

## Dimensions of Entrepreneurial Orientation and SME Performance: Moderating Effect of Absorptive Capacity of the Firm

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**Abstract:** This paper investigates a model of SME performance based on the dimensions of entrepreneurial orientation and absorptive capacity of the firm. The model tested the direct effects of innovativeness, risk-taking and proactiveness on firm performance and the moderating role of absorptive capacity on the relationship between the dimensions of entrepreneurial orientation and firm performance. Structural equation modelling with multi group analysis was used to test the model in the context of small and medium scale hotel and restaurant industry in Sri Lanka. Results indicate that highly entrepreneurial-oriented SMEs with high level of absorptive capacity achieve higher level of performance.

**Keywords:** *SME performance, Entrepreneurial orientation, Absorptive capacity*

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### Introduction

Highly and constantly performing Small and Medium scale Enterprises (SME) sector is one of the most significant features of the countries that had achieved high level of development. Therefore, it is considered as the “backbone” of any economy (Wymenga, Spanikowa, Baker, Konings, & Canton, 2012). In many of the developing countries, more than 75 percent of total business entities are SMEs and they contribute to the major portion of gross domestic product making it is the engine behind economic expansion. An impressive empirical support has been received for their importance to those countries that are in a continuous struggle to achieve their socio-economic developmental targets (Subhan, Mehmood, & Sattar, 2013; Asian Productivity organization, 2011).

Due to their utmost importance, performance of SME has been the focus of many prior researchers making it one of the most widely used construct as a dependent variable (Rogers & Wright, 1998; March & Sutton, 1997; Carton & Hofer, 2010). Many of the previous SME performance models have incorporated both internal and external variables to explain the complex relationships with performance (eg. Islam, Khan, & Obaidullah, 2011; Beneki & Papastathopoulos, 2011; Enriquez, Adame, & Camacho, 2011; Leitner & Idenberg, 2010; Inmyxai & Takahashi, 2009; Mancinelli & Mazzanti, 2009). But findings are inconsistent and any of the combination of variables has not explained the phenomenon to a satisfactory extent. According to Agrawal (2007), this inconsistency may be because of not investigating complex models with appropriate mediating and moderating paths

between predictors and criterion. He further argued that research models using mediating and moderating paths are more successful than the models testing only direct effects. Accordingly, it is obvious that complex models of firm performance are yet to be investigated for further clarification of the phenomenon.

Generally, it is believed that being entrepreneurial-oriented is critical for the long-term survival and higher level of performance of the firm. Many researchers argue that entrepreneurial-oriented firms are capable of easily adjusting to the dynamic environmental conditions (Lumpking & Dess, 1996; Covin & Selvin, 1991). Entrepreneurial Orientation (EO) has been researched as one of the pivotal construct within the strategic management and entrepreneurship. The performance models in which the EO-performance relationship has been investigated includes not only bivariate relationships but also multivariate relationships with mediating and moderating variables (Covin & Selvin, 1989). In the entrepreneurial literature in last two decades, the relationship between EO and firm performance has received considerable attention. However, the magnitude of the relationship seems vary across different studies and contexts. Some studies found that firms that adopt EO perform well than others (Kreiser & Davis, 2010) while some studies found weak relationship between two constructs (Baker & Sinkula, 2009). Some other studies have not found a significant relationship (Tang & Koveos, 2004). Others reported that the relationship represents inverted U shape rather than straightforward

(Bhuiyan, Menguc & Bell, 2005). Thus, a considerable variation exists in the relationship between the two constructs. The reasons for the variations are attributed to the influence of organizational and environmental variables to the relationship. Consequently, mediating and moderating effects may make the relationship more strong and directional.

Firm performance is also influenced by the way of absorbing and accumulating knowledge. Absorptive capacity (ACAP) of the firm is now considered as critical not only for the success of larger firms but also SMEs (Zonooz, Farzam, Satarifar, & Bakhdhi, 2011; Klette & Johansen, 1998). Due to the importance of the construct, many scholars have suggested further investigation to clarify its role (Sun & Anderson, 2010; Zhou & Li, 2010). Some others have emphasized the need of clarifying its role in different contexts such as developing countries (Astrid, Cristina, & Ruzana, 2008), service industry (Harvey, Skelcher, Jas, & Walshe, 2010).

Existing literature reveals that many of the previous performance models have used the construct as a predictor variable (Yeoh, 2009; Zahara & George, 2002; Lane, Salk, & Lyles, 2001). Only four studies have investigated the moderating role of the construct. Moderating role in the relationship between knowledge acquisition and performance is the focus of two studies (Lin-Van, De-Van, & Yun-Horng, 2010; Wang, & Han, 2011). Another single study considered the moderating role of ACAP in the relationship between innovative

performance and market orientation (Yang-Chao, Shun-Lin, Lin-Cheng, & Chia-Liao, 2011) while another study considered the relationship between organizational resources and performance (Kim, Zhan, & Erramilli, 2011). Also only two studies have investigated the mediating role of the construct (Zhang, 2009; Hou, 2008). Accordingly, the role of ACAP in SME performance models is yet to be clarified.

### **Problem of the Study**

The SME sector of many of developing nations faces many constraints such as technological backwardness, low level of human resource skills, weak management systems and entrepreneurial capabilities, unavailability of appropriate and timely information, insufficient use of information technology and poor product quality. Consequently, the economic contribution of SMEs in developing countries is currently far behind compared to developed countries (Altenburg & Eckhardt, 2006; Emine, 2012; Panday, 2012; Asian Productivity Organization, 2011). Accordingly, low level of performance in SMEs sector is one of the key issues in most of the developing countries though they have been expected to play a critical role in their economies. The current globalized competitive rivalry has multiplied the importance of the issue. Especially the global competition emerging from widespread e-commerce activities has forced to revisit the issue in the context of developing countries.

## **Literature Review**

### ***Firm Performance***

Firm performance generally refers to the organizational success and success is considered as achieving organizational goals (Foley & Green, 1989). According to Kaplan and Norton (1996), firm performance is a multidimensional concept and all aspects of performance are relevant to the success of the organization. Firm performance has been widely focused by many researchers mainly in two disciplines. It is at the heart of strategic management discipline (Venkatraman & Ramanujam, 1986) and measure the construct mainly in financial aspects (Rogers & Wright, 1998). In entrepreneurship, researchers have attempted to explain the variation of the firm performance (Carton & Hofer, 2010; Murphy, Trailer, & Hill, 1996; Brush & Vanderwerf, 1992). Wide range of measures of firm performance such as profitability (eg. net profit, ROI) growth (eg. market share, turnover) and survival have been used by researchers making little consensus on the measurement (Carton & Hofer, 2010; Brush & VanderWerf, 1992).

### ***Entrepreneurial Orientation and its Dimensions***

EO is considered as a strategic element, which covers the entrepreneurial aspects of the firm (Wiklund & Shepherd, 2005; Covin & Selvin, 1991; Hult *et al.*, 2004; Bhuian *et al.* 2005). The construct is viewed as a characteristic of organization which represents managemnets' entrepreneurial style (Miller, 1983). Covin and Selvin, (1989) argued that EO is the summation of the extent to

which top managers are inclined to take risks, favour for innovation and the way of facing competition. Accordingly, the concept encompasses of three dimensions as proactiveness, innovativeness and risk taking (Miller, 1983; Covin & Selvin, 1991). Lumpkin and Dess (1996) conceptualized the concept with five dimensions namely competitive aggressiveness, proactiveness, risk taking, innovativeness and autonomy. They further posited that these dimensions might vary independently depending on the organizational context.

### ***Entrepreneurial Orientation and Firm Performance***

Atuahene-Gima and Ko, (2001) investigated the effect of EO on small firms' product innovative performance and found that high EO positively affect performance. Baker and Sinkula, (2009) examined the direct effect EO on profitability in a sample of SMEs in USA and found that EO profitability through innovation success. Barrett, Balloun, and Weinstein, (2005) found that EO correlates with performance in non-for-profit organizations. Becherer and Maurer, (1997) investigated the effect of EO in entrepreneur-led US SMEs. Results indicated that EO correlates with performance. Wang, (2008) found positive effect of EO on performance. Frishammar and Horte, (2007) proved significant effect of EO on new product performance of medium scale manufacturing firms in Sweden. Results also proved innovation dimension of EO positively related with new product performance. Li, (2005) found that EO have positive effects on managerial networking and in turn increase the performance in

Chinese foreign invested firms. Li, Liu and Zhao, (2006) in a study in Chinese firms indicated that EO has positive effects on new product performance. Li, Zhao, Tan, and Liu, (2008) in a study proved that innovativeness and proactiveness dimensions of EO strengthen the positive relationship between market orientation and performance. Liu, Luo, and Shi, (2003) found that higher level of EO, increase the competitive advantage of state owned Chinese companies. Hult, Hurley, and Knight, (2004) found, in large-scale industrial firms, positive relationship among EO innovation and performance. Kropp, Lindsay, and Shoham, (2008) indicated that EO lead to lower performance in the early stage of international business ventures. Roukoni and Saarenketo, (2009) in a case study analysis of small-scale Finnish software firms found that EO combined with strong learning orientation and market orientation has significant effect on internationalization. Luo, Sivakumar, and Liu, (2005) found that EO affect organizational performance. Schindehutte, Morris, and Kocak, (2008) in a conceptual study emphasized that EO, would influence how firms perform. Tzokas, Carter, and Kyriazopoulos, (2001) found that EO improve the operational competencies of in small scale manufacturing firms in Greece. Tajeddini, (2010) investigated the effect of EO on the performance of hotel industry in Switzerland and found that EO has an effect on the business performance. Barrett, Balloun, and Weinstein, (2005a) claimed that the effect of EO on performance depends on the industry or market. Hoq, and Chauhan, (2011) conducted a study in SMEs in

Bangladesh and found that EO positively related to firm performance in hostile business environment. Chandrakumara, De Zoysa, and Manawaduge, (2011) shown that EO produces more positive effect on the performance of small firms than medium scale firms do. Fauzul, Takenouchi, & Yukiko, (2010) in a study in Sri Lankan SMEs, proved positive relationship between EO and firm performance.

### ***Absorptive Capacity and Firm Performance***

Cohen and Levinthal (1989, 1990) defined ACAP as “the ability of a firm to recognize new external information, assimilate it and apply it to commercial ends”. Zahra and George (2002) reconceptualized the concept under two major areas; Potential ACAP and realized ACAP.

ACAP has been investigated by number of performance models in prior research. Among them many studies have proven positive relationship with firm performance (George, Zahra, Wheatley, & Khan, 2001; Lane, Salk, & Lyles, 2001; Yeoh, 2009; Lane, Koka, & Pathak, 2006; Lichtenthaler, 2009; Bergh & Lim, 2008; Sher & Lin, 2006; Murray & Peyrefitte, 2007; Flatten, Greve, & Brettel, 2011; Ng, 2011; Parida, 2009; Zahra & George, 2002). Cohen and Levinthal (1990) claimed that it creates firm’s competitive advantage. Deeds (2001) found ACAP positively influencing new wealth creation. Huang and Rice (2009) and Jolly and Therin (2007) found that firms easily assimilate knowledge to develop innovations. Muscio (2007) proved that ACAP

improves the collaboration with other organizations. Hayton and Zahra (2005) found that ACAP increases ability to acquire additional resources. Liao, Welsch, and Stoica (2003) found that knowledge acquisition positively related to organizational responsiveness of growth-oriented SMEs. Brettel, Greve, and Flatten (2011) suggested curvilinear relationship between ACAP and performance of the firm.

Some other studies have tested ACAP as a moderator in performance models and found significant effects. (Lin-Van, De-Van, & Yun- Horng, 2010; Wang, & Han, 2011; Yang-Chao, Shun-Lin, Lin-Cheng & Chia-Liao, 2011; Kim, Zhan, & Erramilli, 2011). Hou, (2008) and Zhang (2009) proved a significant mediating role of absorptive capacity in performance models.

### **Research Model and Hypotheses**

EO comprise constellation of proactiveness, innovativeness, and risk-taking supposing that it is a combination of the value position of the firm in the markets, its resources, and behavioural patterns relating to how the organization transforms its resources into performance (Hakala, 2010). These resources and behaviours lead organizations to perform well by adjusting continuously to the dynamic environment, adapting new internal and external conditions, and responding customer needs and competitors’ challenges (Sinkula, Baker, & Noordewier, 1997; Lumpkin & Dess, 1996; Covin & Selvin, 1989). Based on this direct relationship between EO and firm performance

following hypotheses can be formulated.

**H<sub>1</sub>:** There is a positive relationship between proactiveness and firm performance.

**H<sub>2</sub>:** There is a positive relationship between Innovativeness and firm performance.

**H<sub>3</sub>:** There a positive relationship between risk-taking and firm performance.

These hypotheses for the direct paths of the research model were underpinned by the theory of Entrepreneurial Orientation by Lumpkin & Dess, 1996; Covin & Selvin, 1989 and Covin and Lumpkin, (2011).

The resource based and knowledge-based views of the firm has stressed that resources alone cannot achieve the competitive advantage and the firm's with stronger dynamic capabilities are capable of exploiting available bulk of organizational resources (Grant, 1996; Newbert, Gopalakishnan, & Kirchoff, 2008; Teece & Pisano, 1994). Newbert *et al.* (2008) reported that the higher level of firm's internal capabilities of leveraging resources leads the firms to outperform their rivals with low level of such capacities.

Some scholars posited that ACAP plays a pivotal role among other dynamic capabilities in exploiting the prevailing bulk of organizational resources since knowledge acquisition and absorption are key features of exploiting opportunities (Frishammar & Andersson, 2009; Hou, 2008; Sun & Anderson, 2010). This theoretical premise provides a base for reasonable

assumption that the existence of ACAP that can exploit organizational resources would make the relationship between EO and firm performance stronger and directional. Accordingly, this study formulated following three hypotheses.

**H<sub>4</sub>:** Relationship between proactiveness and firm performance is moderated by absorptive capacity of the firm.

**H<sub>5</sub>:** Relationship between Innovativeness and firm performance is moderated by absorptive capacity of the firm.

**H<sub>6</sub>:** Relationship between risk-taking and firm performance is moderated by absorptive capacity of the firm.

These three hypotheses based on the moderating paths of the research model were grounded on the theory of Dynamic Capabilities by (Teece & Pisano, 1994)

The graphical representation of the research model is shown in the figure 01 in appendices.

## **Method**

### ***Research Design and Sample***

A field survey was conducted in randomly selected sample of small and medium scale hotel and restaurants in Sri Lanka. A questionnaire was administered among 380 respondents who dispersed all over the island. The data collection process went through eight weeks of time period and 30 responses were eliminated after scrutinizing for incompleteness and

treating univariate and multivariate outliers.

### **Measures**

Entrepreneurial orientation which comprised with innovativeness, risk taking and proactiveness was measured by 12 item scale developed by Covin and Selvin (1989). Five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) was used to measure responses to each item.

### **Data Analysis**

Data analysis was done by structural equation modelling. Three direct structural paths were estimated testing the direct effect model and moderating effects were estimated with multi group analysis. First, the respondents on the moderating variable ACAP were divided into two groups. Respondents with mean for absorptive capacity greater than 3.5 were considered as high ACAP group while mean for ACAP less than 3.5 were considered as low ACAP group. This process created two groups with 155 respondents in high ACAP group and 195 for low ACAP group.

Second, the measurement invariance across two groups was evaluated by testing the measurement model as configural invariance model separately in two groups. If the difference of overall model fit across two groups is not significant, the measurement invariance was established and groups are therefore suitable for comparison (Schoot, Lugtig, & Hox, 2012).

Having assured the measurement invariance, the baseline model was estimated across low and high groups

with all free path estimates. Then the constrained model with the paths from proactiveness, innovativeness and risk-taking to performance constrained to equal values was assessed across two groups. Finally,  $\chi^2$  difference between baseline, non-constrained model and constrained model were conducted. If the  $\chi^2$  difference is statistically significant, there exists a moderating effect.

$\chi^2$  difference indicates only the existence of a moderating effect. To determine direction and the magnitude of moderating effect, regression weights and squared multiple correlations were examined. If the regression weights of the moderating paths of higher ACAP group are higher than that of low ACAP group, higher level of moderating effect exists. Similarly higher squared multiple correlations for higher ACAP group denotes high level of moderating effects.

### **Results**

The structural model with direct relationships proved overall model fit with  $\chi^2= 239.063$  and  $df = 113$ . All overall model fit indices recorded a good model fit (CMIN/df=2.11, CFI=.954, and RMSEA=.047). Graphical output for the direct effects is shown in the figure 2. Standardised regression weights for direct paths in the table 1 show that all values are positive and significant at 001 level.

The baseline model for low and high ACAP groups given in the figure 3 and 4 well fit across both groups with  $\chi^2= 406.755$  and  $df = 226$ . All overall model fit indices recorded a good model fit (CMIN/df=1.800, CFI=.932, and RMSEA=.048).

The constrained models with structural parameters on proactiveness, innovativeness, risk-taking and performance constrained to fixed values has also reported a good model fit with  $\chi^2= 820.363$ , and  $df= 232$ . Overall fit indices also have reported a good model fit (CMIN/df=1.607, CFI=.904, and RMSEA=.042). The results of the comparison of  $\chi^2$  values and other model fit indices are given in the table 2.

Information presented in table 2 indicates that the Chi-Square value has increased for the constrained model by  $\Delta\chi^2= 415.608$  and  $\Delta df = 6$  and the difference for the two models was significant at zero. This result provides clear evidence for inequality of parameters on the structural paths between proactiveness, innovativeness, risk-taking and performance across low and high ACAP groups. Standardized  $\beta$  values for the structural paths of the baseline model across two groups were given in the table 3. The  $\beta$  values in the table 3 indicate that the effect of high ACAP group on the relationship between proactiveness, innovativeness, risk-taking and performance is higher while there is a comparatively lower effect from low ACAP group. For example, the effect of high ACAP group on the relationship between proactiveness and performance indicates a value of .64  $p < .000$ . However, the same value for low ACAP group is .38,  $p < .000$  which shows a significant deterioration compared to high ACAP group. This is true for the other two estimated paths.

The squared multiple correlations for estimated parameters were also used to determine the explained variance of the

dependent variable by the independent variables (Byrne, 2010). Table 4 displays the estimated squared multiple correlations values for variables.

As per the table 4, variance of performance explained by proactiveness, innovativeness and risk-taking in low ACAP group was considerably lower than that of high ACAP group. For example, the variance of performance explained by proactiveness for ACAP capacity group is .372 while it is .781 for higher ACAP group. The squared multiple correlations for innovativeness and risk-taking for low ACAP group is .364 and .332 respectively. The same values for high ACAP group is .674 and .563 respectively. It clearly shows that the variance explained in low ACAP group is less than that of high ACAP group.

A summary of the results of the chi square difference test between baseline model and constrained model, parameter estimation and squared multiple correlations for low and high ACAP groups are given in the table 5.

### Testing Hypotheses

As shown in the table 1, the regression parameters for three direct paths are in the expected direction ( $\beta > 0$ ) and statistically significant ( $p < .001$ ).  $\beta$  value estimated for the direct path from proactiveness to performance reports .62 and therefore the hypothesis  $H_1$  is accepted. Hypothesis  $H_2$  that represents the direct path from innovativeness and firm performance is accepted with estimated  $\beta$  value of .28. The hypothesized path from risk-taking to firm performance reports .20 and  $H_3$  also accepted.

First moderating hypothesis of the study, ( $H_4$ ) was that ACAP moderates the relationship between proactiveness and firm performance. Results of chi square difference test showed the existence of moderating effect of ACAP on the relationship between the variables. Regression estimates for the high ACAP group and low ACAP group were .64 and .38 respectively. Squared multiple correlations for low ACAP group was .372 and for high ACAP group .781. This result proved that effect of ACAP on the relationship between proactiveness and performance was greater in higher ACAP SMEs. Therefore,  $H_4$  can be accepted.

Second moderating hypothesis ( $H_5$ ) was that ACAP moderates the relationship between innovativeness and firm performance. Results of chi square difference test showed the existence of moderating effect of ACAP on the relationship between innovativeness and performance. Regression weight for low ACAP group .01 and for high ACAP group is .20. It shows that the effect of innovativeness on performance is low in low ACAP group. It is further verified by squared multiple correlations values for the two groups. Squared multiple correlation for low acap group and high acap group is .364 and .674 respectively. These results proved that the effect of innovativeness on performance is higher in high ACAP firms than low ACAP firms. These results supported the hypothesis and  $H_5$  is accepted.

$H_6$  hypothesized that ACAP moderates the relationship between risk-taking and firm performance. Results of the

chi square difference test between baseline model and constrained model has supported the existence of moderating effect.  $\beta$  coefficient for the path from risk-taking to firm performance in low ACAP group .01 and the same value for the same relationship in higher ACAP group was .38. It shows that the value is greater in higher ACAP group. Squared multiple correlations values for the relationship between risk-taking and performance in low ACAP group .332 and the same value for high ACAP group is .563. These results indicated that the relationship between risk-taking and performance is higher in high ACAP group than in low ACAP group. Therefore, the hypothesis  $H_{4c}$  is supported by the findings.

## Discussion and Conclusion

The current study argued that the dimensions of entrepreneurial orientation as a strategic orientation would be a good predictor variable to the firm performance. This argument is supported by the findings. The results imply that being proactive, innovative, and inclined to take risk were more important in achieving firm performance. The findings of the study confirm the findings of the majority of previous similar studies (i.e. Becherer and Maurer, 1997; Atuahene-Gima and Ko, 2001; Frishammar and Horte, 2007; Deeds, 2001)

Study found clear statistical evidence for moderating impact of absorptive capacity on the relationship between the dimensions of entrepreneurial orientation and firm performance. This result theoretically implies that entrepreneurial orientation with higher

absorptive capacity would improve the performance of SMEs by further confirming the core implications of the theories of entrepreneurial orientation and Dynamic capabilities. The findings were also in consistent with the premise behind resource based theory and the knowledge based view. The practical implications of the findings invite managers to improve the level of entrepreneurial orientation at the organizational level by paying more attention to its dimensions. Meanwhile, the capacity of the organization for the absorption of the

knowledge has to be improved and the learning environment within the organization are to be created by ensuring the smooth implementation of knowledge management process in the organization. The findings also open further avenues for future researchers to test the similar models in different contexts specially paying more attention to the absorptive capacity of the firm, its dimensions and the knowledge management process in the organization to reconfirm the moderating effects tested in the research model of this study.

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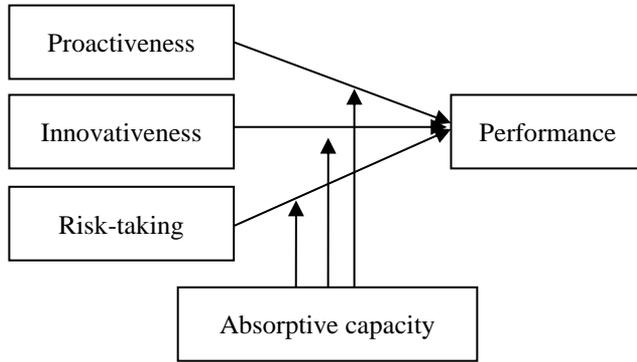
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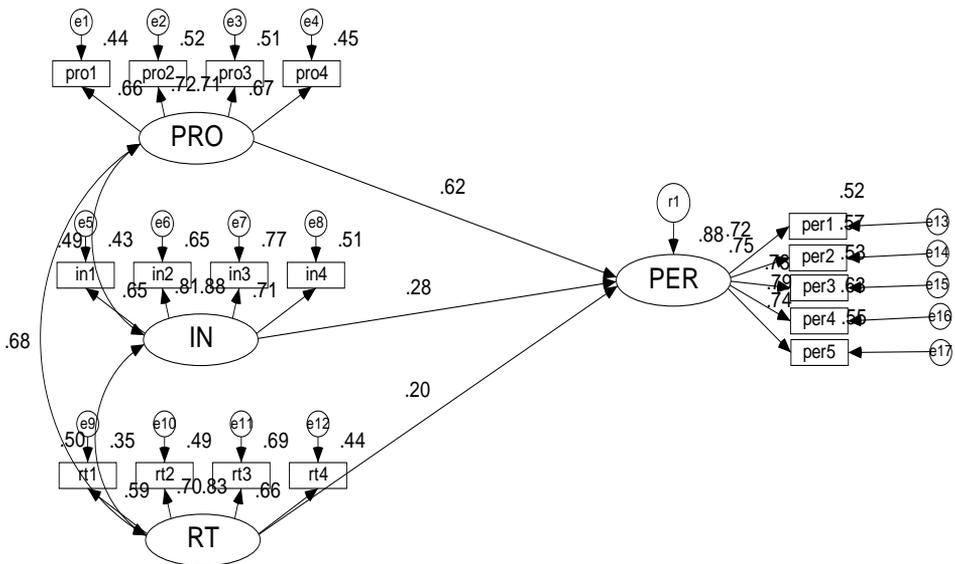
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**Appendices**



**Figure 01: Research Model**



pro = proactiveness, in = innovativeness, rs = risk-taking, ACAP = absorptive capacity, PER = performance

**Figure 02: Structural Equation Model**

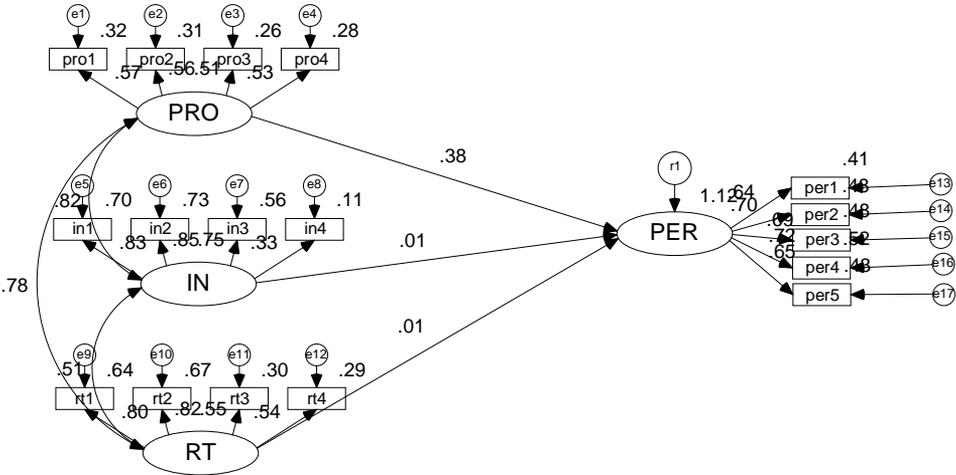


Figure 3: Structural Equation Model for Direct Effects

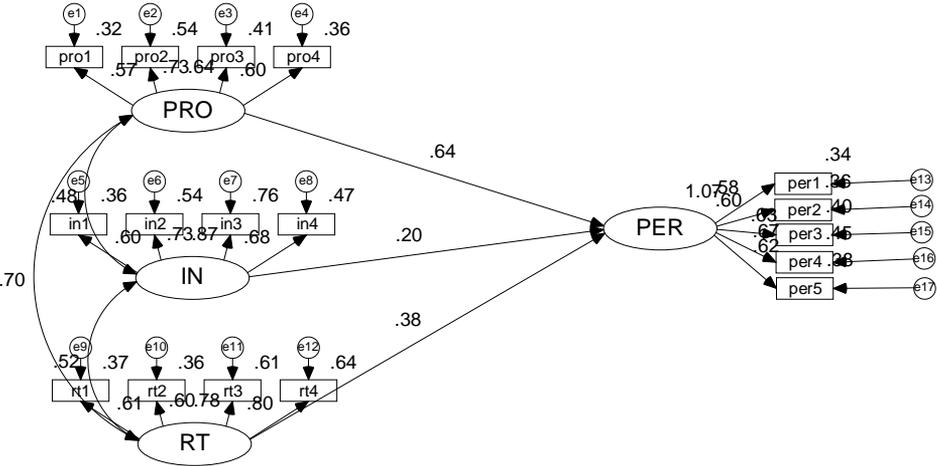


Figure 4: Structural Equation Baseline model for Low ACAP group

**Table 1: Estimated Regression Weights for Direct Paths**

Direct path	Standardised regression weight
PRO > PER	.62
IN > PER	.28
RT > PER	.20

**Table 2: Results of Multi Group Analysis**

Model	$\chi^2$	df	$\chi/df$	CFI	RMSEA
Configural model with all parameters free across groups	471.389	226	2.086	.898	.056
Model with constrained parameters across two groups	886.989	232	3.823	.728	.060
Difference	415.608	06			

**Table 3: Estimated Parameters for High and Low ACAP Groups**

Structural Path	Low ACAP group ( $\beta$ )	High ACAP group ( $\beta$ )
PRO > PER	.38*	.64*
IN > PER	.01*	.20*
RT > PER	.01*	.38*

\*significant at .0

**Table 4: Squared Multiple Correlations**

Structural Path	Low ACAP group (SMC)	High ACAP group (SMC)
PRO > PER	.372	.781
IN > PER	.364	.674
RT > PER	.332	.563

**Table 5: Summary results of Testing Moderating Effects**

Moderating path	$\chi^2$ difference	$\beta$ for ACAP groups		SMC for ACAP groups	
		Low	High	Low	High
PRO > PER	significant	.38	.64	.372	.781
IN > PER	significant	.01	.20	.364	.674
RT > PER	significant	.01	.38	.332	.563