

Entrepreneurial Orientation (EO), Agility Capability (AC), and Competitive Advantage (CA): The Moderating Role of Information Technology Operations (ITO)

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Abstract—Small and medium-sized enterprises (SMEs) must be prepared to face an uncertainty business environment due to the New Normal era and the Industrial Revolution 4.0. This research investigates the nexus between EO, AC, CA, and ITO in small and medium-sized tour operators (SMTOs) in East Java, Indonesia. Data were collected from 127 directors or managers of SMTOs in Surabaya and Malang, East Java. The empirical data were analyzed by using Structural Equation Modeling (SEM) with WarpPLS 6.0. The results show that EO positively affects AC and CA. AC also has a positive effect on CA. Surprisingly, ITO has no effect on the relationship between EO and AC. Therefore, directors or managers of SMTOs should consider EO as the main factor for achieving AC and creating a CA. Besides, they must evaluate ITO in order to escalate its values for SMTOs to face the New Normal as well as the Industrial Revolution 4.0. In the future, it is necessary to add aspects of information technology (IT) knowledge and IT Objects to find out more about the IT Competency of the SMTOs. The novelty of this research lies within its country and industrial setting and the addition of ITO as a moderating variable.

Keywords—agility capability, competitive advantage, entrepreneurial orientation, IT Operations, Indonesia, tour operator

I. INTRODUCTION

SMEs' are undoubtedly crucial contributors to the national and regional economies. SMEs contribute to employment as their business activities are more flexible, more moderate in bureaucracy, and tend to use simpler methods of recruiting employees and making decisions [1]. Apart from having the advantages of being informal and flexible, SMEs are thick with entrepreneurial behavior. This behavior is reflected in the EO, which is the main foundation in dealing with a changing and unpredictable environment [2]. In uncertain business environments and its intricate interaction patterns, EO can be considered as an essential factor in ensuring business success [3]. These conditions require business organizations to be more agile. Some scholars believe that agility is a crucial key to

developing flexibility and responsiveness, to be able to deal with dynamic environmental changes [4].

Currently, SMEs must also face the New Normal after the emergence of Covid-19. This New Normal accelerates the pace of the Industrial Revolution 4.0, which brings disruptive technology and market behavior changes that lead to the digital age. Therefore, adjusting to the business environment is the primary key for SMEs in this New Normal era. One type of SME that faces changes in market and technological behavior is the SMTO.

As one of the backbones of economic growth [5], SMTO takes a vital part in the Indonesian tourism industry, designated as a leading sector [6]. The New Normal has resulted in disruptions that fundamentally changes the tourism industry. This change was triggered by the increasing use of various digital technologies. These technologies make people easier to carry out their activities. Therefore, SMTOs must respond market and technology changes through entrepreneurship and agile behavior to create a CA.

Several studies have been carried out to examine the effect of EO on CA [7,8]. There have been earlier studies investigating the effects of AC on CA [9-11]. However, very few studies have examined the effects of EO on AC. Based on research's review, it is assumed no research linking EO with AC and CA in the context of SMTO in Indonesia, particularly in the tourism industry setting. Moreover, there is currently no consensus standard for AC measures [9]; therefore, it is possible to find inconsistent results. This research aimed to investigate the effects of EO on AC, the effects of EO and AC on CA, and also to analyze ITO as a moderating variable for the relationship between EO and AC. ITO was added in this study following the New Normal context, which is in line with the Industrial Revolution 4.0. The addition of the important variables of country, and industry setting shows the novelty and values of this research.

II. MATERIAL AND METHODS

A. Theoretical Background and Hypothesis Development

1) *EO and AC*: Through entrepreneurship, an enterprise can improve its business performance [12]. The dimensions in EO are the driving force for the enterprise to exist and continue to grow. An entrepreneurial spirit needs to be supported by the ability to adapt to a changing market situation. Agility is a vital capability for companies to sense, respond to environmental changes [13], and adapt quickly to unexpected circumstances [3]. This relation makes it seem logical to see EO and AC as two interrelated concepts. Empirically, EO affects AC [14]. EO dimensions allow organizations to manage their processes efficiently, in an agile manner, and quickly in response to changing market conditions [15]. Hence,
H1: EO significantly affects AC.

2) *EO and CA*: EO is emerging as a solution for business organizations wishing to achieve a sustainable CA [16]. Entrepreneurial behavior dramatically affects CA and performance in business organization [17]. A potent EO will direct the enterprise to allocate its resources for profit [18]. EO plays a vital role in developing a product/service specifically made to react to the market or anticipate competitors' actions [19]. Past research proved that EO affects CA [7,8]. Therefore,
H2: EO significantly affects CA.

3) *AC and CA*: Business organizations must quickly adapt to new situations. Organizations need the flexibility to adapt to the rapidly changing environments [20]. AC is the primary driver of the enterprise in facing unstable conditions [21]. It is said that AC takes a critical role in detecting innovation opportunities and seizing market opportunities [22]. Reducing production costs, increasing customer satisfaction, stopping value-added works, and increasing CA are the benefits that can be realized over strategic agility [23]. Past research found a significant positive relationship between AC and CA businesses [9]. Therefore,
H3: AC significantly affects on CA.

4) *The moderator role of ITO*: Conceptually, ITO includes a process for managing information about customers and markets using IT [24]. These competencies provide the technical means used by companies to connect business processes and IT-based services. ITO is more likely to be associated with technical work to achieve a specific goal, such as completing a product or service. The technical aspects of ITO play an important role in processing market information, so that business actors can be proactive and innovative in dealing with the rapidly changing business environment. With ITO supports, they can quickly make strategic decisions with fast and flexible business processes [25,26]. Thus,
H4: ITO moderates the relationship between EO and AC.

B. Measurement

All items in the questionnaire were adopted and modified from several prior research. The EO adopts nine items, focusing on proactive, innovative, and risk-taking behaviors [27]. AC is measured using six items, focusing on responsiveness and speed [4,14]. CA refers to four modified items from Rhee et al. [28], and ITO adopts three items [24]. A 5-point Likert scale (1 = strongly disagree and 5 = strongly agree) was employed to measure all items.

C. Data Collection

Data were taken from SMTOs, which operated in Surabaya and Malang, East Java, Indonesia. The sampling technique used was purposive sampling with sampling criteria: SMTO had been operating for at least 2 years and had a government license. According to the general rules of SEM analysis, the minimum sample size is 100 respondents [29]. 130 questionnaires were distributed to directors or managers. Of the 130 questionnaires, 127 questionnaires were used for analysis.

D. Data Analysis

Data analysis were conducted using SPSS 23 and WarpPLS 6.0.

III. RESULTS AND DISCUSSION

A. Measurement Model

Average variance extracted (AVE), composite reliability (CR), and Cronbach's alpha were used to test validity and reliability. The test results showed that all AVE values were ≥ 0.5 , CR values > 0.7 , and Cronbach's alpha values ≥ 0.6 . All meet the requirements of validity and reliability.

B. Structural Model

The measurement results showed: Average Path Coefficient (APC) = 0.340, $p < 0.001$; Average R-squared (ARS) = 0.570, $p < 0.001$; Average Adjusted R-squared (AARS) = 0.561, $p < 0.001$; Average block VIF (AVIF) = 1.817, acceptable if = 5; Average full collinearity VIF (AFVIF) = 2.458, acceptable if = 5; Tenenhaus GoF (GoF) = 0.579, acceptable if = 0.36; Simpson's Paradox Ratio (SPR) = 0.800, acceptable if > 0.7 ; Statistical Suppression Ratio (SSR) = 1,000, acceptable if = 0.7; Nonlinear Bivariate Causality Direction Ratio (NLBCDR) = 0.886, acceptable if = 0.7. The model has a good set of data and has the quality indicators that meet WarpPLS's requirements.

C. Results of Hypotheses Tests

The direct path between EO and AC has a positive and significant effect (coefficient = 0.648, $p < 0.001$). Thus, H1 is supported. Furthermore, EO has a positive and significant effect on CA (coefficient = 0.282, $p < 0.001$). Therefore, H2 is supported. The results prove that AC has a positive and significant effect on CA (coefficient = 0.613, $p = 0.077$). Then, H3 is supported. The results show that ITO has no significant

effect on the relationship between EO and AC (coefficient = -0.12, $p = 0.08$). Hence, H4 is not supported. Fig. 1 shows the results of hypotheses tests.

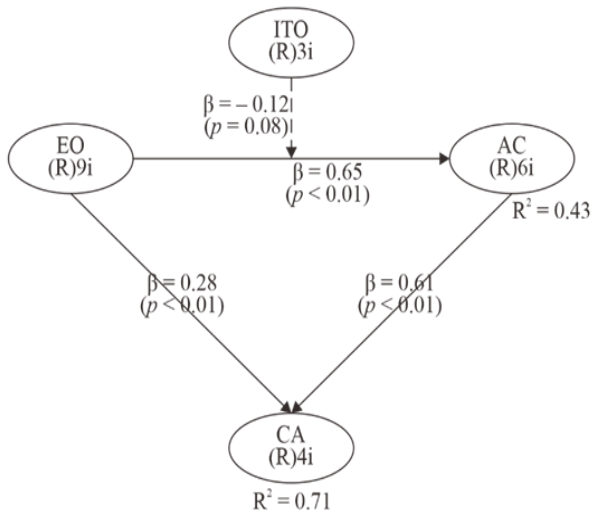


Fig. 1. Results of hypothesis test.

D. Discussion

The results display that EO has a positive and significant effect on AC. SMTO's efforts to test their new products or new services, introduce innovative products or services, and take business risks can improve AC. Directors or managers believe that SMTOs need to continually seek new opportunities in the rapidly changing environment. In addition, they have to face the phenomenon of shorter product life cycles and the risk of profit uncertainty. With various new products or services, SMTOs can become more responsive to changing product and market behavior and faster to fulfill market demands. This finding is in line with Tahmasebifard et al. [14] that EO affects AC. This result also reinforces the assumption of Chen and Liu [30] that entrepreneurial skills and agility are inseparable components for companies facing an environment that tends to change rapidly.

The research findings confirm that EO has a positive and significant effect on CA. This result indicates that directors or managers create a CA by making different products or services, generating new ideas, and taking risks to enter new markets. Without EO, the enterprises will be hampered in carrying out decision-making activities, especially when entering new markets [31]. This finding aligns with Zeebaree and Siron [7] and Nejad et al. [32] that dimensions of EO influence CA's creation.

The results verify the positive relationship between AC and CA. The attitude of the directors or managers to sense market changes and regularly monitor products or services development plays a crucial role in improving CA. The fast response from SMTOs in providing services and good coordination between departments also support this positive

relationship. This result is also in line with Mandal et al. [10]. Responsive and prompt actions by the enterprise are essential to creating CA in a changing business environment [33].

Contrary to the hypothesis, this research found that ITO does not affect the relationship between EO and AC. This finding reveals that there are technical problems in IT-based business processes and services that occur within SMTOs. This finding also indicates that ITO has not optimally supported directors or managers in information processing and technical work. The lack of technical support devices that link SMTOs' business processes to IT services is a significant constraint. Thus, the role of IT utilization to organize information from market and customer has not been realized clearly in this case. This finding does not support the opinion of Tippins and Sohi [24].

IV. CONCLUSION

This research has an academic implication on the relationship between EO and AC as moderated by ITO. The result provides new insights for the literature in the context of ITO, EO, and AC, especially within the context of SMTO in Indonesia. This research also has two practical implications for SMTO's management. First, directors or managers need to maintain the EO aspects that support AC and CA. Second, they must also immediately evaluate the technical aspects of ITO in order to has a crucial role in the relationship between EO and AC. Hence, SMTOs are ready to face the New Normal and Industrial Revolution 4.0.

This research was conducted at SMTOs in two major cities in East Java, so the results cannot be generalized. It is recommended that further studies are carried out in several other large cities in Indonesia. It is also necessary to add aspects of IT knowledge and IT Objects to find out more about the IT Competency of the SMTOs.

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