

## Age: Does it Matter for Firms to Perform?

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### Abstract

Most scholars agreed that firm age determines firm growth. They claimed that hazard rate will fall with time and firm survival increases with age of the firm. It is because new firms are perceived unable to achieve economies of scale and they rarely have the sufficient managerial resources and expertise. However, prior empirical studies on firm age do not provide conclusive evidence regarding its relationship with performance. Some scholars made another conflicting remarks stating that old firms are not flexible enough to make rapid adjustment, indicating barriers to innovate and make profit. Their organizational rigidities limit their growth by inhibiting change as they become harder to change over time. Older firms are also assumed to own antiquated machines, plants and equipment that limit their capability to innovate. These arguments has raised the interest for researchers to further study issues pertaining to firm age in a variety of contexts including in relation to the business development, technology and social systems. The study attempts to explore the relationship of firm age with intellectual capital, innovation capability and value production. The unit of analysis for the study is Small and Medium Enterprises operating in Malaysia.

**Keywords:** Firm Age, Intellectual Capital, Innovation, Value Production, Performance

### 1. Introduction

Reviewing from previous studies, the dimension of time has received an increasing attention. According to Sorensen and Stuart (2000), old and experience firms generate more innovations than younger firms but are generally incremental and of lower quality. Zahra (2003) added that firm age determines the ability to innovate positively due to accumulated experience and knowledge. Similiarly, Withers, Drnevich and Marino (2011) claimed that older firms have higher levels of innovation activity than younger firms and concluded that firm age plays an

important moderating role when examining SMEs. Innovation would then increase firm performance (Chaveerug & Ussahawanitchakit, 2008; Fruhling & Siau, 2007). Even though there are indications that firm age influences performance, prior empirical studies do not provide conclusive evidence regarding its relationship with performance. There were conflicting results that link between the two variables. This paper tends to look into the relationship between firm age and performance. Performance is measured according to three perspectives, namely intellectual capital, innovation capability and value production. The first perspective, intellectual capital is defined as a group of knowledge assets that are owned and/or controlled by an organization and most significantly drives organization value creation mechanisms for targeted company key stakeholders (Alipour, 2012). Second, innovation is defined as production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems (Crossan & Apaydin, 2010). Third, value production is referred to making something that is relatively worth.

## 2. Literature Review

### 2.1 Firm Age

There are many ways used by previous researchers to measure firm age; depending on the objective of their study. Morgan, Kaleka and Katsikeas (2004) defined firm age in terms of the number of years firm has been engaged in exporting operations whilst Ainuddin, Beamish, Hulland and Rouse (2007) used the age of international joint venture formation to define firm age. Concerning the classification of firm age, previous studies showed different views existed amongst researchers. Referring to Table 1, Abu Bakar (2011) and Ayyagari, Demirguc-Kunt and Maksimovic (2011) classified firm age into three groups; young firm for enterprise operating less than five years; intermediate/mid age firm and matured/established/older firm are those operating from six to ten years, and more than ten years respectively. On the other hand, Ismail, Che Rose, Abdullah and Uli (2010) and LiPuma, Newbert and Doh (2013) divided firm age into two groups, new firm and old firm.

Discussing further, Reiss (2011) and BERNAMA (2006) claimed that higher failure rate of small and medium enterprises is within the first five years of operation. Persson (2004) and Fort, Haltiwanger, Jarmin and Miranda (2012) added that 58 percent of small business in Sweden did not survive within five years period after establishment. Concerning this, the study would like to test whether firm operating more than five years performs better than those operating less than five years. Firm age in this study is divided into two groups, young firm and matured firm; where young firm refers to firm that is operating less than five years and matured firm is those operating equal to or more than five years; sharing the same view with Fort, Haltiwanger, Jarmin and Miranda (2012).

Table 1  
Classification of Firm Age

Author (Year)	Classification	Years
Ismail, Che Rose, Abdullah and Uli (2010)	New firm Old firm	Less than or equal to 15 More than 16
Abu Bakar (2011)	Young firm Intermediate firm	Less than 5 6 to 10

	Mature/established firm	More than 10
Ayyagari, Demirguc-Kunt and Maksimovic (2011)	Young firm	Less than 5
	Mid age firm	6 to 10
	Mature firm	More than 10
Fort, Haltiwanger, Jarmin and Miranda (2012)	Young firm	Less than 5
	Mature/older firm	More than or equal to 5
LiPuma, Newbert and Doh (2013)	New firm	Less than 7
	Established firm	More than or equal to 7

## 2.2 Performance

Performance refers to a standard that a firm does something. Firm performance can be perceived from a number of different kinds of perspectives. It can be measured according to two concepts either an objective concept based on absolute measures of performance or a subjective concept based on self-reported measures. Objective measures are directly taken from external recorded and audited accounts using absolute measures; whilst subjective measures are based on the respondents' ratings of their firm performance (Wall, et al., 2004). Performance in this study is measured according to subjective concept based on self-reported measures; where the respondents were asked to give ratings of their firm performance in term of intellectual capital, innovation capability and value production.

## 2.3 Firm Age and Performance

Most scholars agreed that firm age determines firm growth. According to Ismail, Che Rose, Abdullah and Uli (2010) and Gaur & Gupta (2011), older firms perform than newer firms. This is because hazard rate will fall with time (Audretsch, 1991) and firm survival increases with age of the firm (Persson, 2004). Barret and Mayson (2007) further elaborated that new firms are perceived unable to achieve economies of scale because they rarely have the sufficient managerial resources and expertise in the area. Evans (1987) shared the same view when he coined that firm age determines firms' growth and the variability of firm growth.

In addition, knowledge and experience comes with age, and older firms tend to possess more systematic and developed firm routines as innovation activity requires assimilating new knowledge with preexisting firm knowledge to produce new outputs. Firms that have established such experience will be better able to improve their overall performance. Hashim (1999) shared the same view and added that it is essential for owners to have sufficient skills to overcome problems and risks associated with small business to avoid business failures. For instance, Felekoglu (2007) found that Ford Motor Company, 3M and Procter & Gamble developed a capacity for continuous innovation through experiencing multiple challenges of uncertainties for a long period of time. Another study conducted by Daily, Certo and Dalton (2000) examined the relationships between CEO international experience, CEO tenure, firm internationalization, succession events and corporate financial performance. They concluded that there was an interactive effect on the examination of corporate financial performance between CEO international experience and CEO succession.

Conversely, Felekoglu (2007) has reviewed few studies and found that younger firms perform better in innovation activities. He concluded that there is no clear relationship of firm age and innovation performance, indicating that there are no agreement reached amongst researchers in the area. For instance, Kapelko (2006) made remarks that mature firms are not flexible enough to make rapid adjustment, implying barriers to innovate. Huego and Jaumandreu (2002) supported his notion by making remarks that new entrant firm possess higher probability of innovation rather than matured firms. This is due to the fact that older

firms often own antiquated machines, plants and equipment that limit their innovation capability. Their organizational rigidities limit their growth by inhibiting change as they become harder to change over time.

These empirical evidences show that there were conflicting results that linked between firm age and performance. Thus, it raises the interest for researchers to study issues pertaining to firm age in a variety of contexts including in relation to the business development, technology and social systems. Concerning this, the objective of the study is one of the attempts to explore the relationship of firm age with performance of intellectual capital, innovation capability and value production.

### **3. Data collection**

There are two types of data collection that were used in this study. First, the primary data collection consists of 1,071 sets of questionnaire and second, the secondary data collection containing data which was gathered from documentation and archival evidence such as articles, journals, reference books, annual reports, websites and other materials related to the study. The primary data collection period of this study was seven months. The study has utilized systematic random sampling technique as it allows a system of random selection of subjects to occur and provides assurance that the population will be evenly sampled (Zikmund, Babin, Carr, & Griffin, 2010). The unit of analysis for the study is SMEs operating in Malaysia.

The respondents were reached using postal mail survey and online survey as they are commonly used in the similar kind of studies. Both medium have an advantage of wider geographical coverage. Of 1,071 set of questionnaires sent, 185 sets were received and 172 sets were usable; which translates to about a 17.3 percent response rate.

### **4. Research Hypotheses**

Concerning the discussions of firm age with performance, the following research hypotheses are proposed:

H1: There is a significance difference between the quality of intellectual capital of matured firms and young firms.

H2: There is a significance difference between the capability to innovate of matured firms and young firms.

H3: There is a significance difference between the value production of matured firms and young firms.

### **5. Measure of Firm Age**

Firm age in this study is divided into two groups, young firm and matured firm; where young firm refers to firm that is operating less than five years and matured firm is those operating equal to or more than five years.

### **6. Measure of Performance**

Concerning performance, the study measured performance in three areas. First, performance of intellectual capital where it is constructed based on Sharabati, Jawad and Bontis (2010). In this regard, intellectual capital is divided into three components, namely human capital, structural capital and relational capital. Second, performance of innovation which is based on questions designed by Wang and Ahmed (2012). They divided performance of innovation into five types, product innovation, process innovation, market innovation, strategic innovation and behavioral innovation. All of these items were measured using a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Third, the study has utilized questions designed by Abd Aziz and Mahmood (2011) to measure performance of value production

where the respondents were asked to rate their performance based on firm's growth, financial performance and overall performance. Each question regarding performance of firm is using seven points Likert scales ranging from 1 (much lower) to 7 (much higher).

### **7. Data Analysis**

The data was analyzed with non-response bias test and common method bias test using SPSS software and it is found free from any issues that could lead to inconsistency and inaccurate findings. There are no multivariate outliers found in the data set and the data distribution is not normal. Findings for the study are generated based on the perceptions of the key informants about their firms using Statistical Package for Social Science version 19. As the data distribution for this study is found not normal, the study has employed Mann-Whitney U Non Parametric test to generate result findings for both hypotheses. According to Coakes and Ong (2011), Mann-Whitney test is used to test two independent samples from population having the same distribution.

### **8. Hypotheses Testing**

Firm age represents the experience and knowledge accumulated since its establishment and is hypothesized to have influence on firm performance. Concerning this, there are three hypotheses testing for the study. They are listed as follows:

- i. H1: There is a significance difference between the quality of intellectual capital of matured firms and young firms.

Young firm refers to firm that is operating less than five years and matured firm is those operating five years and above. According to Ismail, Che Rose, Abdullah and Uli (2010) and Gaur & Gupta (2011), older firms perform than newer firms. It is because their quality of intellectual capital are developed through long term continuous learning where older firms are more able to exploit the benefits of knowledge age than younger ones (Zahra, 1993). Thus, the researchers has tested H1 to determine whether there is a significance difference between the quality of intellectual capital of matured firms and young firms and found that there is no evidence to support the hypothesis.

- ii. H2: There is a significance difference between the capability to innovate of matured firms and young firms.

According to Savino and Petruzzelli (2012), old and experience firms generate more innovations but are generally incremental and of lower quality. Similarly, Withers, Drnevic and Marino (2011) claimed that older firms have higher levels of innovation activity than younger firms. This is due to the reason that older firms is associated with higher stock of resources, both the tangible and intangible assets. However, the findings of the study show different result and confirm that there is no prove to support the assumption.

- iii. H3: There is a significance difference between the value production of matured firms and young firms

According to Anderson and Eshima (2011), younger firms are better performing than older firms. This is because they have better ability to capture value from entrepreneurial strategies due to their flexible structures, routines and processes; allowing them to react faster to pursue entrepreneurial opportunities with greater congruence to current market expectation. However, the findings of the study show different result where it did not provide support for H3.

### **9. Conclusion and Direction for Future Studies**

Despite the indication that firm age has influence on performance, there were no agreements between scholars that innovation capability will determine firm performance. Thousands of researches on firm age have been published to show its relative importance and relationship

with performance. However, the link between the two variables remains uncertain. From the findings, it is concluded that firm age does not have any relationship with intellectual capital, innovation capability and value production; thus, it does not effect firm performance.

Future studies should consider using respondents from multinational companies or large firms. This is because firm age may behave differently according to the types of companies. Alternatively, future studies may consider respondents working for SMEs in third world countries and developed countries; thus adding new contribution to the literature on intellectual capital, innovation, firm age and performance.

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