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The Impact of Environmental Dynamism, Social Capital on Competitive Advantage through Absorptive Capability, Knowledge Sharing and Entrepreneurial Orientation

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Abstract:

A resource-based perspective emphasizes the importance of a firm's having unique resources and capabilities in order to gain above-average performance. Environmental dynamism and social capital are unique resources that can be utilized by companies to have a competitive advantage. This study aims to determine the mediating role of absorptive capability, knowledge sharing and entrepreneurial orientation in generating competitive advantage at local startup companies. The research used quantitative method, with 208 samples taken purposively from top managers in local startup companies and structural equation modeling was used to test the data. The results show that absorptive capability was better than entrepreneurial orientation and knowledge sharing when mediated the relationship of social capital and environmental dynamism on competitive advantage. In the early stages, startups need to build absorptive capabilities. Knowledge sharing acts as a driving force for entrepreneurial orientation but does not have a significant direct influence on absorptive capability and competitive advantage. Future research is expected to examine the factors that influence competitive advantage in startups by use different proxy from performance measurements

Keywords: Competitive advantage, social capital, environmental dynamism, startup

1. Introduction

The rapid changes in technology, consumer tastes and the aggressiveness of competitors make the company's competitive advantage difficult to achieve. (Hoisl *et al.*, 2016) and maintained (McGrath, 2013). Firms are required to have agility in dealing with the environmental dynamism (Wang, 2016). Without having a dynamic ability to deal with environmental changes, the company will not be able to survive (Teece *et al.* 1997).

Meanwhile, the advancement of internet technology through devices called smartphones, has led to many new technology-based companies known as startups. Many startups were successful in creating competitive products and services, which ultimately attract investors to invest in the startup, such as Tokopedia, Bukalapak, Traveloka and Gojek. Indonesia is among the top five countries that have the most startups, which are 1,891 startups.

Although previous studies have documented how companies develop competitive advantages, relatively little is known about how new ventures do so. How do startups develop a competitive advantage? The search for literature that examines the advantages of competitiveness mostly takes the incumbent firms as a subject and few studies examine the factors that influence competitive advantage for startup firms (Cai *et al.*, 2016). Some studies emphasize the need for further research on the role of environmental dynamism in creating competitive advantage (Sciascia *et al.*, 2006) with the variables that mediate it (Rauch *et al.*, 2009), such as entrepreneurial orientation (Ruiz *et al.*, 2013), absorptive capability (Chuang *et al.*, 2016).

Furthermore, Ou *et al.* (2015) argued that a combination of absorptive capability and social capital would create a competitive advantage for the company and obtain a much larger market share than its competitors who did not utilize those two variables. The quality of social capital that is built in the network will make it easier for companies to build solidarity and trust, thus encouraging the knowledge sharing activity among organization's personnel and in the end will improve firm's absorptive capability (Huang and Wang, 2008). The purpose of this study is to examine whether environmental dynamism and social capital have an influence on competitive advantage through mediation of absorptive capability, entrepreneurial orientation and knowledge sharing.

2. Literature Review

2.1. The Relationship between Environmental Dynamism, Absorptive Capability, Entrepreneurial Orientation and Competitive Advantage

Many studies indicate that the environmental dynamism construct has great potential as an explanatory variable in models and theories of organizational level phenomenon on (Morgan *et al.*, 2000). This construct is manifest in the degree of instability or turbulence of such key operating concerns as market and industry conditions as well as more general technological, economic, social, and political forces (Sharf and Dean, 1991).

Competitive advantage refers to an edge that allows an organization to deal with market and environmental forces better than its competitors. It may be in the form of cost advantages or in developing different products or services (Porter, 1985). The achievement of competitive advantage by a firm in an industry is also aided by the firm being able to neutralize threats from rival firms in the marketplace (O'Shannassy, 2008). If a firm has value, rareness, imitability and substitutability resources, they will be able to sustain its competitive advantage by empowering their internal strengths, through exploring to environmental opportunities, while neutralizing external threats and avoiding internal weakness. (Barney, 1991). The statement is supported by Peteraf and Barney (2003) which state that the main focus from a resource perspective is to provide benefits specifically for the company on an ongoing basis. Firm resources include all asset, capabilities, organizational processes, firm attributes, information, knowledge etc. (Daft, 1983), and social capital (Mani and Lakhal, 2015).

In many industries for many firms' competitive advantage is only a temporary outcome due to the influence of environmental uncertainty. (O'Shannassy, 2008). The firms confronted by environmental dynamism in relation to supply of finance or customer behaviour can experience an erosion of strategy resources and the understanding of the marketplace required to build and sustain competitive advantage and deliver robust organization performance (O'Shannassy, 2005). Uncertainty in relation to customer behaviour has a direct effect on the precision of the firm's positioning choices on price and product attributes with management confused as to future trends (Milliken, 1987). Firms as a consequence are unable to invest time in nurturing resource rareness, resource value, and achieve competitive advantage with implications for organization performance.

Environmental dynamism affects the firm's technological competitive advantage both directly and indirectly, environmental uncertainty as an important variable influencing the firm's rate of innovation and its innovation strategy. Environmental dynamism influences the firm's technological competitive advantage more importantly than technology-strategic planning integration (Karagozoglu, 1993). In the relatively stable environment, current "make a living" operating capabilities are enough to meet customer demand, gain higher profits and maintain competitive advantages. the ability of management to observe their surrounding environments, and to "theorize", that is to create and carefully evaluate possible and alternative explanations of what may change competitive advantage.

The competitive advantage attained from the environmental structure may vanish if environmental factors change. For instance, markets may be punctuated by processes of creative destruction manifested through shocks and technological discontinuities (Schumpeter, 1934), or hyper-competition (D'Aveni, 1994), which may erode the original competitive advantage derived from the original market structure. Therefore, firms need to appropriate value from their temporary competitive advantage (TCA) and then transform it into resources or capabilities with valuable, rare, inimitable, and non-substitutable attributes to attain Sustainable Competitive Advantage.

- H1: There is a negative influence between environmental dynamism on competitive advantage.

Absorptive capability as a series of organizational routines and strategic processes that allow firms to acquire, assimilate, transform and exploit knowledge to create dynamic capabilities (Zahra dan George, 2002). Absorptive capability as dynamic capability will have an impact on the sustainability of competitive advantage by facilitating the organization in adjusting administrative actions, redefining and developing knowledge-based assets (Hurtado and Gonzalez, 2015).

Greater perceived environmental uncertainty in the element's competitors, regulation, and technology can act as a catalyst to enhance resource value and resource rareness and help a firm achieve competitive advantage and better organization performance. Less perceived environmental uncertainty in the elements supply of finance and customers helps firms build resource value and resource rareness and assists the firm in achieving competitive advantage and better organization performance (O'Shannassy, 2008).

- H2: There is a positive influence between environmental dynamism on absorptive capability.

Entrepreneurial orientation was designated to firms that are innovating, proactive and risk-taking (Miller (1983). A strategic process in which organizations identify new things and opportunities and implement entrepreneurial actions (Dess and Lumpkin, 2005). Firms with entrepreneurial orientation identifies and develops new businesses continuously to produce competitive advantages and sustainable benefits in the long term (Wiklund and Shepherd, 2003). Entrepreneurial orientation as a driving force for companies to engage in entrepreneurial activities (Covin and Wales, 2012). Essentially, it refers to a firm's strategic orientation, capturing the specific entrepreneurial aspect of decision-making styles, methods, and practices (Irene Hau-siu Chow, 2006).

Due to the dynamism in the environment, organizations should be able to adapt themselves continuously with the changing environment. The dynamic dimension of environment deals with the factors of decision making that are changing continually. The dynamism in the environment brings a continuous change in the factors that help organization's make decisions. This changing nature of the factors creates difficulty in availing relevant information that is important for decision making in an organization (Duncan, 1972)

The environment itself is "neither certain nor uncertain because certainty and uncertainty of an environment is perceived by the firms themselves and are not same for all firms (Downey & Slocum, 1975) Emerging countries are also characterized by an underdeveloped institutional setup, including for example, a lack of legal protection for intellectual property rights, poor law enforcement, a lack of transparency in judicial systems, underdeveloped factor markets, and high transaction and market costs (Wu & Chen, 2014). These factors lead to uncertainties related to R&D activities and confusion related to protection of intellectual property rights. The complexity and dynamism become pertinent to uncertainty in emerging countries due to information asymmetry and imperfections in the market for capital, labour, and products. So, the firms face higher risk and spend more resources searching for information (Meyer *et al.*, 2008).

- H3: There is a negative influence between environmental dynamism on entrepreneurial orientation.

The investigation into the relationship between environmental uncertainty and knowledge sharing policies and practices has been lacking (Hsu & Wang 2008). Knowledge management literature argues for the importance of knowledge sharing as a way to help organizations gain competitive advantage in an environment with increasing uncertainty (Eisenhardt & Santos, 2002). When CEO's perceive the environment to be dynamic, they will tend to gear their information search towards external sources of advice to keep up-to-date with developments and adapt swiftly by imputing probabilities as events unfold (Mariano *et al.*, 2013). Wong-On-Wing *et al.* (2010) theorized that intrinsic and extrinsic motivators to participate in a knowledge sharing activity will be positively associated with environmental dynamism. It was hypothesized that the relationship between environmental dynamism and motivation to share the knowledge would be positive to the degree that employees perceive the dynamic environment as challenging and inspiring. Therefore, in this research, it is predictable that environmental dynamism has a positive influence on knowledge sharing. Thus, in order to cope with environmental uncertainty, knowledge sharing policies and practices are important and have to be established.

- H4: There is a positive influence between environmental dynamism on knowledge sharing.

Firm's absorptive capability which can result in distinctive advantage over its rivals. Absorptive capacity provides the possibility to change the knowledge basis of a firm through the processes of acquisition, assimilation, transformation, and exploitation. Therefore, good absorptive capacity linked with a strong knowledge transfer propensity, can be of benefit to the obtaining of a competitive advantage (Zahra and George, 2002). Greater absorptive capacity would increase the competitive advantage (Daghfous, 2004).

- H5: There is a positive influence between absorptive capability on competitive advantage.

The major reason why few firms are competent to value, sense, and apply new knowledge with lower struggles and costs than other firms is because they have already spent efforts and money on cultivating their absorptive capacity (Cohen and Levinthal, 1990). Firms with a greater level of absorptive capacity can sense outside knowledge, blend it with their current knowledge, and utilize it for commercial purposes (Zahra and George 2002). Likewise, the major role of absorptive capacity is assisting knowledge transfer, which allows firms to bridge the knowledge gaps they face while pursuing corporate entrepreneurship (Bojica and Fuentes 2012). By blending internal and external knowledge, firms can attain novel understandings that assist them to identify new opportunities for entrepreneurial orientation (Zahra *et al.* 2009). Absorptive capacity enables firms to sort out something dissimilar, which is contrary to the idea that by doing this, they allow companies to become better than before (Lane *et al.* 2006). Therefore, it is expected that absorptive capacity imparts outside firm knowledge regarding firms' procedures of value creation, bridging knowledge needs and producing novel knowledge that in turn fosters entrepreneurial orientation. Hence, we proposed:

- H6: There is a positive influence between absorptive capability on entrepreneurial orientation.

The theory of entrepreneurial rent, posits that the firm's entrepreneurial orientation, their alertness, agility, absorptivity, and proactive adaptability, is a source of competitive advantage. The firm's entrepreneurial orientation sustained by the entrepreneurial incentives continually updates and enriches the management logics that enhance the execution of the business model mechanism wherein lies the firm's competitive advantage (Mishra, C. S., 2017). Recently there are also findings that entrepreneurial orientation has a relatively strong influence on competitive advantage in the service sector (Kraus, 2013).

- H7: There is a positive influence between entrepreneurial orientation on competitive advantage.

2.2. The Relationship between Social Capital, Knowledge Sharing, Absorptive Capability, Entrepreneurial Orientation and Competitive Advantage

Social capital as "the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit (Nahapiet and Ghoshal, 1998). Social capital is communal property that involves civic involvement, association membership, high trust, and exchange in social networks or connections. It becomes a unique asset that is formed by the existence of relationships within a social organization, such as networks, shared norms, and beliefs that help reciprocity and cooperation for mutual benefit (Putnam, 2000).

Social capital can create competitive advantage (Nahapiet and Ghoshal, 1998). Firms that have the ability to utilize the resources of their partners, have a greater chance of having a competitive advantage. (Kangarlouei *et al.*, 2012; Ou *et al.*, 2015). Firms that have better network relationships and are connected with other firms gain faster access to information about profit opportunities and have greater potential for internalizing their partners know how (Andrevskiet *et al.*, 2007). They operate in a more efficient manner or otherwise obtain a higher competitive advantage than their competitors. Therefore, those firms with greater access to network resources are expected to have more competitive advantages and greater profits (Kangarlouei *et al.*, 2012; Ou *et al.*, 2015). The greater the resources and capabilities of social capital owned by the company, the easier it is to achieve competitive advantage (Tuominen *et al.*, 2013; Ou *et al.*, 2015). Thus, we deduce the following hypothesis:

- H8: There is a positive influence between social capital on competitive advantage.

Knowledge sharing is one part of knowledge management capabilities that can be developed in a company (Lee *et al.*, 2004). Social capital encourages optimal sharing of knowledge between individuals and groups, enhance the ability to create effective partnerships and strategic alliances which can help to build intellectual capital through the facilitation of innovation, knowledge acquisition, knowledge transfer and knowledge translation (Chiesa and Toletti, 2004). The network will regulate the process of sharing knowledge and enabling organizational development (Cross and Parker, 2004). In an atmosphere of trust, companies are more willing to share their unique knowledge with others (Rao *et al.*, 2015).

Activeness in conducting knowledge transfer will result in competitive advantages and harmonization in different business environments (Awang *et al.*, 2013). Social capital as a source that prioritizes reciprocity and trust (Arregle *et al.*, 2007), is considered to be able to improve the ability of the company (Massis *et al.*, 2015). Rosenfeld (2007). A shared vision is found to increase the individual's willingness to share knowledge in the organization (Chow and Chan, 2008). In contrast, several studies have postulated that a lack of shared vision and perspective between team members can lead to misunderstandings and conflicts that can put an end to the knowledge shared among members (Du Chatenier *et al.*, 2009). Chua (2002) proposes that the most important role for the members of a social network in order to enhance overall knowledge sharing within an organization is interaction between the organization members by physical or electronic means such as meetings, teamwork, emails or online discussion forums to facilitate ease of access to knowledge amongst various members.

- H9: There is a positive influence between social capitals on knowledge sharing.

Anderson *et al.* (2007) suggest that social capital is essential in the entrepreneurship process. Social capital is a key element for the development of entrepreneurial behavior, facilitates the exploitation of innovative opportunities with uncertain results and improves the ability to identify asymmetries in the information obtained through these relationships (Hargadon, 2002). Trust between network actors can boost the firm's entrepreneurial orientation. If there is trust between firms, it will reduce monitoring costs, allowing time and money to be devoted to other actions such as innovative activities (Kaasa, 2009), which in turn can lead to more radical innovative cooperative projects (Akçomak & Ter Weel, 2009). Relational social capital, through a greater trust among actors, allows the exchange of confidential information, reduces the need for monitoring other actors and opportunistic behavior, and increases the chances of developing mutual collaborative actions. Thus, a greater relational social capital improves the firms' entrepreneurial orientation through the perception of new opportunities, the likelihood of developing new innovations, or undertaking risky actions ahead of competitors. Cognitive social capital through the norms, goals, and culture shared among actors allows firms' proper comprehension of external knowledge, thereby avoiding misunderstandings. This improves the firm's entrepreneurial orientation by promoting practices that are focused on experimentation and creativity, the tendency to be ahead of competitors in introducing novel ideas or products, and a positioning that maximizes the likelihood of exploiting potential opportunities (Rodrigo *et al.*, 2018).

- H10: There is a positive influence between social capitals on entrepreneurial orientation.

Hughes *et al.* (2014) show that social capital, especially on network intensity has a positive effect on the absorptive capacity of firms. Chuang *et al.* (2016) used variables of social capital, absorptive capability, collective learning and company performance in terms of competitive advantage. The result shows that social capital has a positive effect on absorptive capability. Aribi dan Dupouet (2015) undertook research on the role of social and organizational capital towards firm absorptive capacity the research conducted shows that social capital is one of the variables that affect the absorptive capacity of the company.

- H11: There is a positive influence between social capital on absorptive capability.

Mahnke *et al.* (2005) suggest that knowledge sharing is significantly affecting the level of absorptive capability. Then, Wuryaningrat (2013) also shows that knowledge sharing affects absorptive capability before knowledge can be turned into Absorptive Capacity. Liao *et al.* (2007) states that when members share knowledge more intensively with each other, their abilities will increase and increase their motivation to participate in sharing knowledge. Knowledge sharing helps improve team absorptive and motivation at startup. Knowledge sharing empirically proved to have a positive effect on absorptive capacity in companies engaged in IT (Lee *et al.*, 2014). Although there is a high potential for learning capability, the absorptive capability from member will keep low if the motivation to do so is low or absent (Nazri *et al.*, 2011).

- H12: There is a positive influence between knowledge sharing on absorptive capability

Knowledge sharing practices seem to be a primary key to responding quickly, proactively, and innovatively to the ever-changing business environment. It also enhances the chances for organisations to be less vulnerable to dramatic changes in the business environment. (Almahamid *et al.*, 2010). Floyd and Wooldridge (1999) found a direct link between knowledge sharing within the company towards entrepreneurial orientation. High intensity in sharing knowledge will lead to deeper knowledge possessed (Cohen and Levinthal, 1990), and in turn will increase the ability to identify knowledge and do new things (Katila and Ahuja, 2002; Zollo and Winter, 2002). Inter-functional knowledge sharing will integrate all knowledge across the firm, thus enriching the firm's collective knowledge base (De Luca and Atuahene-Gima, 2007; Love and Roper, 2009), enhancing the firm's ability to generate new knowledge that will be needed to carry out entrepreneurial activities (Cohen and Levinthal, 1990; Floyd and Lane, 2000; Hornsby *et al.*, 2009).

- H13: There is a positive influence between knowledge sharing on entrepreneurial orientation.

Knowledge sharing has been cited as a precondition of organisation competitiveness. It is assumed that knowledge sharing could help an organization to out-perform its direct competitors (Almahamid *et al.*, 2010). Knowledge needs to be disseminated to other members so that the knowledge of everyone in the organization becomes integrated. Integrated knowledge is an important capability for the company (Grant, 1996a). Competitive advantage is derived from the capability of organizations to create core competencies from developing new knowledge-based assets (Pemberton and Stonehouse, 2000). This postulate comes from a Knowledge Based Perspective (KBV) which is actually an extension of the RBV theory. The basis of this perspective is the assumption that the most important input in production and the main source of value is knowledge (Grant, 1996a). Firms that have unique, distinctive or special stock of organizational knowledge will have a great opportunity to produce high returns (Raft and Lord, 2002). Knowledge sharing has become important for organizations to remain competitive (Garcia *et al.*, 2017) and improve competitive advantage (Almahamid, 2010). The ability to lift knowledge from tacit being explicit, and then sharing with others will increase organizational

competence and performance (Nghah, 2009). the lack of employee's sharing capability on the success of knowledge sharing may lead to an inability of the organization to remain competitive (Jalal *et al.*, 2013).

- H14: There is a positive influence between knowledge sharing on competitive advantage.

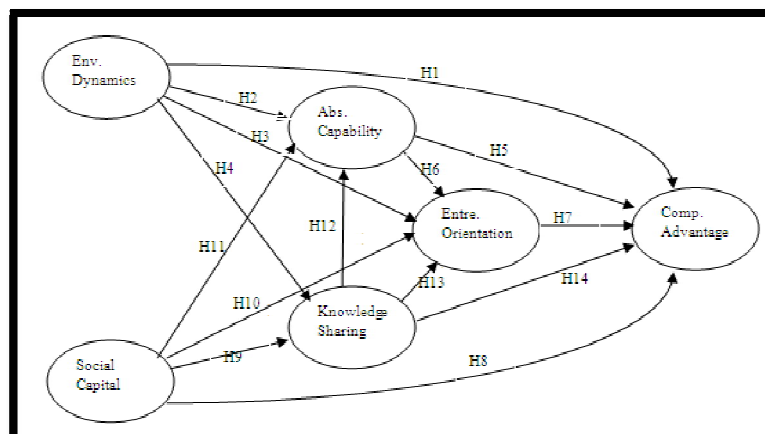


Figure 1; Conceptual Framework

Figure 1 summarizes our framework of the analysis and the anticipated linkages between the variables and the level of firm's competitive advantage.

3. Methodology

3.1. Sample

This empirical study was conducted on a sample of startup in the Information and Communication Technology industry in Indonesia. According to the report released by www.startupranking.com the population of startup in Indonesia reached 1.908 startups (1st October 2018). This study employs survey method for data collection. According to Hair *et al.* (2014) the minimum sample required for SEM ranges from 100 to 200 samples of the 300 questionnaires distributed, 217 returned, and 9 questionnaires did not meet the criteria for further processing, thus the total samples collected were 208 respondents (response rate 69,3%). Sample selection method used is non-random was purposive sampling with the criteria refer to Undang-Undang Republic Indonesia Nomor 20 Tahun 2008 concerning small and medium enterprises (Maximum asset Rp. 500 mio and annual turnover below Rp. 2,5 bio) The number of respondents of 208 came from 104 startup companies in Indonesia. Each company is taken as many as 2 people to become respondents who will represent the company. Both must be officials in the company (Founder or C level). Associated with representative personnel 138 useful responses were received from the male (66%) and 70 from the female (34%). Related to their expertise, 38% or them was expertise in marketing, 26% in finance, 20% in operational and 16% in IT. Most of the respondents have had work experience between 4 and 10 years is (66%), 16% between 10 and 20 years and under 10 years, and only 2% more than 20 years. Most of them served as managers and Chief Marketing Officers which share the same portion (28%), 16% as Chief Operational Officer, 15% as Chief Technical Officer, 7% as Chief Executive Officer and 6% as Chief Financial Officer. Associated with the startup they represent, 94% were a limited liability firm (PT) and 6% were limited partnership (CV), 32% were application manufacturers, 23% were online store, 15% market place, 17% were information and social media, 7% were recruitment services, 6% were Fintech and 2% were transportation. Most of them employ between 5 and 10 employees by 56 (53.8%), 11 to 50 employees by 35 (33.7%), 9 (8,7) firms employ under 5 people, and 4 (3,8%) firms employ above 50 employees.

3.2. Measurement

Extensive literature review is the basis for developing an initial list of items to measure the components of the concepts. Then, in order to revise the measurement items, this study carries out interviews with five CEOs from five different startups which are operating in Jakarta and surrounding area. For the pre-test, firstly, the study chooses two faculty members who have expertise in strategic management from the same university to examine whether these revised measurement items are both necessary and sufficient. And the next step is conducting a pilot study involving 20 startups (each with two respondent) to determine the efficiency of the questionnaire. Finally, this study checks item-to-total correlations to refine. The measurement scale used in this study used five points Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

Competitive Advantage (CA) was the implementation of startups strategies to reduce costs below competitors, exploit opportunities and neutralize the threat of competitors (Liu, and Fang, 2016). The measurement tool used in this study were taken from Liu and Fang (2016). Respondents were asked to indicate the degree to which their firm had various competitive advantages over its competitors.

Social Capital (SC) was the number of actual and potential resources contained in, available through, and generated from networks of relationships that are owned individually and collectively (Nahapiet and Ghoshal, 1998). Social capital construct consists of two dimensions (trust and goal congruence). Trust was the good intentions of each

party and goal congruence was the existence of common goals of everyone in the organization (Burt, 2000). Both are measured using five scale items which were adopted from Clercq *et al* (2103).

Knowledge Sharing (KS) in this study as social process which each person shares, exchanges and discusses their understanding or interpretation about information and business problems that are generally understood (Rao *et al.*, 2015). It was measured using five scale items from Clercq, *et al* (2013).

Environmental Dynamism (ED) in this study refers to Ortega *et al* (2013), the difficulty of estimating market changes, competitor actions, customer desires and sustainable changes in technology. Environmental dynamism was measured using seven scale items which were adopted from Wang (2016).

Absorptive Capability (ACAP) refer to the dynamic capability of firms to acquire, assimilate, exploit and transform external knowledge to develop innovation. The measurement items consist of 19 scales items which were adopted from Wang (2016) Entrepreneurial Orientation (EO) in this study refers to continuously identifying and making new businesses to produce competitive advantages and sustainable benefits in the long run (Wiklund and Shepherd, 2003). The dimensions used refer to three dimensions proposed by Miler (1983) namely; innovation, proactive and risk taking. It consists of 14 measurement items which were adopted from Covin and Slevin (1989).

3.3. Reliability and Validity

This study uses Cronbach's α to explore the variable reliability and standardized loading factor to test validity. The cut off value of reliability and validity testing refers to Sekaran and Bougie (2010) which is sequentially 0.7 and 0.6. As table 1 show, the minimum standardized loading of the scales is 0.659, above the critical level of 0.6, indicating accuracy in measurement. To assess the reliability of the constructs described above we used internal consistency reliability (Cronbach's α). The minimum Cronbach's α of the scales is 0.803 indicating high internal consistency. The measurement model showed all items are eligible to be processed on the next step (full model SEM).

Operational Definition	Standardized Loading Factor	Cronbach's α
Environmental Dynamism		0.868
Internet-based products or services are rapidly undergoing renewal	0.702	
Competitor actions are difficult to predict	0.701	
Competitors change their product / service prototypes quickly.	0.715	
We often feel overwhelmed to compensate for market changes	0.700	
Information and communication technology (ICT) platforms are quickly updated	0.677	
We consider risks many times before investing funds to conduct research and development	0.715	
Users do not have the barriers to switching to products / services that are most up to date with the latest technological developments.	0.659	
Social Capital		0.853
We can freely share our ideas, feelings, and hopes.	0.730	
I do not hesitate to share my difficulties with everyone in the startup ecosystem.	0.765	
I received meaningful feedback from colleagues in the startup ecosystem	0.735	
I believe everyone in this startup ecosystem has sincere motives and intentions to help	0.683	
Everyone in this startup ecosystem is truly reliable	0.746	
We have similarities in business visions each other	0.760	
We associate this startup ecosystem as a shared vehicle to achieve goals	0.703	
We are easy to get an agreement when discussing startups	0.726	
We work hand in hand to achieve collective goals	0.726	
I feel like I am part of the others in this ecosystem	0.726	
Knowledge Sharing		0.842
When I get new knowledge, I will share it with my startup community.	0.689	
When other members get new knowledge, they will share it in our startup community.	0.663	
I will share my knowledge if other members were asking	0.749	
Members of the startup community will share their knowledge if I or other members were asking	0.705	
Knowledge sharing is a routine activity in our startup community.	0.753	

Operational Definition	Standardized Loading Factor	Cronbach's α
Absorptive Capacity		0.803
The search for relevant information concerning our industry is every-day business in our company	0.693	
Our management expects that the employees deal with information beyond our industry	0.749	
A periodical meeting with external experts within our industry for the accumulation of relevant	0.707	
The search for relevant information concerning our industry is every-day business in our company	0.704	
In our company there is a quick information flow, e.g., if a business unit obtains important information it communicates this information promptly to all other business units or departments	0.709	
Our management emphasizes cross-departmental support to solve problems	0.782	
Our company uses tools (e.g., intranet, internal studies/reports) to spread knowledge in the whole organization	0.782	
In our company there is a quick information flow, e.g., if a business unit obtains important information it communicates this information promptly to all other business units or departments.	0.763	
Our management demands periodical cross departmental meetings to interchange new developments, problems, and achievements.	0.705	
Our employees of diverse departments <i>get along</i> well, when communicating with each other on a cross-departmental basis.	0.735	
Our company launches innovative products/services promptly with regard to its research.	0.714	
Our management supports the development of prototypes.	0.755	
Our company regularly reconsiders technologies and adapts them in accordance with new knowledge.	0.703	
Our company has the ability to work more effectively by adopting new technologies.	0.688	
We have the ability to structure and use collected knowledge.	0.807	
We emphasize the systematic reuse of insights out of past projects.	0.730	
We encourage our team to engage in further training and continuous learning.	0.746	
We successfully link existing knowledge with new insights.	0.675	
We cleverly transform information from internal and external sources into valuable knowledge for our company.	0.783	
Entrepreneurial Orientation		0.811
The term "risk taker" is considered a positive attribute for people in our business	0.759	
People in our business are encouraged to take calculated risks with new ideas	0.705	
Our business emphasizes both exploration and experimentation for opportunities.	0.735	
In general, the top managers of my firm have a strong proclivity for high-risk projects (with chances of very high returns)	0.677	
Acceptance of risk is part of our corporate culture	0.743	
When confronted with decision-making situations involving uncertainty, my firm typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities	0.703	
We actively introduce improvements and innovations in our business.	0.759	
Our business is creative in its methods of operation.	0.705	
Our business seeks out new ways to do things.	0.735	
In general, the top managers of my firm favor a strong emphasis on R&D, technological leadership, and innovations.	0.677	
We always try to take the initiative in every situation (e.g., against competitors, in projects when working with others).	0.681	
We excel at identifying opportunities.	0.752	

Operational Definition	Standardized Loading Factor	Cronbach's α
We initiate actions to which other organizations respond	0.716	
In dealing with its competitors, my firm typically initiates actions to which competitors then respond	0.678	
Competitive Advantage		0.814
Reduction of total expenses at a higher rate than competitors	0.735	
Reduction of operating expenses at a higher rate than competitors	0.723	
Reduction of total expenses divided by revenue to a higher extent than competitors	0.708	
Reduction of operating expenses divided by revenue to a higher extent than competitors	0.729	
Exploitation of all market opportunities	0.808	
Full exploitation of market opportunities	0.793	
Exploitation of more market opportunities from competitors	0.750	
Neutralization of all competitive threats	0.714	
Full neutralization of all competitive threats	0.729	
Neutralization of more competitive threats than competitors	0.751	

Table 1. Operational Definition, Standardized Loading Factor and Cronbach's α

3.4. Goodness of Fit Evaluation

We evaluate the of goodness of fit index before testing the hypothesis. The output values of each index and the cut-off values are shown in the table 2. Of the eight indexes used to test the model fit, three indexes meet good fit standards (RMSEA, CMIN/DF, CFI and TLI). Hair (2014) recommends that with more than three fit indexes it is sufficient to qualify for interpreting the parameters of the path coefficients in SEM.

Index	Output Value	Cut of Value	Evaluation
Chi-Square	2721.7	As low as possible	Poor Fit
Sig-probability	0.000	>0,05	Poor Fit
RMSEA	0.043	<0.08	Good fit
GFI	0.737	≥ 0.90	Poor Fit
AGFI	0.712	≥ 0.90	Poor Fit
CMIN/DF	1.362	≤ 2	Good fit
TLI	0.900	0.90	Good fit
CFI	0.906	0.90	Good fit

Table 2. Goodness of Fit Value

4. Result

4.1. Descriptive Statistic and Correlations

Measurement of variables in this study using a Likert scale from 1 to 5 Therefore, the values for determining the variable descriptive analysis are grouped with the following conditions: low (1-2.33), moderate (2.34-3.66) and high (3.67-5). Table 3 exposes the average values and standard deviations of each variables.' The results of descriptive statistics show that all variables still have an average value at a moderate level (below 3.66). The standard deviation value is also quite high, namely in the range of 0.773 to 0.875. This value indicates the diversity of opinions or responses of respondents over the research variables. Pearson's correlation analysis show that absolute values of correlation coefficients between variables are moderate, indicated that multi-collinearity should not be a major problem.

Variable	Mean	S.D	SC	ED	KS	ACAP	EO	CA
SC	3.486	0.773	1	-	-	-	-	-
ED	3.509	0.860	0.277**	1	-	-	-	-
KS	3.527	0.875	0.644**	0.363**	1	-	-	-
ACAP	3.499	0.768	0.714**	0.445**	0.731**	1	-	-
EO	3.539	0.761	0.807**	0.293**	0.697**	0.748**	1	-
CA	3.546	0.835	0.659**	0.344**	0.696**	0.763**	0.752**	1

Table 3. Descriptive Statistics and Correlations

**P0.05

4.2. Hypothesis Testing

4.2.1. Direct Effect

To estimate our model and to test the associated research hypotheses, we used the Structural Equation Model (SEM) covariance based approach using AMOS 22.0 version. Hypothesis testing carried out using alpha 5% is presented in the following table

	Hypothesis	β	SE	CR	P	Result
H1	There is a negative impact between environmental dynamism on competitive advantage.	-0.71	0.112	-0.639	0.523	Not supported
H2	There is a positive influence between environmental dynamism on absorptive capability.	0.219	0.061	3.584	0.00	Supported
H3	There is a positive influence between environmental dynamism on entrepreneurial orientation.	-0.016	0.076	-0.207	0.836	Not supported
H4	There is a positive influence between environmental dynamism on knowledge sharing.	0.167	0.082	2.027	0.043	Supported
H5	There is a positive influence between absorptive capability on competitive advantage.	0.702	0.337	2.087	0.037	Supported
H6	There is a positive influence between absorptive capability on entrepreneurial orientation.	0.027	0.210	0.128	0.898	Not supported
H7	There is a positive influence between entrepreneurial orientation on competitive advantage.	1.246	0.47	3.060	0.02	Supported
H8	There is a positive influence between social capital on competitive advantage	-1.347	0.750	-1.795	0.073	Not supported
H9	There is a positive influence between social capital on knowledge sharing.	1.088	0.156	6.976	0.000	Supported
H10	There is a positive influence between social capital on entrepreneurial orientation	1.017	0.276	3.691	0.000	Supported
H11	There is a positive influence between social capital on absorptive capability	0.662	0.187	3.535	0.000	Supported
H12	There is a positive influence between knowledge sharing on absorptive capability.	0.311	0.126	2.468	0.14	Supported
H13	There is a positive influence between knowledge sharing on entrepreneurial orientation.	0.082	0.132	0.622	0.534	Not supported
H14	There is a positive influence between knowledge sharing on competitive advantage.	0.0129	0.188	0.686	0.493	Not supported

Table 4: Hypothesis Testing

Source: Data Collection, Processed with Amos 22.0

4.2.2. Indirect Effect

To test whether there is an indirect effect of environmental dynamism on competitive advantage and social capital on competitive advantage, researchers use the bootstrap method which was proposed by Preacher and Hayes (2008). The indirect effect of social capital on competitive advantage was 2,256 with a p-value of 0.04 (≤ 0.05). Also, the indirect effect of environmental dynamism on competitive advantage was 0.218 with a p-value of 0.05 (≤ 0.05). Thus, it can be concluded that both of social capital and environmental dynamism has a positive and significant indirect influence on competitive advantage through absorptive capacity, entrepreneurial orientation and knowledge sharing, with the larger positive influence comes from social capital.

4.2.3. Discussion

The results of this study indicate that social capital and environmental dynamism have not direct influence on competitive advantage. Both will have a significant effect if through several mediating variables. The findings of this study do not support previous studies in which environmental dynamism have an influence on competitive advantage (Bradley *et al.*, 2011; Song *et al.*, 2010). Environmental dynamism inhibits the positive effects of the pioneering approach to resource integration on competitive advantage. Under high environmental dynamism environmental shocks are quite likely (Stoel & Muhanna, 2009).

Environmental dynamism had a significance positive influence to absorptive capability. This finding supports previous studies (Li and Liu, 2012; Wang, 2016). The absorptive capacity developed by startups depends on the environment in which they operate (Van den Bosch *et al.*, 1999). Startups may be more sensitive and increase dynamic

capabilities in a more turbulent environment. So that environmental dynamism in this study as a driver of the startups to build absorptive capability as one of their dynamic capabilities. Conversely a static environment will reduce the ability to absorb (Roberts, 2015).

Environmental dynamism has not had significant influence on entrepreneurial orientation. This finding does not support Covin & Slevin, (1991) and Lumpkin & Dess (1997) which states environmental dynamism can influence the EO-firm performance. Environmental dynamism does not encourage startups to innovate, be proactive and take risks. This means that environmental dynamism in Indonesia are still slower than their dynamism in countries like China. In addition, the company is relatively new so that the resulting innovation is not too much compared to established companies that have been operating for a longer period.

Environmental dynamism had a significance positive influence on knowledge sharing. The results of this study support the findings from Gurbuz and Araci (2012), The results of this study support the findings of Gurbuz who stated that environmental dynamism positively influence the sharing of explicit knowledge between employees. Perceived environmental uncertainty explained only explicit knowledge sharing behavior significantly. Employees think to cope with uncertainty by sharing their explicit knowledge is the reason of this behavior. Also transfer of explicit knowledge is easier than transfer of tacit knowledge because of its codability and having less context specific (Lahti and Beyerlein, 2000). Most research has indeed investigated the role of environmental dynamism as trigger for knowledge exploration and argued that, when exposed to turbulent environments, organizations need to "look somewhere else" to generate radically new ideas and knowledge (Yli-Renko *et al.*, 2001).

Absorptive capability had a significance positive influence on competitive advantage. The test results show that absorptive capability has a positive and significant effect on competitive advantage. This finding supports the findings of Chuang *et al.*, (2016) and Sharma and Singh (2012). These results support the agreement of many scientists that absorptive capability as part of dynamic capabilities has a positive influence on competitive advantage. Absorptive capability will enable startups to achieve cost advantages, capitalize on opportunities and neutralize competitors. Absorptive capability as a strategic concept for organizations to always carry out learning (organization learning) where this activity will change individual and collective thoughts and actions embedded in the organization (Crossan *et al.*, 1999). The output of absorptive capability is new knowledge that will produce competitive advantage.

Absorptive capability has a positive and significant effect on entrepreneurial orientation. This finding is in accordance with the research conducted by Castro and Cepeda (2016) which examines the effect of knowledge exploitation on entrepreneurial orientation. The ability to acquire knowledge, update existing knowledge in the company with new knowledge gained, will make the company able to transform and exploit the knowledge that has been updated. The impact is that companies are more innovative, proactive and brave in taking risks. New knowledge will be assimilated through the potential absorptive capacity of the company will affect the quality of entrepreneurial behavior. (Salvatore, *et al.*, 2014). Therefore, innovative products launched without an in-depth understanding of market conditions can result in projects that fail. Likewise, taking risks without quickly interpreting industry conditions can lead to failure. Being proactive without accurately measuring competitive levels can encourage companies to take inappropriate actions.

Test results show that competitive advantage is positively and significantly influenced by entrepreneurial orientation. This result is consistent with research conducted by Zeebaree and Siron (2017), Gitau *et al.*, (2016), Kuratko *et al.*, (2001); Lechner and Gudmundsson, (2014) which illustrate that each entrepreneurial dimension has a significant influence on competitive advantage. Entrepreneurial orientation for many firms is considered an important factor to maintain the continuity of the firm amid rapid environmental changes (Lyon *et al.*, 200). Innovation will find a way for companies to operate more efficiently, effective; and identify new market spaces where it can compete (Kuratko *et al.*, 2001). More innovation will lead to an increase in competitive advantage at startup. Firms that act proactively always look for specific and valuable resources to increase their competitive advantage (Huang and Wang, 2011). Dare to take risks is reflected through the firm's courage to get out of the common habits and the courage to test something that is uncertain (Wiklund and Shepherd, 2003). With the commitment of the firms to risk large resources, it will obtain a high return from the results of seizing opportunities in the market (Lumpkin and Dess, 1996).

Competitive advantage is not significantly influenced by social capital. This result is the same as the research conducted by Chuang *et al.* (2016) and in contrast to Ou *et al.* (2015) and Kangarlouei *et al.* (2012). Social capital is an intangible resource that can be used to generate competitive advantage for a company. Social capital is inherent in personal relationships and interpersonal interactions, along with shared values related to these relationships and interactions (Chuang *et al.*, 2016). Social capital has no influence on competitive advantage because in the current era of knowledge economy, competitive advantage depends on how many companies can increase their knowledge (Powell and Snellman, 2004). Social capital can be used to increase the amount of knowledge from people in an organization. People who have better social connections in the network will have the potential to have better access to new information, ideas and opportunities (McEvily and Zaheer, 1999).

The test results show that knowledge sharing is positively and significantly influenced by social capital. This result is the same as the research conducted by Kim and Sim (2018), Hashim and Tan (2015), and Nahapiet and Ghosal, (1998) and Chuang *et al.* (2016). Social capital is the basis for sharing knowledge between the two parties. Strong social capital will generate the intention to do collective learning and improve absorptive capacity within the company and produce learning organizations.

Social capital has a positive and significant influence on entrepreneurial orientation. These results support the findings from (Cao *et al.*, 2012). When a founder of startup forges social connections with more individuals from different organizational departments, they were likely more cognizant of the scope, nature, and potential of organizational

resources (Collins & Clark, 2003). They also exposed to various perspectives embedded in different organizational functions and operates at the crossroads of information and viewpoints. As such, a founder or CEO with a larger and more diverse network of intra-firm social ties should be more capable of identifying combinative options among diverse parts of the firm, thus enhancing the firm's innovative potential (Nahapiet & Ghoshal, 1998).

Absorptive capability is influenced positively and significantly by social capital. These results support the findings of Chuang *et al.* (2016), Tsai (2006), and Kittikunchotiwut (2015). Social capital increases attachment in relationships between units; it facilitates the acquisition and exploitation of knowledge by influencing the conditions necessary for value creation through exchanges and combinations of existing intellectual resources (Yli-Renko *et al.*, 2001). Strong social capital will encourage higher absorptive capabilities than tenuous social capital (Kittikunchotiwut, 2015). Social interaction between members helps create "shared reality" (Jackson and Klobas, 2008) where members are better able to understand and absorb the knowledge that has been communicated (Yli-Renko *et al.*, 2001).

Absorptive capability is not significantly affected by knowledge sharing. This finding does not support Rafique *et al.* (2012), Minbaeva *et al.* (2014), Bosch-Sijtsema and Henriksson (2014), and Ali *et al.* (2018). Startups that have heterogeneous business models in one ecosystem. This was one of the factors that caused the insignificance of the influence of knowledge sharing on absorptive capability. Solutions to startup problems that apply the freemium model are not necessarily relevant or attract attention for startups who apply the market place business model.

Knowledge sharing has a positive and significant influence on entrepreneurial orientation. This result is in line with the findings of Pittino *et al.* (2018). Knowledge sharing between startups is effective in enhancing the ability of startups to produce innovative, proactive actions and acceptance of risks. At every opportunity startup, owners share their experiences about how much loss they experience due to the failure of the prototypes they make, but from these failures they finally have innovative ideas that ultimately lead to their success.

Competitive advantage is not significantly influenced by knowledge sharing. these findings support Ali *et al.* (2018) but does not support Almahamid, *et al.* (2010) and Nag and Gioia (2012). This finding supports the idea that knowledge sharing itself does not directly lead to improvement in project performance but functions for other capabilities in the project which in turn leads to improved project performance (Ali *et al.*, 2011). Knowledge sharing between elements in the startup ecosystem is only limited to explicit knowledge. The startups found it difficult to imitate tacit knowledge, while tacit knowledge owners found it difficult to codify their knowledge. The process of transferring tacit knowledge is more difficult than the process of transferring tacit knowledge.

5. Conclusion

Startups can utilize social capital and environmental dynamism to produce competitive advantages. Capability, knowledge sharing, and entrepreneurial orientation become mediators for social capital and competitive advantage. Of the three mediating variables, absorptive capacity is the most important variable because it bridges the positive influence of environmental dynamism on competitive advantage. Entrepreneurial orientation has no influence in linking environmental dynamism to competitive advantage, and knowledge sharing must go through absorptive capacity in order to gain competitive advantage.

The theoretical implications of this research are, for startup, absorptive capacity has a more optimal role in positively linking environmental dynamism and social capital to competitive advantage. Meanwhile, strategy management experts and the results of previous research emphasize the importance of implementing entrepreneurial values in managing the company in a dynamic environment. In this study it was found that entrepreneurial orientation cannot be a link for environmental dynamism to competitive advantage at startup.

However, this study did not escape limitations. The samples in this study is still heterogeneous in terms of its business model (Appendix C) and each model has different criteria in determining competitive advantage, therefore it would be better if the next research could take a more homogeneous sample. This study only measures competitive advantage based on one time point from many startups (cross section), so that the startup dynamism in building its competitive advantage have not been seen. Further research is recommended to use longitudinal data to overcome the measurement bias of competitive advantage from one time point.

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