THE EFFECT OF HUMAN CAPITAL ON SURVIVAL OF SMES IN FOOD PROCESSING UNDER ECONOMIC CRISIS IN CENTRAL JAVA, INDONESIA

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ABSTRACT

The objective of this study is to analyze the effect of human capital on survival of SMEs in food processing in Central Java Indonesia during the economic crisis. As much as 102 small firms with traditional beef processing and preservation which produce Jerked beef and Beef Floss were chosen as samples. Primary and secondary data have been collected in 2009 when the global economic crisis hit and analyzed using path analysis. This study concluded that; (a) human capital such as motivation and industrial experience in the same field have positive effect on entrepreneur’s competencies, adaptation strategy and survival of the firms. However, effect from the motivation tend to be larger than industrial experience; (b) Entrepreneur’s competencies have positive effect on the adaptation strategy and survival of the firms. However, the contribution effect of the entrepreneurial competency tend to be larger than the managerial competency; (c) adaptation strategy has positive effect on the survival of the firms; and (d) human capital have effect on the survival of the firms through entrepreneur’s competencies (entrepreneurial and managerial competencies) and adaptation strategy. A better understanding of this finding will benefit the implication of the future research about the survival of small food processing firms under economic recession aspects. Also it will help policymaker in supporting improved competitiveness of the small food processing firms and improving human capital for SMEs entrepreneurs in Indonesian.

Keyword: Human capital, entrepreneur’s competency, adaptation strategy, firm survival, SME in food processing

Introduction

In Indonesia, SMEs in food processing were not only had a better chance to survive in economic crisis, but they played an important role to rural development in Indonesia by generating employment opportunities, reducing rural-urban migration and associated social problems, reducing post-harvest food losses and increasing food availability (1). Many studies have explored the causes why the small scale food processing firms in Indonesia were able to survive under economic crisis condition (e.g. 19). Those studies show how the entrepreneurs used their human capital and competencies in order to survive under this kind of conditions. Empirically, research about human capital of entrepreneurs and survival of the small firm is still scarce (20). However, several studies focus on the effect of human capital on survival of the young small firm (start up phase) both in stable externals condition or under external shock conditions, while economic crisis has received limited research attention (18). In addition, contribution of human capital on survival of the small food processing firms in Indonesia under
economics crisis is still not clear because of their entrepreneurial spirit are generally comes naturally as a talent accompanied by lower level of formal education and obtained lack of formal training. Furthermore, many researchers argue that entrepreneurs of small firm need to be competent in entrepreneurial and managerial roles and the proper allocation of these two competences is crucial to small firm survival (see, 7). However, the majority of studies about entrepreneurs' competencies have only focused the attention on the contribution of managerial competency (see, 11) yet the entrepreneurial competency is neglected (15). Therefore, no one has empirically examined the extent to which both entrepreneurial and managerial competencies used and developed by entrepreneurs related to the firm’s survival in the economic crisis.

The development of entrepreneurial competencies can be influenced by characteristics of the entrepreneurs themselves such as motivation and intention as well as experience (e.g. work experience outside the firm) (16). Therefore, the development of these specific human capital may help entrepreneurs in making strategic choices which can lead to the small firm survival in any of shock environments (6). However, only a few academic studies specifically explore the causes and consequences of strategic adaptation under recession conditions. There is a need to conduct a study about an adaptation to the environmental shocks/jolts evidence (8). Some studies have linked organizational strategies with a new firm survival so that, there is insufficient systematic evidence on the relationship between human capital, entrepreneurial competencies, adaptation strategy and small firm survival under economic crisis condition (2).

**Research Methods**

The population of small food processing firm which are producing Jerked beef and Beef Floss products are obtained from the (5). The sample of the population was 102 firms with the number of 5-20 workers and has successfully survived in the 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 is individual specific and measured in starting business motivation (i.e, economic and non-economic reasons starting business), and industry experiences was the main field of previous work experience in the small food processing firms (i.e. production, sales, and administratif fields). Entrepreneurial competency 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 is 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 Likert type scale with the anchors 1 = ‘not used at all’ and 5 = ‘highly used’). Adaptation strategy identified by (3), two categories of strategic action of small firms reacted to the recession: controlling costs/efficiency strategy and creating new market strategy and measured 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 the ability of the small firm to stay in a business over a long period of time, which measured in the perceptions of entrepreneurs about the probability of their firm in achieving a long term survival under global economic crisis (measured on a 5-point Likert type scale with the anchors 1 = ‘pessimistic’ and 5 = ‘highly optimistic’). Data analysis was analyzed using a Statistical Analysis Software. Statistical analysis includes descriptive
Results and Discussion

The test results are reliability of the variables that make up human capital (8 items), entrepreneur’s competencies (9 items), adaptation strategy (5 items), and survival of small scale food processing firms under economic crisis (3 items). Cronbach value of the entire items have minimum value 0.86 and maximum value 0.94. Hence, the entire tests performed of the items are considered valid. The result of path analysis can be described as Table 1.

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

<table>
<thead>
<tr>
<th>Structure of Parameter</th>
<th>Path Coefficient</th>
<th>Direct Effect (%)</th>
<th>Counted t</th>
<th>t.Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>X2 to X1</td>
<td>0.350</td>
<td>12.25</td>
<td>2.437*</td>
<td>1.6602</td>
</tr>
<tr>
<td>X1 to X3</td>
<td>0.354</td>
<td>12.53</td>
<td>2.834*</td>
<td>1.6602</td>
</tr>
<tr>
<td>X1 to X4</td>
<td>0.297</td>
<td>8.82</td>
<td>2.562*</td>
<td>1.6602</td>
</tr>
<tr>
<td>X2 to X3</td>
<td>0.151</td>
<td>2.28</td>
<td>1.741*</td>
<td>1.6602</td>
</tr>
<tr>
<td>X2 to X4</td>
<td>0.390</td>
<td>15.21</td>
<td>2.869*</td>
<td>1.6602</td>
</tr>
<tr>
<td>X1 to X5</td>
<td>0.512</td>
<td>26.01</td>
<td>4.493*</td>
<td>1.6602</td>
</tr>
<tr>
<td>X2 to X5</td>
<td>0.282</td>
<td>7.95</td>
<td>2.271*</td>
<td>1.6602</td>
</tr>
<tr>
<td>X1 to X6</td>
<td>0.165</td>
<td>2.72</td>
<td>2.143*</td>
<td>1.6602</td>
</tr>
<tr>
<td>X2 to X6</td>
<td>0.096</td>
<td>0.92</td>
<td>1.800*</td>
<td>1.6602</td>
</tr>
<tr>
<td>X3 to X5</td>
<td>0.526</td>
<td>27.67</td>
<td>4.636*</td>
<td>1.6602</td>
</tr>
<tr>
<td>X4 to X5</td>
<td>0.382</td>
<td>14.59</td>
<td>3.90*</td>
<td>1.6602</td>
</tr>
<tr>
<td>X3 to X6</td>
<td>0.407</td>
<td>16.56</td>
<td>3.266*</td>
<td>1.6602</td>
</tr>
<tr>
<td>X4 to X6</td>
<td>0.128</td>
<td>1.64</td>
<td>1.977</td>
<td>1.6602</td>
</tr>
<tr>
<td>X5 to X6</td>
<td>0.585</td>
<td>34.22</td>
<td>5.188</td>
<td>1.6602</td>
</tr>
<tr>
<td>R2 X6 (X5..X1)</td>
<td>0.819</td>
<td>67.15</td>
<td>28.91</td>
<td>2.31</td>
</tr>
<tr>
<td>Residu path</td>
<td>0.573</td>
<td>32.85</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes : *Significant P < 0.05

Effects of Human Capital on Entrepreneurs Competencies

Table indicates that there is a positive significant effect of the industry experience in the same field (X2) on the entrepreneur’s motivation in starting business (X) (p = 2.437 < 0.05), and there is a positive significant effect of motivation (X1) on the entrepreneurial competency (X3) (p =2.834 <0.05) and managerial competency (X4) (p =2.562<0.05). Also, there is a positive significant effect of the industry experience (X2) on entrepreneurial competency (X3) (p = 1.741 <0.05) and managerial competency (X4) (p = 2.869 <0.05). This finding supported by (13). 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). This finding supported by (12).

Table also indicates that there is a positive significant effect of motivation (X1) on the entrepreneurial competency (X3) (p =2.834 <0.05) and managerial competency (X4) (p =2.562<0.05). Also, there is a positive significant effect of the industry experience (X2) on entrepreneurial competency (X3) (p = 1.741 <0.05) and managerial competency (X4) (p =
2,869 <0.05). This finding supported by (13). 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). This finding supported by (12).

The Effect of Human Capital on Adaptation Strategy

Table indicates that there is significant positive effect of motivation (X1) on the adaptation strategy (X5) (p =4,493 <0.05). Also, there is positive significant effect of the industry working experience (X2) (p =2.271 < 0.05). This finding supported by (13). 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). This finding supported by (21).

The Effect of Human Capital on the Survival Firm

Table indicates that there is a significant positive effect of motivation (X1) on the survival of small scale food processing firms under economic crisis (X6) (p =2.143<0.05), and also there is a positive significant effect on industry experience (X2) (p =1.800<0.05). This finding supported by (4). However, after calculating the total effect of each variable, it was found that the effects of motivation to a survival firm tend to be larger than effects of the industry experience (0,731 vs 0,611). This finding supported by (9).

The Effect of Entrepreneur’s Competencies on Adaptation Strategy

Table indicates that there is a significant positive effect of the entrepreneurial competency (X3) and managerial competency (X4) on the adaptation strategy (X5) (p =4,636 <0.05 and p =3,90<0.05). This finding supported by Neneh and Vanzyl (2012). 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 effect of the managerial competency (0,422 vs 0,146). This finding supported (16)

The Effect of Entrepreneurs Competency on Firm Survival

Table indicates that there is a significant positive effect of entrepreneurial competency (X3) and managerial competency (X4) on the survival of small scale food processing firm under economic crisis (X6) (p =3,266<0.05 and p = 1,977<0.05). This finding supported by (10). However, after calculating the total effect of each variable, it was found that the effect of entrepreneurial competency to the survival of small scale firm tend to be larger than effect of the managerial competency (0,606 vs 0,240). This finding supported by (14)

The Effect of Adaptation Strategy on Firm Survival

Table indicates that there is significant positive effect of adaptation strategy (X5) on the survival of small scale food processing firms under economic crisis (X6) (p =5,188<0.05). This result supported by (10)

Direct and indirect Effects of Human Capital on Survival of Small Scale Firms

Three variables related with human capital have significant indirect effect on the survival of small scale food processing firms, i.e entrepreneurial competency, managerial competency and adaptation strategy. Especially, entrepreneurial competency variable give its significant indirect effect through four paths and the 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 the increase of entrepreneurial competency and having skill and understanding in implementing adaptation strategy tools lead to enhance a high probability of the small scale food processing firms in achieving a long term survival under economic crisis condition.

Conclusions

Using path analysis, it can be concluded that: (a) human capital (specific human capital) have positive effects on the entrepreneurial competency, managerial competency and adaptation strategy toward the survival of the firms. However, the contribution effect of motivation tend to be larger than industry experience; (b) Entrepreneur’s competencies have positive effects on the adaptation strategy and the survival of the firms. However, contribution effect of the entrepreneurial competency tend to be larger than managerial experience; (c) adaptation strategy has positive effect on the survival of firms; and (d) human capital have effects on the survival of the firms through entrepreneur’s competencies (entrepreneurial and managerial competencies) and adaptation strategy. In improving this study, it is important to conduct a longitudinal quantitative and qualitative studies including more moderating variable such as social capital and competitiveness.

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