

Conference Paper

Strategies to Improve Entrepreneurial Behavior in Online Selling Through Advances in Entrepreneurial Characteristics, Intellectual Agility and Business Environment

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Abstract.

This study aims to examine the effect of entrepreneurial characteristics, intellectual agility and business environment on entrepreneurial behaviours in selling online. This study used a quantitative approach. The population in this study were embroidery entrepreneurs in Pasuruan, East Java, who do business online. The sample used in this study was 180 respondents, and the sampling technique was purposive sampling. The data was obtained through a questionnaire. The results showed that entrepreneurship, intellectual agility and the business environment significantly affected entrepreneurial behaviour in selling online. The business environment weakens but does not significantly influence the effects of entrepreneurial characteristics and intellectual agility on entrepreneurial behaviour. Intellectual agility can partially mediate the influence of entrepreneurial characteristics in selling online. The implication of this research is, that for embroidery business actors, it is hoped that they will be able to carry out entrepreneurial behavior through maximizing their entrepreneurial characteristics and intellectual agility

Keywords: entrepreneurial characteristics, intellectual agility, business environment, online entrepreneurial behaviour

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1. Introduction

Currently, the embroidery trend is not only dominated by *fashion* for women but also favored by men, several fashion shows with embroidery motifs were held abroad by fashion designers from Indonesia. In Indonesia, the center of the embroidery industry is in several regions, including Padang City, Agam Regency, Pariangan City and Bukit Tinggi in West Sumatra Province, Pekanbaru in Riau Province, Jepara in Central Java Province, Tasikmalaya in West Java Province, Lamongan Regency and Pasuruan Regency in East Java Province. According to data from the Pasuruan Regency Industry and Trade Office, it is stated that there are more than 800 embroidery artisans. They

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spread across the Pasuruan Regency area, so it is a particular concern for the Pasuruan Regency government to maintain the existence of embroidery business actors.

However, the flourishing of the embroidery business was significantly disrupted when the Covid-19 pandemic swept across the world. Several embroidery SMEs in Indonesia, especially embroidery business actors in Pasuruan Regency, had difficulties marketing their products because the government restricted social interaction (social distancing). It forced Embroidery SMEs to look for various ways to run their business and perform well. Therefore, embroidery SMEs are required to be productive in running their businesses to survive, especially breakthroughs for selling *online*; especially at this time, *e-commerce activities* are becoming a trend for the people of Indonesia and the world.

Based on observations of embroidery business actors in the Regency, especially embroidery business actors who are over 50 years old and have been in the business for more than 15 years, they state that they are not familiar with various marketplace applications in Indonesia (such as Shopee, Lazada, Tokopedia, etc.).

Even if there are live facilities on social media such as Facebook and TikTok, they do not even know it, and they only use the WhatsApp application as a medium for selling online; when asked the reason why they are reluctant to use online media applications that support selling online, they answer that they are still not familiar or still do not believe it. If you make transactions online, and some even answer by selling like the current situation, we have already gotten a decent profit, so they do not want to be complicated to use online media to sell online; this is contrary to the opinion that says more and more *e-commerce assets* -commerce the company developed, the greater the degree of adaptation of online promotion, communication efficiency, distribution efficiency, distribution support, and price competitiveness Gary, Munib, & Shaoming, (2007)

In other observations, especially embroidery business actors around the age of 20 and also newcomers to embroidery SMEs, show a different statement. They are indeed new to the embroidery business, so they actively surf cyberspace to discover what fashion products are available are trending and actively market their products on online media; in fact, they often carry out live activities in online media in several online media, including doing live on TikTok, on Facebook and shopee, because according to them the results of selling online are much more profitable than selling offline. It follows the opinion of Pickernell, et.,al (2013) which states that younger and smaller SMEs are more successfully associated with *e-commerce trading activities* than older companies.

According to McGuckin, (2006) when manual marketing has begun to be abandoned and switching to a more modern/online way, entrepreneurs must adapt. Independence in utilizing the sophistication of Information and Communication Technology (ICT) is the key to the success of embroidery SMEs in the digital economy era. Entrepreneurial behavior in selling online is closely related to the ability possessed by business actors to use online media as a medium for selling, so for business actors, the abilities possessed are closely related to entrepreneurial characteristics; entrepreneurial characteristics are particular traits possessed by entrepreneurs to support success—they in entrepreneurship. According to Meredith & Geoffrey (2005), entrepreneurial characteristics consist of self-confidence, task and result-oriented, risk-taking, leadership, originality, and future orientation. It means that if embroidery business actors have good entrepreneurial characteristics, they will also carry out entrepreneurial behavior in selling goods online. Another antecedent is intellectual agility; intellectual agility is concerned with changing their way of thinking, seeking new information, and generating new solutions to current and future problems Dabić, Stojčić, et., al (2021). according to Al-Omouh, (2021) Intellectual capital has a significant effect on E-Business Entrepreneurial Orientation, (Al-Omouh, Simón-Moya and Sendra-García, (2020) Social capital has a vital role in achieving a proactive e-business. Another antecedent is the business environment related to vulnerability/Votality, uncertainty/uncertainty, complex turbulence/Complexity, and confusion/ambiguity (VUCA); according to (Oliveira and Martins, (2010), Competitive pressure has a significant effect on e-business adoption, according to Al-Qirim, (2007) environment: competition, Buyer/ Supplier pressure, Support from technology vendors have a significant effect on the adoption of e-Commerce.

The purpose of this study is to analyze the effect of entrepreneurial characteristics, intellectual agility, and business environment on entrepreneurial behavior in selling online, to analyze the effect of entrepreneurial characteristics on intellectual agility, to analyze the effect of the business environment in moderating the influence of entrepreneurial characteristics and intellectual agility on entrepreneurial behavior in selling online and analyze the effect of intellectual agility in mediating the effect of entrepreneurial characteristics on entrepreneurial behavior in selling online.

This research purpose of examining the influence of entrepreneurial characteristics on intellectual agility, the influence of intellectual agility on entrepreneurial behavior in selling online, and making the business environment a moderating variable of the influence of entrepreneurial characteristics and intellectual agility on entrepreneurial behavior in selling online, because in previous research there has been no research.

The Influence of Entrepreneurial Characteristics on Entrepreneurial Behavior in Selling Online

entrepreneurial characteristics are needed to maintain the existence of small business actors Nusron, (2017) An entrepreneur is a unique person whose nature is a risk taker and who introduces innovative products and new technologies into the economy; even Schumpeter calls entrepreneurship *a force of creative destruction*. McClelland said that three standard traits exist in every human being: the need for power, the need for affiliation, and *the need for achievement*. Alma, (2016). Entrepreneurial characteristics are a strength possessed by entrepreneurs. It is closely related to the RBV. RBV (*Resource Based View*) RBV is used to analyze the company's internal environment from the point of view of resources rather than products; it is also used to identify and utilize the capabilities of the resources owned by a company to achieve competitive advantage. Entrepreneurial characteristics are traits that are generally owned by the majority of individuals who start and operate their businesses Winardi, (2017), while entrepreneurship is a person who acts creatively to create value for something practical and creates various opportunities from scarce sources so that vision and great desire are needed. It is because of outstanding commitment and willingness to take calculated risks Lambing and Kuehl, (2000) . Entrepreneurs must possess several characteristics; in this article, the characteristics of entrepreneurship are self-confidence, task and result-oriented, risk-taking, leadership, originality, and future-oriented Meredith & Geoffrey, (2005)

With the entrepreneurial characteristics of entrepreneurs, they are expected to overcome all changes, especially changes related to online consumer shopping patterns, which require business actors to serve changes in online shopping patterns through entrepreneurial behavior in selling online. The theory of *Kub Le ross's change cycle* Elisabeth Kubler ross's five-stage change cycle said that the final stage of the cycle is acceptance; acceptance is achieved after the individual realizes that the change is permanent. In this article, the variable of entrepreneurial behavior in selling online is based on the TAM theory by Al-Gahtani (2001) regarding *acceptance and Sales Process/behavior* Ustüner and Godes, (2006) theory. Acceptance is the behavior of embroidery business actors to desire to continue to use online media and use online media with high intensity. *Sales behavior* is a series of stages that embroidery business actors must carry out to convert potential buyers into customers Üstüner, Tubam and David, (2006). *Sales process* indicators understand *the customer, Approach, discovery, presentation, close, and follow-up* (Andzulis, Panagopoulos and A, (2012).Furthermore,

based on empirical studies mention the influence of entrepreneurial characteristics, including:

Entrepreneurial orientation significantly affects knowledge Transformation and Exploitation capabilities Raymond, F. Bergeron and A. Croteau, et.,al (2015). According to Alos-Simo, Verdu-Jover and Gomez-Gras, (2017) transformational leadership significantly affects e-business adoption. According to Sehora, Lee, & Sukasame (2009) *Locus of control* has a significant effect on the success of using *e-comm* Therefore, based on the results of theoretical studies and empirical studies, the first hypothesis is:

H1: entrepreneurial characteristics significantly affect entrepreneurial behavior in selling online.

The Influence of Entrepreneurial Characteristics on Intellectual Agility

Intellectual capital is the number of intangible assets a company owns that can be used to create a competitive advantage Bueno et.,al. (2006). Intellectual capital is the key to gaining and maintaining a competitive advantage in today's ever-competitive market Cricelli and Grimaldi, (2008). According to Bontis, Keow and Richardson, (2000), employees can generate intellectual capital through competence, attitude, and agility. Competence consists of skills and education, attitudes based on employee work behavior, intellectual agility based on innovation, and business problem solutions. In contrast, the critical component of intellectual capital is intellectual agility, defined as the ability of employees/staff to modify structures and think of innovative strategies to face the challenges of a changing environment (Bontis, Keow, & Richardson, 2000). Novelty in this study is the relationship between entrepreneurial characteristics and intellectual agility, where there is still no research that directly examines the relationship between these two variables.

In the characteristics of entrepreneurship, there are several indicators self-confidence, task and result-oriented, risk-taking, leadership, originality, and future-oriented Meredith & Geoffrey, (2005). An entrepreneur must be flexible and adapt quickly to changes; in the characteristics of entrepreneurship, there is a leadership spirit. Leadership is critical to increasing organizational agility Ahammad, Glaister and Gomes, (2020). The spirit of the leader is expected to be able to turn threats into opportunities the business actors can exploit. Transformational leadership has been found to influence e-business adoption Alos-Simo, Verdu-Jover, & Gomez-Gras (2017) and can increase organizational agility Akkaya and Tabak, (2020)

Entrepreneurs who carry out entrepreneurial characteristics optimally will have a way of thinking that continues to develop. It actively seeks new information related to their business development and will carefully address various problems in a solution.

It also updates its innovation (product and marketing innovation), so that it will have an impact on Intellectual agility skills will be honed and continue to grow. Some empirical studies stated the influence of entrepreneurial characteristics on intellectual agility. Bontis, Keow, & Richardson (2000) mention that human capital has a significant effect on structural capital/ intellectual capital. Doz and Kosonen, (2010) state that three primary abilities affect strategic agility: strategic sensitivity, leadership unity, and resource fluidity. (Sari and Ahmad, (2022) states that entrepreneurial leadership and government support significantly affect SMEs' strategic agility, increasing their competitiveness Al-Omouh, Simón-Moya, & Sendra-García (2020). Collaborative knowledge creation significantly positively affects organizational agility Al Nuaimi, et.,al (2022). Digital transformational leadership has a significant effect on organizational agility Khalique, Isa, et.,al (2014) promotes the concept of entrepreneurial competence and intellectual capital to entrepreneurs or owners and managers of SMEs to strengthen their intangible assets to take advantage of competitive advantages in the market, (Ling and Jaw, (2011) mentions entrepreneurial leadership has a significant effect on human capital investment and human capital returns,

Khalid & Firdasus (2021) mention that Entrepreneurial Leadership (EL) has a significant effect on Organizational Agility (OA). Based on the results of theoretical studies and empirical studies, the second hypothesis is:

H2: entrepreneurial characteristics have a significant effect on intellectual agility.

The Influence of Intellectual Agility on Entrepreneurial Behavior in Online Selling

Agility is the company's ability to quickly adapt to environmental changes in a flexible and fast way; organizational agility is closely related to the organization's response to external processes Singh, Pathak, et.,al (2013).

Intellectual agility is more than just creating a conducive environment for innovation; instead on the ability of business actors to detect and evaluate various problems, digest various changes, and design solutions. Intellectual agility refers to the ability of entrepreneurs to change their way of thinking, seek new information, and come up with new solutions to current and future problems Dabić, Stojčić, Simić, Potocan, Slavković, & Nedelko (2021). Entrepreneurial behavior in selling online is closely related to the adoption of e-business; E-business can be described as the integration between communication technology (internet), business processes, and management practices Turban, King, et.,al (2004), According to (Zhu, Kraemer and Xu, (2006), e-business has the potential to change organizational structures, able to change their business processes, even able to transform the entire organization, In addition, it will have an impact on relationships with suppliers, customers, and other business partners. Changes

will always occur, and the role of intellectual agility is needed to be able to adapt to changes, especially changes related to entrepreneurial behavior in selling online; only business actors who have good intellectual agility will be able to adapt to these changes, and it is hoped that communication with consumers/customers will go well so that the business relationship will continue to run because intellectual capital will have an impact on any business, but the impact on e-business is more deterministic Namvar and Khalilzadeh, (2013), The results of empirical studies related to the influence of intellectual agility on Entrepreneurial Behavior in Online Selling are: Al-Omouh, (2021) stating that Intellectual capital has a significant effect on E-Business Entrepreneurial Orientation, El-Haddadeh (2020)stating perceived barriers to IT innovation have a negative effect on cloud computing adoption, and innovative IT capabilities have no effect regarding cloud computing adoption, Al-Omouh, Simón-Moya, & Sendra-García, (2020) stated that social capital has an essential role in achieving proactive e-business. Therefore, based on the results of theoretical studies and empirical studies, the third hypothesis is:

H3: Intellectual agility has a significant effect on Entrepreneurial Behavior in Selling Online

The Influence of the Business Environment on Entrepreneurial Behavior in Online Selling.

The business environment is increasingly globalized and full of vulnerabilities/Volatility, Uncertainty/Uncertainty, complex turbulence/Complexity, and confusion/Ambiguity (VUCA) affect how companies must be steered in order to be able to compete and perform superiorly, Business Environment is the ability of embroidery business actors to face change today's business environment is undergoing drastic (unpredicted) changes. Parker and Castleman (2009) mentioned that one of the supporters or barriers to adopting e-business in SMEs depends on the business environment faced by each SME. In a highly competitive market, firms rely on information from the external environment to improve their technology infrastructure, while technological innovation is considered a prerequisite for success Zhu, Kraemer, & Xu, (2006). In the current digital era, consumer behavior in online shopping has become a habit, so almost all business actors take advantage of this opportunity to gain new market share in the digital world. Selling online, where the stages of the sales process can be carried out on online media, according to Parker & Castlemen (2010), the use of new technology is more critical in a competitive environment, where changes in marketing innovation are changing rapidly and where competitors act in ways that are difficult to predict.

Previous research studies show the relationship between the business environment and entrepreneurial behavior in selling online. For example, Veira & Martins (2010) mentioned that Competitive pressure significantly affects e-business adoption. Furthermore, Qirim (2007) Stated that environmental: competition, Buyer/Supplier pressure, and support from technology vendors have a significant effect on the adoption of e-Commerce Raymond, Bergeron, et.,al (2015) mentions that environmental uncertainty has a significant effect on KTE capabilities: networking capability, advanced manufacturing technologies capability and marketing capabiTherefore, based on the results of theoretical studies and empirical studies, the fourth hypothesis is:

H4: The business environment has a significant effect on Entrepreneurial Behavior in Selling Online

The Influence of Entrepreneurial Characteristics on Entrepreneurial Behavior in Selling Online with Moderation in the Business Environment

The Influence of Entrepreneurial Characteristics on Entrepreneurial Behavior in Selling Online shows an inconsistency from previous research, the inconsistency is shown from the results of previous studies which state that there is a significant influence of the influence of entrepreneurial characteristics on entrepreneurial behavior in selling online, but on the other hand there are research results that show there is no significant effect The variables of entrepreneurial characteristics on entrepreneurial behavior in selling online, following the results of previous studies that show inconsistencies.

Sebora, Lee, & Sukasame, (2009) stated that *Locus of control and Achievement orientation* have a significant effect on the success of *e-commerce use*, while e-networking and risk-taking do not significantly affect the use of e-commerce, according to Thong and Yap, (1995) stating that innovation has no significant effect on the adoption of information technology, according to Raymond L. , Bergeron, Croteau, & St-Pierre, (2015)stating that Entrepreneurial orientation has a significant effect on knowledge transformation and exploitation capabilities. The business environment variable fills the existence of inconsistencies from the previous research because based on the results of previous research it shows the influence of the business environment on entrepreneurial behavior in selling online, including: Almunawar, Auzzali, et.,al., (2022) stating that there is an influence on the business environment consisting of: external change agents, pressure from trading partners and pressures from competitors to e-commerce adoption, Chatzoglou and Chatzoudes, (2016) states that Environmental context:: Government support and Consumer readiness have a significant effect on e-business adoption. Based on the results of theoretical studies and empirical studies, the fifth hypothesis is:

H5: the business environment can significantly moderate the influence of entrepreneurial characteristics on entrepreneurial behavior in selling online

The influence of intellectual agility on entrepreneurial behavior in selling online by moderating the business environment

Organizational agility anticipates or responds quickly to external changes. Intellectual agility is about creating an appropriate environment within the organization where staff can invest their efforts in formulating responses to organizational challenges through modifying existing structures and creating innovative strategies (Cegarra- Navarro & Martelo-Landroguez, 2020). Based on the results of previous research, intellectual agility influences entrepreneurial behavior in selling online El-Haddadeh, (2020). On the other hand, *innovative IT Capabilities* do not significantly affect *SMEs adopting cloud computing as innovative technology*. However, Al-Omouh, Simón-Moya, & Sendra-García (2020) stated that social capital is essential in achieving proactive e-business. Furthermore, Lai, et.,al. (2007) mentioned that Network Externalities significantly affect E-Business Adoption. Based on the results of theoretical studies and empirical studies, the sixth hypothesis is:

H6: The business environment can significantly moderate the influence of intellectual agility on entrepreneurial behavior in selling online

The influence of entrepreneurial characteristics on entrepreneurial behavior in selling online with intellectual agility mediation

Before entering the business world, successful entrepreneurs typically plan their plans more carefully than unsuccessful entrepreneurs. The plan is commonly referred to as the business plan; the components of the business plan consist of a business concept, financial assistance, and incidental information. Incidental information includes customer information, market information, etc longenecker, Moore and Petty (1994). It means that entrepreneurs who have strong characteristics will increase their intellectual agility because they will continue to seek information about customers, especially concerning customer patterns in shopping at this time, namely shopping using media. Online, so that business actors will adopt online media as a means to sell, which helps serve customers. The basis for including the intellectual agility variable is because of the inconsistency of research on the influence of entrepreneurial characteristics on entrepreneurial behavior in selling online (written in hypothesis 5), then there is an empirical study that states the influence of entrepreneurial characteristics on intellectual agility, according to Abu-Rumman, (2021) stating there is a significant effect of Transformational leadership on human capital

Moreover, the influence of intellectual agility on entrepreneurial behavior in selling online, according to Al-Omouh K. S, (2020), organizational agility has a significant effect on e-business entrepreneurship. Therefore, based on the results of theoretical studies and empirical studies, the objective hypothesis is:

H7. Intellectual agility can significantly mediate the influence of entrepreneurial characteristics on entrepreneurial behavior in selling online.

2. Method

The population in this article is all business actors who sell embroidery products in Pasuruan Regency, East Java. They have been selling their products online for at least two years and actively using online media as a means of selling, the number of which is not known with certainty. The sample in this article is 180, and the tool for analyzing the data uses WarpPLS 6.0. The respondents' identities are as follows: respondents by gender; there are 144 female and 36 male respondents. Based on education, nine respondents with elementary education, 21 with junior high school education, 109 with vocational/high school education, and 41 with undergraduate education. In addition, there were six respondents aged under 21 years, 64 respondents aged 21 to 30 years, 63 respondents aged 31 to 40 years, 32 respondents aged 41 to 50 years, and 15 respondents aged over 50 years.

3. Results

3.1. Convergent Validity and Discriminant Validity

TABLE 1: Average Variance Extracted.

Variable	AVE . value
Characteristics of Entrepreneurship (Kar.Kew)	0.508
Intellectual Agility (Int.Agl)	0.650
Business Environmental (Bus.Env)	0.688
Entrepreneurial Behavior in Selling Online (EBSO)	0.514
Bus.Env*Kar.Kew	0.553
Bus.Env*Int.Agl	0.519

Table 2 shows that the AVE value of the characteristic entrepreneurial variable is 0.508, the AVE Intellectual Agility value is 0.650, business environmental is 0.688,

entrepreneurial behavior in selling online is 0.514, Business environmental* Entrepreneurial characteristics is 0.553, and business environmental*Intellectual agility is 0.519. Therefore, of all the variables having an AVE value above 0.5, if the AVE (*Average Variance Extracted*) value is > 0.5, then it meets the convergent validity requirements Solimun, Fernandez & Nurjannah (2017). so it can be concluded that all the variables of this study meet the requirements of convergent validity.

3.2. Discriminant validity

The method to see the discriminant validity of all indicators together (questionnaire) can be seen by comparing the value of the *square root of average variance extracted* (AVEs) of each latent variable with a correlation between the relevant latent variables and other latent variables if the AVEs of the variable concerned is more significant than other latent variables, then the discriminant validity is fulfilled Solimun, Fernandes, & Nurjannah (2017).

TABLE 2: AVEs.

Variable	Kar.Kew	Int.Agl	Bus.Env	EBSO	Bus.Env*Kar.Kew	Bus.Env*Int.Agl
Kar.Kew	0.712	0.277	0.177	0.580	-0.183	-0.132
int.agl	0.263	0.807	0.113	0.348	-0.099	0.065
Bus.Env	0.177	0.113	0.829	0.242	0.184	0.471
EBSO	0.580	0.348	0.242	0.717	-0.033	-0.101
Bus.Env*Kar.Kew	-0.183	-0.099	0.184	-0.033	0.744	0.544
Bus.Env*Int.Agl	-0.132	0.065	0.471	-0.101	0.544	0.721

Based on the AVEs table, the AVEs value for the correlation of the Entrepreneurial Characteristics variable is 0.712; the AVEs value is Intellectual Agility correlation 0.807, the AVEs value for Business environment correlation is 0.829, the AVEs value for Entrepreneurial Behavior in Selling Online is 0.717, the AVEs value is Bus.Env*Kar.Kew correlation 0.744, and Bus.Env*Int.Agl Correlation ACEs value is 0.721. The overall value of the AVEs of the same kind of correlation has a value of AVEs that is greater than the other latent variables, if the *average variance value extracted* (AVEs) in question is greater than the other latent variables, then the discriminant validity is fulfilled Solimun, Fernandes, & Nurjannah (2017) then the *discriminant validity* of all variables in this study is fulfilled. So based on table 3, all the variables of this study meet the requirements of discriminant validity.

3.3. Composite reliability and Alpha Cronbach

a questionnaire is said to have good composite reliability if the composite reliability value is > 0.70, and if the Cronbach Alpha value exceeds 0.60, then the question in the reliable variable

TABLE 3: Composite reliability and Cronbach's alpha.

Variable	Kar.Kew	Int.Agl	Bus.Env	EBSO	Bus.Env*Kar.Kew	Bus.Env*Int.Agl
Composite reliability	0.951	0.937	0.946	0.937	0.995	0.986
Cronbach's alpha	0.946	0.923	0.935	0.927	0.995	0.985

Based on table 4, it is known that the *composite reliability value* of entrepreneurial characteristics is 0.951, Intellectual Agility is 0.937, Business Environment is 0.946, Entrepreneurial behavior in selling online is 0.937, Bus.Env*Kar.Kew 0.995 and Bus.Env*Int.Agl 0.986 . All variables have a composite variable value above 0.70 (> 0.70). And the Cronbach alpha value for entrepreneurial characteristics is 0.946, Intellectual Agility is 0.923, Business Environment is 0.935, Entrepreneurial behavior in selling online is 0.927, Bus.Env*Kar.Kew 0.995 and Bus.Env*Int.Agl 0.985 . All variables have a composite variable value above 0.60 (> 0.60). If a questionnaire has composite reliability >0.70, and Cronbach's Alpha value exceeds 0.60, then the questions in the research variables are reliable Solimun, Fernandes, & Nurjannah (2017) .

3.4. Hypothesis Test Results

The relationship between direct influence and moderation can also be seen in the following picture

Based on table 5 or Figure 1, it can be seen that the direct influence of entrepreneurial characteristics on entrepreneurial behavior in selling online has a value of 0.35 with a value <0.001, then hypothesis 1 is accepted, meaning that the characteristics have a significant effect on entrepreneurial behavior in selling online. The effect of entrepreneurial characteristics on intellectual agility has a value of 0.293 with a value <0.001, then hypothesis 2 is accepted, meaning that entrepreneurial characteristics have a significant effect on intellectual agility. The influence of intellectual agility on selling online has a value of 0.294 with a value < 0.001, then hypothesis 3 is accepted, meaning that intellectual agility significantly affects entrepreneurial behavior in selling online. Finally, the influence of the business environment on entrepreneurial behavior in selling online has a value of 0.225 with a value < 0.001, then hypothesis 4 is accepted, meaning

TABLE 4: Relationship between variables and Rsquare.

		p value	Information
Direct Influence:			
Entrepreneurial Characteristics of EBSO	0.35	< 0.001	H1 Accepted
entrepreneurial characteristics on intellectual agility	0.293	< 0.001	H2 Accepted
Intellectual agility against EBSO	0.294	< 0.001	H3 Accepted
Business Environment to EBSO	0.225	< 0.001	H4 Accepted
Moderation			
Bus.Env Moderates Entrepreneurial Characteristics of EBSO	-0.048	0.26	H5 Rejected
Bus.Env Moderates Intellectual Agility against EBSO	-0.017	0.411	H6 Rejected
Indirect Effects (Indirect):			
Int.Agil Mediates the effect of entrepreneurial characteristics on EBSO	0.086	0.049	H7 Accepted
Endogenous Variables:			
Entrepreneurial Behavior in Selling Online (EBSO)			0.528
Intellectual Agility			0.086

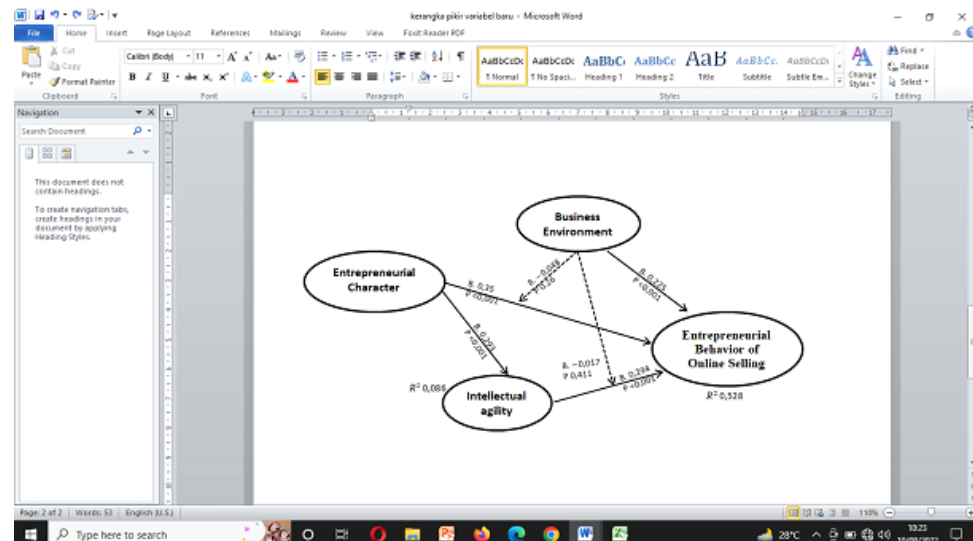


Figure 1: Direct influence and the moderating effect.

that the business environment significantly affects entrepreneurial behavior in selling online.

The results of the moderation test show the effect of entrepreneurial characteristics on entrepreneurial behavior in selling online, with the moderation of the business environment having a value of -0.048 with a value of 0.26. Therefore, hypothesis 5 is rejected, meaning that the business environment does not moderate the influence of

entrepreneurial characteristics on entrepreneurial behavior in selling online. Moreover, the influence of intellectual agility on entrepreneurial behavior in selling online with a moderated business environment has a value of -0.017 with a value of 0.411. Therefore, hypothesis 6 is rejected, meaning that the business environment does not moderate the influence of intellectual agility on entrepreneurial behavior in selling online.

The indirect effect of entrepreneurial characteristics on entrepreneurial behavior in selling online with intellectual agility mediation shows a value of 0.086 and 0.049 (< 0.05). Therefore, hypothesis 7 is accepted, meaning that intellectual agility partially mediates the effect of entrepreneurial characteristics on entrepreneurial behavior in selling online. When compared to the magnitude of the direct influence and the indirect effect of the influence of entrepreneurial characteristics on entrepreneurial behavior in selling online, the direct influence has a more significant influence than the indirect influence because the value of direct influence is greater than the indirect effect.

The R-squared value of the entrepreneurial behavior variable in selling online is 0.528, meaning that the influence of Entrepreneurial Characteristics, intellectual agility, and business environment on Entrepreneurial Behavior in selling online is 52.8%. The remaining 47.2% is influenced by factors other than these three variables. And the R-squared value of the intellectual agility variable is 0.086, meaning that the contribution of the influence of entrepreneurial characteristics on intellectual agility is 8.6%

4. Discussion and Implication

The results of hypothesis 1 show that the characteristics of entrepreneurial behavior in selling online have a positive and significant influence; the results of this study confirm the research conducted. Raymond, Bergeron, Croteau, & St-Pierre (2015) stated that entrepreneurial orientation significantly affects capabilities **Invalid source specified..** Locus of control and *Achievement orientation* significantly affect the success of using *e-commerce*. At the same time, the results of this study contradict the research Thong & Yap (1995). Sebor, Lee, & Sukasame (2009) stated that innovation and risk-taking have no significant effect on the adoption of information technology. Business actors with entrepreneurial characteristics will be ready for various changes and significant changes in online media as a medium for selling. Based on interviews with respondents, it shows that having a shop is not enough to sell. The existence of live facilities in several online media, such as Facebook, Tiktok, etc., creates opportunities to sell more products. It also increases relationships with consumers from various regions in Indonesia. Based on the identity data of respondents, it is known that the age of respondents under 40

years is 73.89%, meaning that embroidery business actors are still very adequate to learn to adopt online media as a means of selling online.

The results of hypothesis 2 showed that the influence of entrepreneurial characteristics on intellectual agility has a positive and significant effect. The results of this study follow the research by Bontis, Keow, & Richardson (2000). Human capital significantly affects intellectual capital Doz and Kosonen, Embedding (2010). Leadership unity significantly affects leadership unity and strategic agility Sari and Ahmad, (2022). Entrepreneurial leadership affects strategic havoc. Human capital is the heart of intellectual capital Bontis, (1998). Business actors with strong characteristics always try to change their way of thinking and will continue looking for new information related to their business. When changes occur that impact their business, business actors have ready with the solution to the problem.

The results of hypothesis 3 stated that intellectual agility has a positive and significant effect on entrepreneurial behavior in selling online. This study's results confirm that research was conducted Al-Omouh, (2021). Intellectual capital has a significant effect on E-Business Entrepreneurial Orientation (Al-Omouh, Simón-Moya and Sendra-García, (2020). Social capital has an essential role in achieving a proactive e-business. Business actors must do entrepreneurial behavior in selling because e-business has the potential to change the entire organization Zhu et al., (2006). Companies must assess their intellectual capital to adopt and use e-business successfully Gholamian, et al. (2010) because e-business will impact relationships with customers, suppliers, and other business partners Bordonaba-Juste, Lucia-Palacios and Polo-Redondo (2012). Business actors who have intellectual agility will quickly adopt entrepreneurial behavior in selling online because intellectual agility is based on innovation and solutions to business problems, and the existence of e-business helps organizations understand customer needs, can increase customer satisfaction, and able to react quickly to changes in the external environment, and able to increase delivery speed, reduce costs Bordonaba-Juste et., al. (2012)

Hypothesis 4 showed that the business environment significantly positively affects entrepreneurial behavior. The results of this study confirm that research was conducted by Oliveira & Martins (2010). Competitive pressure significantly affects business adoption Al-Qirim N (2007). Environment, competition, Buyer/Supplier pressure, and support from technology vendors significantly affect the adoption of e-Commerce Lai, J. Wang, et al., (2007). Network Externalities have a significant effect on E-Business Adoption. The growth of online media makes consumers of fashion products more accustomed to using online media as a facility to buy products. Thus, embroidery business actors

adopt an entrepreneurial approach to selling online to increase their market share. When almost all fashion business people have adopted online media as a medium for selling, embroidery business actors must also be able to adopt these changes quickly. According to Coltman, Devinney and Midgley (2007), companies that adopt e-business due to environmental pressures will improve their performance significantly. Every organization must follow competitors' decisions when operating in a highly competitive environment Gatignon and Robertson, (1989).

Moreover, according to Pavlou and El Sawy, (2010), using new technologies is more critical in a competitive environment, where products change rapidly, and competitors act unpredictably. Therefore, the adoption of e-business absolutely must be done.

Hypothesis 5 the business environment does not moderate the influence of entrepreneurial characteristics on entrepreneurial behavior in selling online; it even has a negative beta value which means that the business environment can weaken but not significantly influence the influence of entrepreneurial characteristics on EBSO if there is high disruption, market instability, high competition, and bad consumer attitudes. Changes, the entrepreneurial characteristics will not be able to / will even experience a decline to adopt EBSO; this can happen because the embroidery business is a business with small capital, the embroidery business is a fashion business which has very high industrial competition, besides that the Embroidery businesses with a majority of high school education background will make it challenging to adopt EBSO if the pressure from the business environment is very high.

Hypothesis 6 the business environment does not moderate the influence of intellectual agility on entrepreneurial behavior in selling online and has a negative beta value, meaning that the ability to change the way of thinking, the ability of embroidery business actors to find information and produce new solutions will not be able to adopt entrepreneurial behavior in selling online if pressure is placed on them. The business environment improves. Intellectual agility relates to creating an appropriate external environment within the organization. It is difficult for embroidery business actors to do; there are several reasons behind it; in addition to the education level of embroidery business actors, the majority of whom are high school and below, the results of interviews stated that many embroidery business actors had not utilized social media. Moreover, marketplaces in Indonesia mostly use WhatsApp to support their business; their habit of using various applications to support selling is very minimal; this is due to their limitations in learning it professionally because so far, they have used existing applications self-taught. After all, the more *e-commerce applications* are studied and

developed, the greater the need to adapt promotions online Gary, Munib and Shaoming, (2007).

Hypothesis 7 Intellectual agility can mediate the influence of entrepreneurial characteristics on entrepreneurial behavior in selling online; the higher the entrepreneurial characteristics possessed by embroidery business actors, the higher the ability to take fast, decisive, and effective action to anticipate and take advantage of change, so that it will be more effective. Also high for implementing entrepreneurial behavior in selling online. However, it has been confirmed research. In some cases, they lack the resources and skills to do so. This lack of skills applies in technical and business areas and makes the introduction of e-business and advantages in achieving competitive advantage largely unattainable by SMEs.

The results of this study contribute to science, especially the theory put forward that motivation is a condition that moves people towards a specific goal, meaning pressure from the business environment. They will affect the level of entrepreneurial adoption in selling online if the perpetrator possesses entrepreneurial characteristics and intellectual agility. If the business is not strong, then the effect is that the pressure of the business environment will weaken the level of entrepreneurial adoption to sell online.

For embroidery, business actors are expected to carry out entrepreneurial behavior in selling online through maximizing entrepreneurial characteristics and intellectual agility. Because research results show that the pressure of the business environment cannot strengthen the influence of characteristics and intellectual agility on entrepreneurial behavior in selling online, there are changes in the business environment. It comes so quickly; if business actors are not prepared for the pressure from environmental changes, they will have difficulty adopting e-business, considering that consumers' lifestyles in shopping have changed, from shopping offline to shopping. For that, it has become an absolute necessity for embroidery business actors to carry out entrepreneurial behavior in selling online; if this is not done correctly, it will result in difficulties in establishing relationships with consumers.

5. Research Conclusions and Limitations

The conclusion of the research based on direct influence mentions that the characteristics of entrepreneurship, intellectual agility, and the business environment significantly affect entrepreneurial behavior in selling online, and entrepreneurial characteristics have a significant effect on intellectual agility. Furthermore, the use of the business

environment as a mediating variable states that the business environment does not moderate the influence of entrepreneurial characteristics and intellectual agility on entrepreneurial behavior in selling online. Moreover, an indirect relationship shows that intellectual agility can partially mediate the effect of entrepreneurial characteristics on entrepreneurial behavior in selling online.

The limitations of this study are: This study only focuses on embroidery business actors in Pasuruan Regency, of the 24 sub-districts in Pasuruan Regency, only fifteen sub-districts are respondents in this study, and further research is only conducted on business actors who sell embroidery products, but in reality, there are many fashion products, so the generalization of the results is limited to the scope of the research object. For further research, they can use different research objects from what researchers have done and the forming variables of entrepreneurial behavior in other online selling.

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References

- [1] Abu-Rumman A. Transformational leadership and human capital within the disruptive business environment of academia. *World Journal on Educational Technology: Current Issues*. 2021;13:178–187.
- [2] Ahammad MF, Glaister KW, Gomes E. Strategic agility and human resource management. *Human Resource Management Review*. 2020;30:100700.
- [3] Akkaya B, Tabak A. The link between organizational agility and leadership: A research in science parks. *Academy of Strategic Management Journal*. 2020;19:1–17.
- [4] Al-Gahtani S. The applicability of TAM outside North America: An empirical test in the United Kingdom. *Information Resources Management Journal (IRMJ)*. 2001;14:37–46.
- [5] Alma B. *Kewirausahaan, Edisi Revisi, Cetakan Ke-21*. Bandung: Alfabeta; 2016.
- [6] Almunawar MN, Auzzali A, Oseli NAH, Ariff WZAMZ. E-commerce adoption among micro, small, and medium enterprises in Brunei Darussalam. *International Journal of E-Business Research (IJEER)*. 2022;18:1–8.

- [7] AlNuaimi BK, Singh SK, Ren S, Budhwar P, Vorobyev D. Mastering digital transformation: The nexus between leadership, agility, and digital strategy. *Journal of Business Research*. 2022;145:636–648.
- [8] Al-Omouh KS, Simón-Moya V, Sendra-García J. The impact of social capital and collaborative knowledge creation on e-business proactiveness and organizational agility in responding to the COVID-19 crisis. *Journal of Innovation & Knowledge*. 2020;5:279–288.
- [9] Al-Omouh KS. Understanding the impact of intellectual capital on E-business entrepreneurial orientation and competitive agility: an empirical study. *Information Systems Frontiers*. 2021;24:549–562.
- [10] Al-Omouh KS, Simón-Moya V, Sendra-García J. The impact of social capital and collaborative knowledge creation on e-business proactiveness and organizational agility in responding to the COVID-19 crisis. *Journal of Innovation & Knowledge*. 2020;5.
- [11] Alos-Simo L, Verdu-Jover AJ, Gomez-Gras JM. How transformational leadership facilitates e-business adoption. *Industrial Management & Data Systems*. 2017;117:382–397.
- [12] Al-Qirim N. The adoption of eCommerce communications and applications technologies in small businesses in New Zealand. *Electronic Commerce Research and Applications*. 2007;6:462–473.
- [13] Andzulis JM, Panagopoulos NG, Rapp A. A review of social media and implications for the sales process. *Journal of Personal Selling & Sales Management*. 2012;32:305–316.
- [14] Bontis N, Keow WC, Richardson S. Intellectual capital and business performance in Malaysian industries. *Journal of Intellectual Capital*. 2000;1:85–100.
- [15] Bordonaba Juste V, Lucia Palacios L, Polo Redondo Y. The influence of organizational factors on e-business use: Analysis of firm size. *Marketing Intelligence & Planning*. 2012;30.
- [16] Bueno E, Salmador MP, Rodriguez O, De Castro GM. Internal logic of intellectual capital: A biological approach. *Journal of Intellectual Capital*. 2006;7:394–405.
- [17] Chatzoglou P, Chatzoudes D. Factors affecting e-business adoption in SMEs: An empirical research. *Journal of Enterprise Information Management*. 2016;29:327–358.
- [18] Coltman TR, Devinney TM, Midgley DF. e-Business strategy and firm performance: a latent class assessment of the drivers and impediments to success. *Journal of Information Technology*. 2007;22:87–101.

- [19] Cricelli L, Grimaldi M. A dynamic view of knowledge and information: a stock and flow based methodology. *International Journal of Management and Decision Making*. 2008;9:686.
- [20] Dabić M, Simić SN, Potocan M, Slavković V, Nedelko M. Intellectual agility and innovation in micro and small businesses: The mediating role of entrepreneurial leadership. *Journal of Business Research*. 2021;123:683–695.
- [21] Doz YL, Kosonen M. Embedding strategic agility: A leadership agenda for accelerating business model renewal. *Long Range Planning*. 2010;43:370–382.
- [22] El-Haddadeh R. Digital innovation dynamics influence on organisational adoption: the case of cloud computing services. *Information Systems Frontiers*. Aug;22:985–999.
- [23] Gary G, Munib K, Shaoming Z. The effects of e-commerce drivers on export marketing strategy. *Journal of International Marketing*. 2007;15:30–57.
- [24] Gatignon H, Robertson TS. Technology diffusion: An empirical test of competitive effects. *Journal of Marketing*. 1989;53:35–49.
- [25] Gholamian MR, Akhavan P, Mohammadipour F, Namvar M. Prioritization structural capital indicators in Iranian e-business; 2010 Nov 24–27; Ankara, Turkey. *Management International Conference (MIC2010)*; 2010. p. 297–309.
- [26] Khalique M, Isa AHM, Bin Shaari JAN, Hassan MKH. Constructing an index of entrepreneurial competencies and intellectual capital for ICT SMEs in Malaysia; 2014 Aug 20–21; Kuching, Sarawak, Malaysia. *The 6th International Borneo Business Conference*; 2014.
- [27] Lai F, Wang J, Hsieh CT, Chen JCV. On network externalities, e-business adoption and information asymmetry. *Industrial Management & Data Systems*. 2007;5:728–746.
- [28] Lambing P, Kuehl CR. *Entrepreneurship*. New Jersey, USA: Prentice Hall Inc.; 2000.
- [29] Ling YH, Jaw BS. Entrepreneurial leadership, human capital management, and global competitiveness: An empirical study of Taiwanese MNCs. *Journal of Chinese Human Resources Management*. 2011;2:117–135.
- [30] Longenecker JG, Moore CW, Petty JW. *Small business management, an entrepreneurial emphasis*. Cincinnati: South Western Publishing Company; 1994.
- [31] McGuckin F. *Ide-ide besar untuk mengembangkan usaha kecil anda*. Jakarta: Abdi TanduR; 2006.

- [32] Namvar M, Khalilzadeh P. Exploring the role of intellectual capital in the development of e-business models: Evidence from the Iranian carpet industry. *International Journal of Commerce and Management*. 2013;23:97–112.
- [33] Nusron A. Faktor-faktor Yang Mempengaruhi Jiwa Kewirausahaan. *e-Jurnal Kewirausahaan*. 2017;3.
- [34] Oliveira T, Martins MF. Understanding e-business adoption across industries in European countries. *Industrial Management & Data Systems*. 2010;110:1337–1354.
- [35] Parker CM, Castleman T. Small firm e-business adoption: a critical analysis of theory. *Journal of Enterprise Information Management*. 2009;22:167–182.
- [36] Pavlou PA, El Sawy OA. The “third hand”: IT-enabled competitive advantage in turbulence through improvisational capabilities. *Information Systems Research*. 2010;21:443–471.
- [37] Pickernell D, Jones P, Packham G, Thomas B, White G, Willis R. E-commerce trading activity and the SME sector: An FSB perspective. *Journal of Small Business and Enterprise Development*. 2013;20:866–888.
- [38] Raymond L, Bergeron F, Croteau AM, St-Pierre J. Entrepreneurial orientation and e-business capabilities of manufacturing SMEs: an absorptive capacity lens. 48th Hawaii International Conference on System Sciences. 2015:3740–3749.
- [39] Sari SA, Ahmad NH. Connecting the dots: Linking entrepreneurial leadership and strategic agility towards SME competitiveness. *Vision*. 2022.
- [40] Singh S, Pathak RD, Shee H, Kazmi A, Parker D. Interplay between entrepreneurial characteristics, organisational structure, corporate culture and SME performance: Empirical results from Fiji Islands. *International Journal of Entrepreneurship and Small Business*. 2013;18:229–246.
- [41] Thong JY, Yap CS. CEO characteristics, organizational characteristics and information technology adoption in small businesses. *Omega*. 1995;23:429–442.
- [42] Turban E, King D, Lee J, Viehland D. *Electronic Commerce: A managerial perspective*. New York: Pearson Education; 2004.
- [43] Ustüner T, Godes D. Better sales networks. *Harvard Business Review*. 2006;84:102–112.
- [44] Winardi J. *Entrepreneur dan entrepreneurship, Cetakan ke-5*. Jakarta: Kencana; 2017.
- [45] Zhu K, Kraemer KL, Xu S. The process of innovation assimilation by firms in different countries: a technology diffusion perspective on e-business. *Management Science*. 2006;52:1557–1576.