

HUMAN CAPITAL AND SURVIVAL OF SMALL SCALE FOOD PROCESSING FIRMS UNDER ECONOMIC CRISIS IN CENTRAL JAVA INDONESIA

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ABSTRACT

This study objective was investigate the determine factors of the survival of small food processing firm during the economic crisis. As much 102 small firm with traditional of beef processing and preservation which producing Jerked beef and Beef Floss located in Central Java Indonesia were choised as sample. Primary and secondary data collected in 2009 when global economic crisis hit Indonesia, and the data analyzed using path analysis. This study concluded that ; (a) human capital (specific human capital) namely motivation start ups and industry experience in the same field have positively effects on entrepreneur's competencies, adaptation strategy, and the survival of firms. However, the contribution effect of motivation tend to be larger than industry experience; (b) Entrepreneur's competencies have a positive effect on the adaptation strategy and the survival of firms. However, contribution effect of entrepreneurial competency tend to be larger than managerial competency; and (c) adaptation strategy has positively effect on the survival of firms; and (d) human capital have affects on the survival of firms through entrepreneur's competencies (entrepreneurial and Managerial Competencies) and adaptation strategy. A better understanding of this finding will benefit implication for future research in the survival of small food processing firms under economic recession aspects, and also it will benefit implication for policymaker in supporting improved competitiveness of the small food processing firms and improving human capital for the Indonesia SMEs entrepreneurs

Keyword: *Human capital, entrepreneur, competency, adaptation strategy, survival, small food processing firm*

1. INTRODUCTION

In Indonesia, SMEs especially small scale enterprises (including micro enterprises) have historically been the main players in domestic economic activities, especially as providers of employment opportunities, and hence generators of primary or secondary sources of income for many households. As a group, these enterprises have also been an important engine for the development of local economies and communities (Tambunan, 2008). Unfortunately, during the period of substantial economic growth especially in, 1980s and early 1990s that reach 7-8% per year, but the small enterprises was not given priority by the government. They faced by discrimination policy, especially relative to the opportunities enjoyed by the larger enterprises during the periods (Berry, Rodriguez, and Sandee, 2001). However, they have a particularly high level of endurance. This was proven during the economic crisis, most of the small firms that did more survive were small food processing firms with traditional technology (Hickling, 2009; Widiyanto and Choesni, 1999, Akatiga dan Asia Foundation, 2000). The small traditional food processing firms not only have a better chance to survive in economic crisis, but they are also crucial to rural development in Indonesia. By generating employment opportunities in the rural areas, reducing rural-urban migration and the associated social problems, and reducing post-harvest food losses and increasing food availability (Tambunan, 2006; Aworh, 2008).

Many studies have explored the causes why the small scale food processing firms in Indonesia resistant to crisis and able to survive under economic crisis condition (e.g. Tambunan, 2006, Sato, 2000; Widiyanto and Choesni, 1999 Nikitin, 2003). Those studies does not report, however, how the entrepreneurs using their human capital and competencies in order to survive under economic crisis conditions. Empirically, research on the link between human capital of entrepreneurs and survival of the small firm is scarce. (Teixeira, 2012), While several studies have focused upon effect the human capital on survival of the young small firm (start

up phase) in stable externals condition, and the under external shock conditions, such economic crisis has received limited research attention (Sriyani,2010). Moreover, contribution of human capital on survival of the small food processing firms in indonesia under economics crisis still not clear, because their entrepreneurs generally to become enterepreneurs naturally with lower level of formal education and less obtained formal training.

Many reseachers argue that entrepreneurs of small firm need to be competent in entrepreneurial and managerial roles, and a proper allocation of these two competences is crucial to small firm survival (see, Beaulier, Hall and Mounts, 2008; Wen Wu, 2009; Inyang and Enuoh, 2009). However, the majority of studies within entrepreneurs competencies focused attention upon the contribution of managerial competency (see, Silineviča, 2011; Peljhan, 2012) and hence, entrepreneurial competency neglated (Smith et.al., 2002). Therefore, no one has empirically examined the extent to which the both entrepreneurial competencies are used and developed by entrepreneurs related to the firm's survive in economic crisis.

The development of entrepreneurial competencies can influenced by personal features of the entrepreneurs such as motivation and intention as well as experiential characteristics (e.g. work history outside firm) (Vesala and Pyysiäinen, 2008; Segal, Borgia, and Schoenfeld,2009). Therefore, development these spesifik human capital may aid entrepreneurs in making strategic choices which can lead to the small firm survival in any shock environment (Bruderl, Preisendorfer, and Ziegler, 1992; Hitt, et.al., 2001). However, few academic studies specifically explore the causes and consequences of strategic adaptation under recession conditions. There is, therefore, a need to draw on studies of adaptation to environmental shocks/joltsevidence (Kitching, Blackburn, and Smallbone, 2009). While some studies have linked organizational strategies to new firm survival, so that there is insufficient systematic evidence on the relationship between human capital, entrepreneurial competencies, adaptation strategy, and smal firm survival under economic crisis condition (Fuller, et al.,1996; Baptista and Karaöz, 2006).

2. STUDY OBJECTIVE

The objectives of study are to examine and analyze : whether survival level of small food processing firms under economic crisis is influenced by human capital of entreprepreneurs (motivation starting business and industry experinces), both directly and indirectly, through Entrepreneur's Competencies (entrepreneurial and managerial Competencies) and adaptation strategy as mediation. Theoretically, the results of this research is expected to be enrich and complete the repertoire of knowledge in survival of the small firms and strategic management field, especially in economic crisis condition , so it can be useful for academics, practitioners and government.

3. REVIEW LITERATUR

Indonesian experience with two big economic crises in the past 12 years, namely the 1997/98 Asian financial crisis and the 2008/09 global economic crisis. Schmitt, Probst and Tushman (2010) based on a review of the literature dealing with the economic crisis, generally defined a crisis as an ambiguous situation that poses a major threat to organizational survival, whose causes and effects are unknown, to which there is little time to respond and which requires decisions or judgments that will result in a change for the better or the worse. Kitching, Smallbone, and Xheneti (2009) point out that recessions are characterised by falling aggregate business sales, and typically by downward pressure on asset prices, which is enabling for resource acquisition. Recessions, therefore, present small businesses with a major dilemma: to cut costs in order to maintain survival in the short-run at the risk of reducing their capacity to adapt adequately when recovery comes; or, alternatively, to maintain greater capacity, incurring higher costs in the short-run, in order to retain the capability to realise opportunities for long-term value creation when the upswing comes. Study by Central Bank of Indonesia in 2008 to compare effects between the 1997 Asian Financial crisis and the global financial crisis on SME performance. In general, it appears that global crisis was more effect than the 1997 crisis to the negatively SMEs performance at the regional and national levels . By sector, it is known that sector of small-scale industry are relatively more resistant to (survive) the negative impact of the global crisis.

Entrepreneur's competency is highly a critical factor in achieving excellence in performance to ensure survival of SME with minimize the negative effect of the challenging business environments such as economic crisis (Nakhata, 2007; Kochadai, 2011). Chandler and Jansen (1992) point out that the two important roles that entrepreneurs need in order to be successful. These roles are entrepreneurial, and managerial competence. The entrepreneurial competencde as the ability to scan the environment to select promising opportunities and formulate strategies, managerial competence needs conceptual, interpersonal and political skills, and technical competence demands the founder to be skilled in the use of the tools or procedures required in their specialised field According to Xiang Li (1975), the entrepreneurial and managerial competencies share roles and tasks in

organizations, particularly in small business or SMEs, which entrepreneurs need entrepreneurial competency to identify business opportunities, build relationship with both suppliers and customers, and they need managerial competency to manage various functional areas in a firm so as to keep the firm operating efficiently. Sah and Goldstein (2006) argue that adequate managerial competence are indispensable for survival of SMEs, but they are rarely sufficient in themselves to ensure it. They must be supplemented by entrepreneurial competence. Empirical studies show that specific human capital such motivation of business intentions (see, Arribas and Vila, 2007; Ligthelm, 2010,) and industry specific experience (see, Dahlqvist, Davidsson, and Wiklund, 2000; Baptista and Karaöz, 2006) as factors that could influence the development of entrepreneurial competencies, and determines whether or not a business survive and prosper. Entrepreneurs have different motive to initiate and operate an enterprise, show different attitude and behaviour towards survive (Majumdar, 2006). According to Davidsson, (1995) and Autio (1997), the prior experience have significant impact of on the development of perceptions of entrepreneurship and motivation of starting a business.

In a radically changing environment, such as the economic crisis, the concept of dynamic capabilities may be helpful in developing a framework for understanding small firm behaviour, including their strategic adaptation under economic crisis conditions (Tushman and O'Reilly, 1996). Fuller, et.al, 1996) based on the review literature, they argue that there are two mainstream schools of strategy : the 'positioning school' and the 'resource-based view' (RBV). Recent analysis have extended the RBV using the concept of 'dynamic capabilities' to refer to the firm's ability to develop and extend resources and competences to adapt to a changing environment (Eisenhardt and Martin, 2000; Teece, 2007). Several studies (i.e. Venkatraman and Prescott. 1990, Schindehutte and Morris, 2001) suggest that characteristics, competency and knowledge of the entrepreneur especially important determinants of the adaptation, and that strategies for adapting are related to organizational performance. Dean, Brown and Bamford (1998) argued that SMEs are adept at pursuing strategies built on flexibility, the strengths of speed and niche-filling capabilities.

4. THE HYPOTHESIZED MODEL

Based on the above literature review, hypothesis models in this study may construct a structure diagram is given in Fig. 1

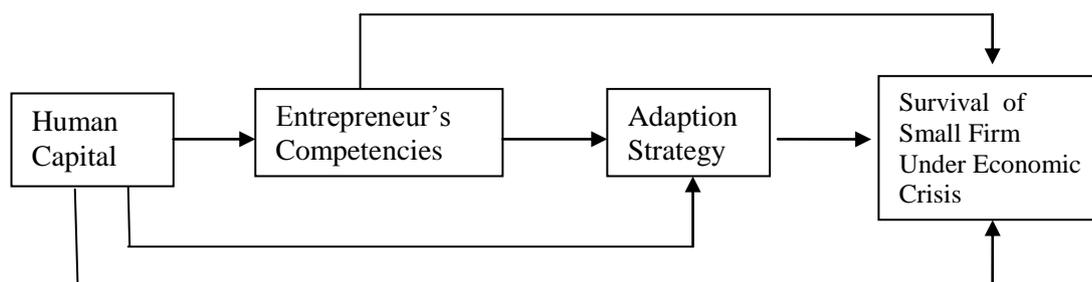


Figure 1: Hypothesized input structure diagram

5. RESEARCH HIPHOTESIS

(a) Human Capital has a positively effect on entrepreneur's competencies

Hypothesis 1-1 : Industry experince in the same field have positively effects on entrepreneur's motivation in starting business

Hypothesis 1-2 Motivation and industry experiences have positively effects on entrepreneurial competency

Hypothesis 1-2: Motivation and industry experiences have positively effect on managerial competency

(b) Human Capital has a positively effect on adaptation strategy

Hypothesis 2-1: Motivation and industry experience have positively effects on adaptation strategy

(c) Human Capital has a positively effect on the survival of small food processing firm under economic crisis

Hypothesis 3-1: Motivation and industry experience have positively effects on the survival of Small food processing firms under economic crisis

(d) Entrepreneur's Competencies has a positively effect on adaptation strategy

Hypothesis 4-1: Entrepreneurial and managerial competencies have positively effect on adaptation strategy

(e) Entrepreneur's competencies have positively effect on the survival of small food processing firms under economic crisis

Hypothesis 5-1 : Entrepreneurial and managerial competencies have positively effect on the survival of small food processing firms under economic crisis

(f) Adaptation strategy has a positively effect on the survival of small food processing firms under economic crisis

Hypothesis 5-1: Adaptation strategy has a positively effect on the survival of small food processing firms under economic crisis

(g) Human capital has affects on the survival of small food processing firms under economic crisis through entrepreneur's Competencies (entrepreneurial and Managerial Competencies) and adaptation strategy

6. RESEARCH METHODS

This study can be classified as an explanatory research, i.e. research that explains the causal relationship and examine the effect of several variables through the testing of research hypotheses or explanations (Singarimbun, and Effendi, 1995). Primary data is data direct observations made by researchers and primary data obtained directly from interviews with entrepreneurs (owner manager) respondent samples using questionnaires. Secondary data were obtained from local government, ministry of cooperation and small medium enterprise development, direktorat general of industrial and trade, central biro of statistics. Sources of secondary data are written evidence (documentation), journals, reports from experts or researchers and institutions involved with research.

The study focus on small scale food processing firms in traditional of beef processing and preservation ie Jerked beef and Beef Floss were located in Semarang district, Salatiga city, Boyolali district, Surakarta city, Magelang district, Wonosobo district, and Purbalingga district of the Central Jawa of Indonesia. The jerked beef and beef flos product which is produced by many small firms Central Java are most popular and well known for along ago (Suryani et al, 2007). The population of Small food processing firm which producing Jerked beef and Beef Floss products obtained from the Department of Industry and Trade of the Central Java Province (2008). The sample population was 102 firms with the number of employees 5-20 worker and has succesfully survived in two big economic crises in Indonesia, namely the 1997/98 Asian financial crisis and the 2008/09 global economic crisis. Both Likert scale questions and dichotomous questions were used to elicit responses from the respondents. Human capital was individual spesific human capital and measured in motivation starting business (i.e. economic and non-economic reasons starting business), and industry experience was the main field of previous work experience in the small food processing firms (i.e. production, sales, and administratif fields). Entrepreneurial competency was entrepreneurial actions which applied in their business operations under economic crisis which measured in personality traits : willingness to take calculated risks, locus of control, creativity, innovation, and opportunity recognition (measured on a 5-point Likert type scale with the anchors 1 = 'not agree' and 5 = 'highly agree'). Managerial competency was the four management functional areas namely planning, organizing, motivating and evaluation practices which applied in their business operation under economic crisis (measured on a 5-point Likerttype scale with the anchors 1 = 'not used at all' and 5 = 'highly used'). Adaptation strategy was specific ways in which the firm makes adjustments as it seeks to survive and capitalize on economic crisis situations (Schindehutte and Morris, 2001). Strategic adaptation in this research was response of small firms sample to crises that identified by Central Bank of Indonesia (2008), two categories of strategic action of small firms reacted to the recession : controlling costs/efficiency strategy and creating new market strategy, and measured in . the strategy to survive under economic crisis on a 5-point Likert type scale with the anchors 1 = 'not adopted at all' and 5 = 'highly adopted'. Firm's survival was ability of the small firm for staying in business over a long period of time, which measured in perceptions of entrepreneurs about the probability of their firm achieving long term survival under global economic crisis (measured on a 5-point Likerttype scale with the anchors 1 = 'pesimistic' and 5 = 'highly optimistic'). Data analysis was done using the Statistical Analysis Software. Statistical analysis included descriptive statistics, and path analysis.

7. RESULT AND DISCUSSION

The test results on the reliability for the variables that make up human capital (8 items), entrepreneur's competencies (9 items), adaptation strategy (5 items), and survival of small food processing firms under economic crisis (3 items). Cronbach value of entire items have minimum value is 0,86 and maksimum value is 0,94. Hence, the entire tests performed of the items are considered valid.

Descriptive statistics of the entrepreneurs characteristic showed that a majority of the entrepreneurs in our sample were aged between 39 to 50 years (56.96%), male (88.61%), having primary and secondary education schools (62.28%), reason starting business to increase income (50.63%), having previous work experience on small food processing firms (92.40%). With regards to the firm characteristics, has been operating for over 21 years (51.90%), making the upper and middle classes as a target market, (70.62%) using its own capital to finance the operations of the firm, (85.82%), using patterns of production depends on the order, (77.26%), using manual production techniques (86,.30 %).

8. GOODNESS OF FIT MODEL

The coefficient of determination of the model is 67.15 (Table 1) which means that the model's ability to explain variation in the variable survival of the small food processing firms amounted to 67.15%, while the remaining 32.85% is explained by other variables not included in the model. Furthermore, the results of the F test is 28.91 <5% (Table 1), which means that the model is feasible and can be used for further analysis. The causal model its testable form presented in in Figure 2

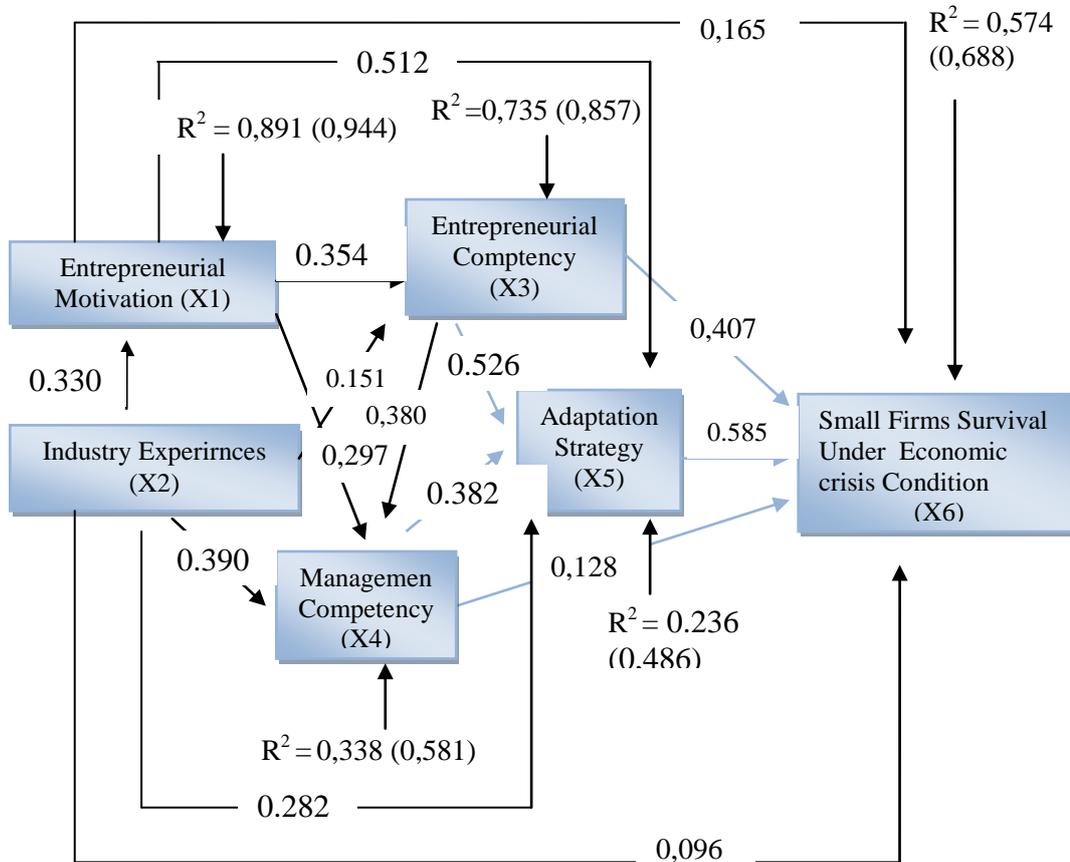


Figure 2. The Causal Model in its Testable Form

The path analysis model above describes the relationship between the dependent variable and the independent variables are hypothesized. The structural equation standardized can be expressed as follows:

- (a) Structural equation for the first hypothesis : $X1 = 0,330 X2 + 0,944 C1$. X1 = dependent variables of motivation, X2 = dependent variable of industrial experience; 0,330 X2 = path coefficient X2 to X1; 0,944 C1 = path coefficient of error variable 1
- (b) Structural equation for the second hypothesis : $X3 = 0,354 X1 + 0,151 X2 + 0,857 C3$; X3 = dependent variable of entrepreneurial competency, X1 = independent variable of motivation, X2 = independent variable of industry experience; 0,354 = path coefficient X1 to X3, 0,151 = path coefficient X2 to X3; 0,857 C2 = path coefficient of error variable 3
- (c). Structural equation for the third hypothesis : $X4 = 0,297 X1 + 0,390 X2 + 0,380 X3 + 0,581 C3$. X4 = dependent variable of managerial competency, X1 = independent variable of motivation, X2 = independent variable of industry experience, 0,297 = path coefficient X1 to X4; 0,581 C3 = path coefficient of error variable 4.
- (d) Structural equation for the fourth hypothesis : $X5 = 0,512 X1 + 0,282 X2 + 0,526 X3 + 0,382 X4 + 0,486 C5$. X5 = dependent variable of adaptation strategy, X4 = independent variable of managerial competency, X3 = independent variable of entrepreneurial competency, X2 = independent variable of industry experience, X1 = independent variable of motivation, 0,512 X1 = path coefficient X1 to X5; 0,282 X2 = path coefficient X2 to X5; 0,526 X3 = path coefficient X3 to X5; 0,382 X4 = path coefficient X4 to X5; 0,486 C4 = path coefficient of error variable 5.
- (e) Structural equation for the fifth, sixth, seventh, and eighth hypothesis : $X6 = 0,165X1 + 0,096 X2 + 0,407 X3 + 0,128 X4 + 0,585 X5 + 0,688 C6$. X6 = exogenous variable of survival firms under economic crisis, X5 = dependent variable of adaptation strategy, X4 = independent variable of managerial

competency, X_3 = independent variable of entrepreneurial competency, X_2 = independent variable of industry experience, X_1 = independent variable of motivation, $0,165X_1$ = path coefficient X_1 to X_6 , $0,096X_2$ = path coefficient X_2 to X_6 ; $0,407X_3$ = path coefficient X_3 to X_6 ; $,128X_4$ = path coefficient X_4 to X_6 ; $0,585X_5$ = path coefficient X_5 to X_6 ; $0,688C_4$ = path coefficient of error variable 6.

9. EFFECT HUMAN CAPITAL ON ENTREPRENEURS COMPETENCIES

Table 1 present the results of path analysis of the effect industry experience in same field on the motivation start ups business (Hypotheses 1.1). The result indicates that there is significant positively effect of industry experience in same field (X_2) on the entrepreneur's motivation in starting business (X) ($p = 2,437 < 0.05$). This result has illustrated that the employment experience of entrepreneur in the small food processing firm have motivated them for setting up a business in the same field. This finding supported by Huber (1991) and Wagner (2004) who reports that individuals who have worked in small firms and in the same industry are more likely to engage in entrepreneurship. Prior experience of starting a business may also be important in determining whether an individual perceives starting a new enterprise as feasible or desirable Dahl and Reichstein (2007) also argued that knowledge and experience from within the same industry will motivate entrepreneurs to start-ups a firm, because the knowledge and experience will equip them discover certain opportunities to start ups.

Table 1 also presents the results of path analysis of the effect human capital on entrepreneurs competency (Hypotheses 1.2 and 1.3). The result indicates that there is significant positively effect of motivation (X_1) on the entrepreneurial competency (X_3) ($p = 2,834 < 0.05$). and managerial competency (X_4) ($p = 2,562 < 0.05$). and also, there is significant positive effect of industry experience (X_2) on entrepreneurial competency (X_3) ($p = 1,741 < 0.05$) and managerial competency (X_4) ($p = 2,869 < 0.05$). These result has illustrated that human capital such as motivation to start a business and industry specific experience in the same field drives both entrepreneurial and managerial competency. This finding supported by Rose, Kumar and LiYen (2006) who mentioned that entrepreneurs with high motivation starting business will further enhance and improve their management skills, and embark in a continuous learning and development their entrepreneurial competency Working industry experience in the same field also assists the entrepreneurs with information and understanding about the managerial skill and also, assisted them in enhancing their entrepreneurial competency. However, after calculating the total effect of each variable, it was found that the effect of motivation to the entrepreneurial and managerial competencies tend to be larger than effect of the industry experiences ($0,348$ vs $0,273$, Table 2). Its indicates that the competencies of entrepreneurs are apparently more shaped by motivation and less reliant upon their previous industry knowlegde and skills experience. One potential reason for this result is that entrepreneurs of our sample are the person who started a firm naturally, their entrepreneurial mindset and attitude shaped by their cultural context such as hard working, dependency, social network, and strong commitment to achieve and maintain business success, and its could be potentially drive them to seek and develop their competencies in order to make their firm able to survive and prospect. While, the previous skills and knowledge gained from industry experience such as production working experience at small food processing firm only impacts on the technical production side of running a business, and less on management and entrepreneurship matters. This finding supported by Storey (1994) who argue that there is relatively little empirical evidence that demonstrates that prior experience of start-up is associated with future entrepreneurial activity and in a subsequent enterprise. Politis and Gabriellsson (2009) conducted study on Swedish entrepreneurs, and found that motivation seem to have developed cognitive skills that facilities the development of entrepreneurial mindsets, while prior management experience, not production experience, which provides the opportunity to cultivate management fungsional skills

10. EFFECT HUMAN CAPITAL ON ADAPTATION STRATEGY

Table 1 presents the results of path analysis of the effect human capital on apatation strategy (Hypotheses 2). The result indicates that there is significant positive effect of motivation (X_1) on the adapation strategy (X_5) ($p = 4,493 < 0.05$), and also, there is significant positively effect of the industry working experience (X_2) ($p = 2.271 < 0.05$). This result has illustrate that entrepreneur with high motivation starting business, and industry experience in the same field will enhance their knowledge, skill and visi to develop formulation strategy for survive under economic crisis. Majumdar (2011) conducted a study on strategic activity in small organisation, and found that strategy formulation for survival and growth is driven by the vision and motivation of the entrepreneurs. Silineviča (2011) conducted study on strategic management in small business enterprise under economic crisis in Latvia, and found that the existence of the development strategy adaptation depends on personell motivation and work experience of managers. However, after calculating the total effect of each variable, it was found that the effect of motivation to adaptation strategy tend to be larger than effect of the industry experience ($0,613$ vs $0,576$, Table 2). Its indicates that decision to adopt the adaptation strategy is apparently more shaped by motivation and less reliant upon their previous industry knowlegde and skills

experience The possible reasons for this result is that entrepreneurs of our sample were have industrial experience as craftman in production field, and hence their knowledge and skill gained from experience may not benefit for decising and implementing adaptation strategy to adapt in an economic crisis situation. However, because they never got the attention and support from the government during this time, they become motivated to work hard, full dedication and commitment, initiative and creativity in finding the right strategy to keep his business to keep operating despite the difficult economic conditions. In connection with this finding, Verreyne (2005) conducted a study on small firms in New Zealand, and concluded that adaptation strategy of the small firm driven by the firm's responsiveness to its stakeholders, i.e. suggestions from, for example customers and suppliers.

11. EFFECT HUMAN CAPITAL ON SURVIVAL FIRM

Table 1 presents the results of path analysis of the effect human capital on survival firms (Hypotheses 3). The result indicates that there is significant positively effect of motivation (X1) on the survival of small food processing firms under economic crisis (X6) ($p = 2.143 < 0.05$), and also there is significant positively effect of industry experience (X2) ($p = 1.800 < 0.05$). This result has illustrate that background of the start-ups will enhance probability firms to survive under economic crisis, because the back ground of the start ups will support entrepreneurs to discover better solution for survival under economic crisis condition. This finding supported by Baron (2004) who argues that diverse individual experiences support development abilities in using analogies, adeptness of signal detection and hence recognizing and framing current problematic situations to past problems and their solutions. Dahl and Reichstein (2007) empirically found that motivation and industry specific experience in the same field positively affects the likelihood of new firm survival. Silineviča (2011) explore the survival opportunities of small firms in Latgale region, found the existence of the development strategy depends on work experience of owner managers, and as main promotive factors must personnel motivation. Lussiers and Pfeifer (2001) empirically found that human capital of individual entrepreneurs play a role in contributing to the success of entrepreneurs. His study found that entrepreneur with industrial experience, and motivation business start up has greater chance of succeeding than people minimal industrial experience, and with little motivation. Study of entrepreneurial human capital determinants of survival small firm in Portugues, Baptista and Karaöz (2006) found that motivation factors significantly influence the chances of survival in the short term; for business owners who started the firms out of necessity, or as a "refuge" from unemployment, only industry-specific experience contributes significantly to enhance survival probabilities, However, after calculating the total effect of each variable, it was found that the effect of motivation to survival firm tend to be larger than effect of the industry experience (0,731 vs 0,611, Table 2). Its illustrate that if the entrepreneur's reasons for starting the business originated in economic driven' motives such as the desire to increase income, rather than non economic driven' motives such as unemployment, then the resulting enterprise is more likely to survive. The economic motivation of entrepreneurs hence seems to be better equipped for effectively handling obstacles and uncertainties associated with economic crisis, such as finding financial, building and having access to customer and supplier. Liedham (2010) empirically found that human factor, particularly motivation start ups are a part of the owner/manager to achieve the desired survival and growth potential. The other reason for the positive effect of human capital on the survival small food processing firm may also related with the length of time that sample firm has been operating, which majority of the sample firm in this research are small food processing firms that has been operating for more than 21 years

12. EFFECT ENTREPRENEUR'S COMPETENCIES ON ADAPTATION STRATEGY

Table 1 presents the results of path analysis of the effect Entrepreneur's Competencies on adaptation strategy (Hypotheses 4). The result indicates that there is significant positively effect of entrepreneurial competency (X3) and managerial competency (X4) on the adaptation strategy (X5) ($p = 4,636 < 0.05$ and $p = 3,90 < 0.05$). This result has illustrate that under turbulent and uncertain environment such economic crisis, the entrepreneurs use both their entrepreneurial competency and managerial competency dalam memilih dan mengimplementasikan suatu strategi untuk beradaptasi melalui controlling costs/efficiency and creating new market. This finding supported by Neneh and Vanzyl (2012) who conducted a study on SMEs in south Africa, and found that for entrepreneurs who have an entrepreneurial competency and managerial competency have high strategic decision making abilities. However, after calculating the total effect of each variable, it was found that the effect of entrepreneurial competency to adaptation strategy tend to be larger than ffect of the managerial competency (0,422 vs , 0,146, Table 2). . The possible reasons is that entrepreneurs of our sample lack of management skills because they have lower levels of education and never get management training, so that they often develop and implement a strategy based solely on experience and intuitively. Majumdar (2011) conducted study on growth planning in small organization as entrepreneurial as well as strategic activity, and concluded that the strategy formulation for survive and growth is driven by the vision and motivation of the entrepreneurs. Also the motivation of the entrepreneur governs the attitude and decision on survive and growth.

According to Wiklund (1999) that entrepreneurial competence plays an influential role in organisational capability (strategy), because entrepreneurial competency related with perception or beliefs about the environment which are likely to affect the firm's formation of strategy. Woods and Joyce (2003) argue that small entrepreneurial firm develops a strategy is often intuitive and thus its success rests on reality confirming its intuitions about the opportunities that exist (and that it seeks to exploit by virtue of its flexibility). Gibbons and O'Connor (2005) conducted a study on Irish SMEs, and concluded that the entrepreneurs did not have adequate understanding of strategic management terms and were less equipped with strategic management tools. The possible reasons were centralised decision making by the entrepreneur or difficulty in prioritizing the development of their managerial skills. Morris, Altman and Pitt (1999) identified entrepreneurial competency (personality trait) for adaptation to environment, and concluded that personality traits as risk taking, innovative, internal locus of control, innovate, recognize opportunity are associated with the tolerance for ambiguity and self-esteem that affect ability or willingness to adapt to an environment. Then, Schindehutte and Morris (2001) who examined the concept of adaptation as it relates to the start-up and survival of small businesses over time, found that entrepreneurial competency and levels of environmental change are especially important determinants of the three components of adaptation : the firm's capacity to adapt, how much it actually adapts, and the strategies it relies upon to adapt, .and that levels of and strategies for adapting are related to organizational performance.

13. EFEFECT ENTREPENEURS COMPETENCY ON FIRM SURVIVAL

Table 1 presents the results of path analysis of the effect entrepreneur's competencies on the survival of small food processing firms under economic crisis (Hypotheses 5). The result indicates that there is significant positively effect of entrepreneurial competency (X3) and managerial competency (X4) on the survival of small food processing firm under economic crisis (X6) ($p = 3,266 < 0.05$ and $p = 1,977 < 0.05$). This result has illustrate that under turbulent and uncertain environment such economic crisis, the entrepreneurs use both their entrepreneurial competency and managerial competency to survive. This finding supported by Neneh and Vanzyl (2012) who conducted a study on SMEs in South Africa, and found that a combination of factors entrepreneurial competency (entrepreneurial mindset and characteristics) and managerial competency (business practices) have a stronger positive relationship with business survival. Ligthelm (2010) conducted study on small firms in south Africa, also found that entrepreneurial acumen and business management skills be classified as the strongest predictors of small business survival. However, after calculating the total effect of each variable, it was found that the effect of entrepreneurial competency to the survival of small firm tend to be larger than effect of the managerial competency (0,606 vs 0,240, Table 2). Sánchez (2012) empirically also indicate that entrepreneurial competence plays an influential role in organisational capability and competitive scope, and also has a direct effect on firm performance. Then, Smith et.al., (2003) studied small firm of the United Kingdom, expolored the relationship between manajerial competencies and entrepreneurial competency, and sales growth performance. The result of this study is the entrepreneurial competency but not managerial competencies was associated positively with the probability that a firm would be a high a growth type

14. EFFECT ADAPTATION STRATEGY ON FIRM SURVIVAL

Table 1 presents the results of path analysis of the effect adaptation strategy on the survival of the small firm (Hypotheses 6). The result indicates that there is significant positively effect of adaptation strategi (X5) on the survival of small food processing firms under economic crisis (X6) ($p = 5,188 < 0.05$). This result has illustrate that under turbulent and uncertain environment such economic crisis, adaptation strategy with controlling costs/efficiency and creating new market were essential for small food processing firm to survive. Olusola (2012) conducted study on strategic entrepreneurial skills needed for better performance of SMEs operatin in Nigeria, and found that strategic skill has impact on the firm performance : improved sales, better management efficiency, service delivery, and increased profit, customer satisfaction and sustainability in manufacturing industry. Neneh and Vanzyl (2012) conducted a study on SMEs in south Africa, and found that for entrepreneurs who have high strategic decision making abilities demonstrate a high probability of achieving long term survival. Sánchez (2012) found that organisational capabilities affects positively the firm performance and it partially mediates the relationship between entrepreneurial competence and firm performance.

15. DIRECT AND INDIRECT EFFECTS OF HUMAN CAPITAL ON SURVIVAL OF SMALL FIRMS

Tabel 2 clearly depicts that three variables related with human capital have significant indirect effect on the survival of small food processing firms, i.e entrepreneurial competency, managerial competency, and adaptation strategy. Especially, entrepreneurial competency variable sends its significant indirect effect through four paths and its total effect is 0.607. Among the different paths the greatest indirect effect comes through path X3 via X5 to X6 The effect of these variable is 0.308, implying that the increase of entrepreneurial competency and having skill and understanding in implementing adaptation strategy tools lead to enhance a

high probability of the small food processing firms in achieving long term survival under economic crisis condition. Entrialgo, Fernandez, and Vazquez (2000), empirically found that entrepreneurial competency (personality traits) such as locus of control, risk taking, recognizing opportunity influenced the business success directly and the business process indirectly. Second highest significant indirect effect coming from path X3 via X4 and X5 to X6. Its effect is 0.085, implying that the increase of both entrepreneurial competency and managerial competency lead to enhance skill and understanding of strategic management terms and meant of their will more equipped with strategic adaptation tools and finally, the small food processing firms could achieve the long term survival under economic crisis condition.

15. CONCLUSION

This study has sought to examine the determinants of the survival of small food processing firms under economic crisis global, focusing in particular on effect specific human capital (specific human capital), entrepreneur's competencies, and adaptation strategy on the survival of firms directly and indirectly. Using path analysis, therefore, it can be concluded that ; (a) human capital (specific human capital) namely motivation start ups and industry experience in the same field have positively effects on entrepreneurial competency, managerial competency, adaptation strategy, the survival of firms. However, the contribution effect of motivation tend to be larger than industry experience; (b) Entrepreneur's competencies have a positive effect on the adaptation strategy and the survival of firms. However, contribution effect of entrepreneurial competency tend to be larger than managerial experience; and (c) adaptation strategy has positively effect on the survival of firms; and (d) human capital have affects on the survival of firms through entrepreneur's competencies (entrepreneurial and Managerial Competencies) and adaptation strategy

16. LIMITATIONS OF THE STUDY AND IMPLICATION.

Empirical study our presented here were small food processing firms with sample firm which producing traditionally Jerked beef and Beef Floss located in central Java, and hence the ability to generate the issues of the survival of small food processing firms under economic crisis is still limited. Next stages of the study will further investigate across different traditional of processed food products and other region in Indonesia and countries. In addition, this study was cross sectional quantitative study with involving entrepreneur's competencies and adapting strategy as moderating/intervening variables, hence, for improving this study may be important to conduct a longitudinal quantitative and qualitative studies with involving more moderating variable such as social capital, and competitiveness. Furthermore, this study is important to enrich theory in entrepreneurial human capital, management strategic, and survival firm. Next, it will be of value to entrepreneurs to enhance their ability in operating the small firms successfully. To increase the entrepreneur's human capital and competencies, the government may need to provide supporting policy to develop competitiveness of the small food processing firm and improving human resources development of the entrepreneurs via intensive training in entrepreneurship and management strategic

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Table 1. Path Analysis Effect Human Capital on the Survival of Small Food Processing Firm Under Economic Crisis in Indonesia

Struktur Parameter	Path Koeficient	Direct Effect (%)	Counted t	t.Table
X2 terhadap X1	0,350	12,25	2,437*	1.6602
X1 terhadap X3	0,354	12,53	2,834*	1.6602
X1 terhadap X4	0,297	8,82	2,562*	1.6602
X2 terhadap X3	0,151	2,28	1,741*	1.6602
X2 terhadap X4	0,390	15,21	2,869 *	1.6602
X1 terhadap X5	0,512	26,01	4,493*	1.6602
X2 terhadap X5	0,282	7,95	2.271*	1.6602

X1 terhadap X6	0,165	2,72	2.143*	1.6602
X2 terhadap X6	0,096	0,92	1.800*	1.6602
X3 terhadap X5	0,526	27,67	4,636*	1.6602
X4 terhadap X5	0,382	14,59	3,90*	1.6602
X3 terhadap X6	0,407	16,56	3,266*	1.6602
X4 terhadap X6	0,128	1,64	1,977	1.6602
X5 terhadap X6	0,585	34,22	5,188	1.6602

			Counted F	F.Table
R2 X6 (X5..X1)	0,819	67,15	28,91 *	2.31
Residu path	0.573	32,85		

Notes : *Significant P < 0,05

Table. 2. The Decomposition of Effects of the Human Capital on Survival Small Food Processing Firms Under Economic Crisis in to Direct and Indirect Effects

Independent Variable	Description of Paths	Direct Effect	Indirect Effect	Total Effect
Motivation (X1)				
X1 to X3 and X4	X1 ke X3	0,125		
	X1 ke X4		0,088	
	X1 ke X3 ke X4		0,135	0,348
X1 to X5	X1 to X5	0,262		
	X1 via X3 to X5		0,186	
	x1 via X4 to X5		0,113	
	X1 via X3 and X4 to X5		0,051	0,613
X1 to X6	X1 to X6	0,027		
	X1 via X5 to X6		0,3	
	X1 via X4 to X6		0,038	
	X1 via X3 to X6		0,144	
	X1 via X3 and X4 to X6		0,017	
	X1 via X4 and X5 to X6		0,066	
	X1 via X3 and X5 to X6		0,109	
	X1 via X3,X4 and X5 to X6	0,03		
			0,704	0,731
Industry Experience (X2)				
X2 to X3 and X4	X2 to X3	0,023		
	X2 to X4	0,152		
	X2 via X2 to X4		0,098	0,273
X2 to X5	X2 to X5	0,08		
	X2 via X1 to X5		0,169	

	X2 via X3 to X5		0,079	
	X2 via X4 to X5		0,149	
	X2 via X1 and X4 to X5		0,037	
	x2 via X1 and X3 to x5		0,061	0,576
X2 to X6	X2 to X6	0,038		
	X2 via X1 to X6		0,071	
	X2 via X4 to X6		0,05	
	X2 via X4 and X5 to X6		0,087	
	X2 via X3 to X6		0,061	
	X2 via X3 dan X5 to X6		0,046	
	X2 via X1 dan X5 to X6		0,129	
	X2 via X1 and X3 to X6		0,062	
	X2 via X1,X3 and X5 to X6		0,047	
	X2 via X1,X3 and X4 to X6		0,007	
	X2 via X1,X3,X4 and X5 to X6		0,013	0,611
Entrepreneurial Competencies (X3)				
X3 to X5	X3 to X5	0,277		
	x3 to X4 to X5		0,145	0,422
X3 to X6	X3 to X6	0,166		
	X3 via X4 to X6		0,049	
	X3 via X5 to X6		0,308	
	X3 via X4 and X5 to X6		0,085	0,607
Managerial Competency (X4)				
X4 to X5	X4 to X5	0,146		
X4 to X6	X4 to X6	0,016		
	X4 via X5 to X6		0,223	0,240
Adatation Strategy (X6)				
X5 to X6	X5 to X6	0,342		0,342