordination, relationship performance, firm performance, small and medium enterprises,Indonesia.

1.Introduction

1.1 Background of the Study

For decades,studies have proven that the dominant existence of small and medium enterprises (SMEs) plays crucial parts in the economy for generating employment, adding value, and alleviating poverty(Yhee *et al.,* 2001;Nagai, 2007,and Mukhamad*et al.,* 2011). However, since networking with financial institutions (bankings)becomesthe main factor for SMEs in maintaining sustainable development (Hans *et al*., 2005 and Fatima, 2009), information sharing and coordination innovation have brought improvements to the performance.

According to Lancioni*et al.,* (2000); Maria & Fern'andez (2006); Zhoe & Benton (2007);Campo*et al.,* (2010); Ferri *et al.,* (2012) and in Ferri *et al.,* (2012),the use of information and coordination innovation among channel members with the technology involved, combined with human skills,will provide coordination capability in two-way communication which consequently will enhance competitiveness.Nada (2008) directly promoted a precise category of coordination activity that would be able to accomplish both strategical and operational benefits.

Nevertheless, despite the benefit of innovation among channel members addressed in literature, further study that examines the effect of information and coordination innovation on the relationship performance between SMEs and financial institutions (bankings) as business partners that leads to SMEs growth have not been conducted thoroughly in Indonesia.

1.2 SMEs in Indonesia

Eventhough there are many financial institutions (bankings) that serve SMEs in Indonesia, they still encounter problems, where capital access still becomes the main issue hindering the growth of SMEs besides other leading factors such as marketing,innovation, and managerial skills (Mudrajat,2003;Manginsela,2005 and Tambunan,2009).Despite the government's effort in reducing the problems, they should innovate themselves in order to achieve sustainable competitiveness.

1.3 Objective of the Study

The information and coordination innovation will strengthen the coordination capability,which in turn will enhance growth. However, most studies examined the impact of innovation among channel members, which include suppliers,manufacturers,distributors,retailers and end users of products. On the other hand,studies that emphasize on the effect of innovation on the relationship and firm performance, particularly on SMEs in Indonesia, have not been conducted thoroughly. Hence, the objective of the research was to examine the impact of information and coordination innovation in lending on the relationship performance between SMEs and financial institutions (bankings) that leads to the growth of SMEs.

1. Literature Review and Conceptual Framework

1.1 Literature Review of Networking between SMEs and Financial Institutions(bankings)

In relation tothe role of SMEs scales as an engine for the economy growth, capital access is still considered as the main issue hindering the development of their business (Olawale, 2011;Musara & Olawale, 2011, and Anthony & Thomas, 2012). Hans *et al.,* (2005) showed that the policy of mergers among financial institutions affects the loyalty of customers to establish cooperation in both short-term and long-term. Taylor & Adrew (2006) indicated that having fewer relationships with the number of bankings for SMEs could reduce capital cost due to the trust provided by the banks such as in terms of guarantee, more flexible negotiations, and more concentrations in the relationship. According to the study done by Fatima (2009) on SMEs alliances with financial institutions, it was found that the adaptation ability of financial institutions to the capital needs of SMEs hada significant impact on customers' satisfaction. A recent study conducted by Daniel (2012) found an interesting finding, where the relationship between SMEs and banking emphasized more on collaterals and covenants rather than trust.

1.2 Conceptual Framework

2.2.1 Information and Coordination Innovation on Performance

An effective information sharing is essential in improving performance. According to the studies conducted by Lancioni *et al.,* (2000),Maria & Fern'andez (2006) and Campo *et al.,* (2010),the use of internet for information sharing has been proven to be able to increase effective cooperation and market knowledge, as well as alliances with clients. Zhou &Benton (2007) suggested that the innovation in coordination applied in cooperation involved the process of adding value for a product from raw material to finished goods becomes a determining factor to increase flexibility in response to changing market conditions. Nada (2008)further suggested that promoting an accurate group of coordination activity directly will handle competitiveness in both strategical and operational benefits. A recent study by Ferri *et al.,* (2012) also proved that innovation and coordination by adopting information technology, research and development (R&D), as well as typical method, are also able to improve effectivity and efficiency.Other relevant topics on the relationship of information and coordination innovation on performance can be seen in Ferri *et al.,* (2012).

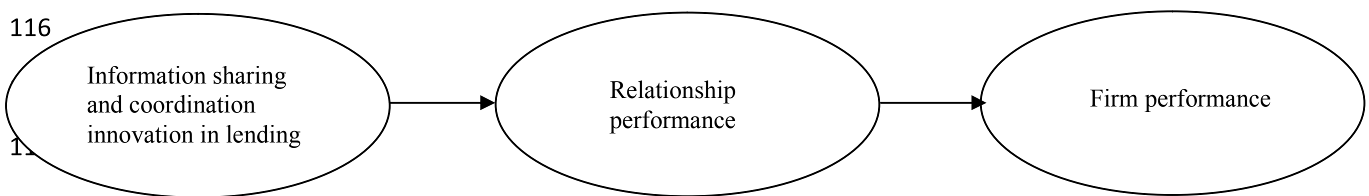
2.2.2 Relationship Performance

Relationship performance among entrepreneurs has become a long thought and attention by practitioners and scholars for its role in the development effort. Medlin (2003) emphasized relationship performance as "an achievement in economic terms as a result of entrepreneurship networking".Ural (2008) in a previous study on the effect of relationship quality also found positive and significant on export performance. Tom & Bill (2002) and Daniel (2012) found that the performance of business relationship brought significant and positive impact on their performance.

2.2.3 Theory Background

Wernerfelt (1984)claimed that a company has assets in the form of tangible and intangible assets which are attached to the company. In relation to the resource-based view theory, it explains that a company is uniquely caused by specific assets and services. In this case, a collection of resources in use includes managerial and entrepreneurial skills(Penrose,1959 and Siddhartha, 2011).

Figure.1 Conceptual framework



2. Research Methodology

3.1 Data Collection

By using Slovin method in determiningthe amount of random sampling, the primary data collection process utilized survey method as it has been done by previous studies (Mukhamad *et al.,* 2011; Rosli *et al.,* 2012 and Ferri *et al.,* 2012).Primary data were collected using questionnaires with 5 (five) point likert scale. Meanwhile,secondary data were collected from relevant information gathered through appropriate agencies in the Department of Industry and Trade of Indonesia (2013).

As described in Table 1, the respondents were small and medium enterprises (SMEs) in all sectors that still operated actively in the region of Yogyakarta and its surroundings. Measurement limitation of SMEs is enterprises that engaged in the products and services sectors that have a workforce of less than 100 workers (BPS &Menegkop, 1995).

Table1Thenumberof licenced SMEs in Yogyakarta Special District Indonesia

No	Sectors (unit)	2008	2009	2010	2011	2012
1	Medium	1,296	1,548	1,820	1,999	2,142
2	Small	31,119	33,425	35,296	36,607	37,582
	Total	**32,415**	**34,973**	**37,116**	**38,606**	**39,724**

Source: Industry trade department of Indonesia (2013).

3.2 Respondents' Profile

Distribution of the sample referring to the total number of employees, industry sector, and firm's age is shown in Table 2. As observed in Table 2,in terms of the total number of permanent (full time) and non-permanent employees, that the percentage of SMEs that hired 1 - 10 employees was the highest (90%),and the SMES were usually run by family members of the owners. Thus, the SMEs who hired more workers tend to be more professional and managed officially. Surprisingly, there were various SMEs in terms of industry sectors involved in this study. Food and beverage entrepreneurs formed the majority of the respondents (31%),followed by clothing (21%) and electronic (11%) industries. Table 2 also demonstrates that other industries with different characteristics such as photocopy services and stationaries, household and grocery, as well as shoe stores, were represented by 4% of the total establishments. Other industries include financial services, souvenir and handbag handicraft stores, as well as laundry services. As seen in Table 2,for firms'age, most SMEs were individual private companies that have existed for several years. Nonetheless, most of them were engaged in trading. Overall, around 92% SMEs have been in the business for1-15 years.

Table2 Profile of the respondents (SMEs)

Characteristics	SMEs (unit)	Percentage
Total number of permanent(full time) and non-permanentemployees		
1-10	93	90%
11-20	6	6%
21-30	4	4%
Total respondents	103	100%
Industry sector (unit)		
Food and beverage	32	31%
Clothing	22	21%
Electronic	11	11%
Photocopy services and stationaries	6	6%
Household stores	4	4%
Grocery retailers	4	4%
Shoe industries	3	4%
Others	21	21%
Total respondents	103	100%
Firms' age (years)		
1 – 5	43	42%
6 -10	34	33%
11-15	18	17%
16-20	6	6%
<20	2	2%
Total respondents	103	100%

Source:Survey (2014)

3.3 Measurement of Independent,Mediator, and Dependent Variables

Formulation of measurement variables is based on the adoption of prior literature studies. Variables measured in this study consist of three main variables. First, independent variable consists information and coordination innovation in terms lending. Second, the relationship performance between SMEs and financial institutions (bankings) was the mediator variable and third, firm performance was the dependent variable. By using questionnaires with 5 (five) point likert scale scores, the independent variable was measured by the application of available technology, research and development (R&D),as well astypical method used by the respondents adopted from (Kongmanilaa & Takahashib, 2009 and Ferri *et al.,* 2012),which referred to loan of product knowledge,monitorings and proposal that consists of 8(eight) items of constructs.The mediator variable adopted from Medlin (2003); Daniel (2012) and Tom & Bill (2002)referred to trust, quality relationship, information sharing, long-term relationship orientation, and commitment in solving problem for both SMEs and bankings that consists of 7(seven) items of constructs. Meanwhile,SMEs' performance as a dependent variable was adopted from Kongmanila & Takahashib (2009),Murphy *et al.,*(1996) and Mukhamad *et al.,* (2011) by using profitability, sales volume,market share, numbers of customers and sales frequency.

3. Data Analysisand Findings

3.1 Reliability and Normality

The reliability of a survey instrument is generally defined as "the accuracy, stability and relative lack of error in a measuring instrument" (Burns, 2000).The Cronbach's alpha measures the instrument's internal consistency, and an alpha coefficient of 0.7 is quoted as the minimum acceptable level(Pallant,2005).

Aperfect normality of data distribution can also be indicated by values of kurtosis and skewness. If the values of skewness and kurtosis are between -2.00 and +2.00, that means the normality of the data distributionis considered acceptable(George & Mallory, 1995).

The following values in Table3 indicate theacceptable level.

Table 3 Reliability of the constructs and normality of data distribution

Variables	Number of items	Cronbach'salpha	Normality	
			Skewness	Kurtosis
Information sharing and coordination innovation in lending	8	0.925	0.234	-0.482
Relationship performance	7	0.896	-0.319	0.329
Firm performance	5	0.919	-0.030	1.069

Source:Analysis result (2014)

3.2 Structural ModelTest

Structural model test can be used to ensure a causal relationship model among independent,mediator and dependent variables. The following Table 4 generated by AMOS21 showed the result of the fitness of the available data with the model. It was indicated that the degree of freedom had a positive value of 1 and goodness of fit index (GFI), as well as normed fit index(NFI) approached 1 or above 0.90. Hence, it can be concluded that the structural model test is acceptable(Singgih,2012).

Table4 Structural model

Model	Value
Degree of freedom (DF)	1
GFI	0.965
NFI	0.948

Source: Analysis result (2014)

4.3 Findings

As addressed earlier, the implied objective of the study was to investigate the innovation in lending that leads to the performance of SMEs. The following estimation,generated by AMOS 21 shown in Table 5, had found that the effect of innovation information and coordination in lending and relationship performance led to the growth of SMEs at $\beta = 0.488$ and 0.370.

Table.5 Regressionweight

			Estimate	S.E.	C.R.	P
Relationship performance	<---	Innovation in lending	0.488	0.066	7,421	***
Firm performance	<---	Relationship performance	0.370	0.041	9,098	***

Source : Analysis result (2014). 0.01 : ***

Table.6 Indirect effects

	Innovation in lending	Relationship performance
Relationship performance	0.000	0.000
Firm performance	0.181	0.000

Source : Analysis result (2014). 0.01 : ***

4. Conclusion

The essential role of small and medium enterprises (SMEs) in contributing economic growth is evident. However, since capital access has been demonstrated as a major factor for SMEs in developing the economy, the results of the study have indicated that information and coordination innovation enhance competitiveness among channel members and also solve capital access capability for SMEs. By considering relationship performance,the problems regarding capital access can be solved by applying information and coordination innovation in lending with financial institutions (bankings).

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