



## **Factors Explaining the Performance of Entrepreneurs in the Industry 4.0: A Theoretical Approach**

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### **Abstract**

This research aims to develop prepositions about entrepreneur performance in small and medium enterprises (SMEs) in the Industry 4.0 through a theoretical study approach. This paper elaborates several findings from previous studies as references and explores the grounded theory of human resource development. A qualitative research method with literature studies was conducted to obtain research reference models in explaining the factors influencing the performance of entrepreneurs in the SMEs industry. This study also provides support for the development of factors in measuring performance and the variables that affect employers' performance. This study suggests that work skills, digital literacy, and economic literacy are the crucial reference in the development of small and medium enterprises in the fourth industrial era. Small and medium enterprises training is a national program to improve welfare because it is an indicator of economic growth. However, there are very few performance evaluations and ongoing development programs.

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### **Abstrak**

*Penelitian ini bertujuan untuk mengembangkan preposisi tentang kinerja pengusaha pada usaha kecil menengah (UKM) di era Industri 4.0 melalui suatu pendekatan kajian teoritis. Studi ini mengelaborasi beberapa temuan dari para peneliti terdahulu sebagai rujukan dan mengeksplorasi grounded theory pengembangan sumber daya manusia. Metode penelitian kualitatif dengan study literatur dilakukan untuk memperoleh model rujukan penelitian dalam menjelaskan faktor-faktor yang mempengaruhi kinerja pengusaha pada industri UKM. Kajian ini sekaligus memberikan usulan pengembangan faktor - faktor dalam pengukuran kinerja, dan variabel yang mempengaruhi kinerja pengusaha. Hasil kajian memberikan rekomendasi bahwa keterampilan kerja, literasi digital dan literasi ekonomi sebagai rujukan dalam pengembangan UKM di era Industri 4.0. Pelatihan UKM menjadi program nasional untuk meningkatkan kesejahteraan karena menjadi indikator pertumbuhan ekonomi. Tetapi sangat sedikit program evaluasi kinerja dan pengembangan secara berkelanjutan.*

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## INTRODUCTION

Small and medium enterprises are fast becoming a key instrument in a nation. The fundamental rationale is that small and medium enterprises can survive during the crisis and develop in the digital era that potentially shifts the shopping center into the online market. The small business sector needs to be managed continuously to be able to grow and be competitive (Siswanto, 2009). In the face of globalization, the sustainable development goals as agenda in 2030 declared to alleviate the need for poverty and hunger, promote gender equality and empower women and ensure environmental sustainability (Statistics Indonesia, 2016). In this relation, small and medium enterprises become centers of welfare and economic development studies (Jahangir, 2011; Prasanna et al., 2019).

Small and medium enterprises have relatively better resilience compared to larger-scale businesses (Sauser et al., 2018; Ayandibu & Houghton, 2017; Wishart, 2018). It has an essential role in promoting a greater gross domestic product in a country. Small and medium enterprises have a contribution to the country's foreign exchange with a fairly stable export value that enlarging job opportunities, income distribution, rural economic development, and increasing non-oil exports. When small and medium enterprises enhanced appropriately with a high level of creativity and innovation, it can address socio-economic issues in Indonesia (Hadiyati, 2010). Additionally, increasing community welfare through small businesses is one of the main components of local economic development and potentially increasing the bargaining position (Vandenberg et al., 2016).

Digital literacy can shape the mindset, attitudes, and behaviors of being an entrepreneur so that it directs individuals to choose entrepreneurship as a career choice (Budi et al., 2012). David McClelland (Ciputra, 2009) remarked that a country needs to have at least two percent entrepreneurs of the population to be a developed nation (Kasih, 2013). The reason behind this matter is that it needs the ability to handle businesses, efforts to find, create, implement work methods, technology, and new products by increasing efficiency to provide better services to obtain higher profits (Wiratno, 2012).

The business actor of small and medium enterprises requires proper knowledge and economic literacy. The mastery of sufficient economic and financial knowledge makes it easier to manage finances and business, including how to invest techniques (Rubens, 2002; Jindrichovska, 2014). Digital literacy is the ability to know, operate, and develop digital-based electronic media that dramatically affects the entrepreneurs' performance. For instance, Android is a sophisticated small computer in hand that provides facilities for marketing through social media. It also proposes news of raw materials, forming groups, and seeing trends in the model of goods and services of consumer tastes. Entrepreneurs who do not follow digital business will be left behind. Some entrepreneurs even sell products online according to consumer tastes by bringing in from outside the region to provide products based on customer tastes.

Form the business scale, small and medium enterprises are a form of business with about 1 to 19 employees, while medium-sized businesses have employees of approximately 20 to 99 people. The Indonesian worker's statistics show that about 99.5 percent of the Indonesian workforce works in small and medium enterprises (Kurniawan et al., 2015). Three reasons are underlying developing countries consider the importance of the existence of micro and small businesses (Ling, 2013). The first reason is micro and small business entrepreneurs' performance tends to be better in providing a productive workforce. Second, as part of its dynamics, micro and small businesses achieve increased productivity through investment and technological change. Third, it is believed that micro and small businesses have advantages in terms of flexibility compared to large businesses.

In its development, small and medium enterprises have experienced some obstacles, but it has proven can survive the crisis. This is an important study of the development of small and medium enterprises and performance of entrepreneurs (Ali, 2003). Various theories and research were developed to predict the main factors in the development of small and medium enterprises. The entrepreneur's performance is identical to capital due to a substantial investment that will acquire high profits. This is still being debated in small and medium enterprises because capital is not the main thing. However, various factors need to be studied as an aspect of developing the

performance of small and medium enterprises as entrepreneurs.

On the other hand, employee performance is a result of work achieved by a person or organization in carrying out the tasks assigned (Rahayu, 2017). This includes skill, experience, sincerity, and time. Additionally, Sosial et al. (2015) pointed out that employee performance is linked with the quality and quantity of achievements regarding their duties and responsibilities. Meanwhile, Widyastuti and Rahardja (2018) stated the entrepreneur's performance as the overall success rate of a person during a certain period based on the work results, targets, or criteria specified. Furthermore, Kaplan and Norton (2005); Hudson et al. (2001) remarked that the measurement of an entrepreneur's performance is illustrated by the statement, "The company can properly anticipate the amount of production if demand increased". This indicates that the entrepreneur's performance is acquaintance with production capacity on demand. Small and medium enterprises should create sufficient production and anticipate future demand. This is an economic and financial literacy study for small and medium enterprises.

Zaenal (2012) presented a performance measurement of small and medium enterprises using four dimensions: profit growth, growth in the number of customers, growth in sales, and growth in the number of assets. To measure the performance of the entrepreneur should involve a balanced scorecard. It is a tool to measure the performance of a business's overall financial and non-financial by using four perspectives: financial perspective, customer perspective, internal business perspective, and growth and learning perspectives. The balanced scorecard is not only stated in financial terms, but also in terms of the size in which the company creates value for current and future customers.

Srimindarti (2004) mentioned that company entrepreneurs' performance is an achievement of the company's operational activities in managing resources. Employee performance as a measure of achievement in work performance includes productivity efforts in achieving the targets and goals set. In addition, Riyanti (2003) stated that indicators of measurement of entrepreneurial performance, including business profits obtained, the performance of administrative entrepreneurs, the performance of operating entrepreneurs, and the performance of strategic entrepreneurs, and productivity, changes in staffing levels, and financial ratios. Indeed, Rante (2010) remarked that the indicators used in measuring micro and small business entrepreneurs' performance are increasing production, developing business units, increasing the number of sales, and profits.

Richard Castillon historically introduced small and medium enterprises from the perspective of entrepreneurship in 1755. Some entrepreneurial terms have been provided, such as in the Netherlands, are known as *ondernemer*, in Germany, are known as *Unternehmen*. Peter Drucker defined entrepreneurship as the ability to create something new and different (Entrepreneurship & Entrepreneurship, 1980). This requires work skills. They were starting with the innovation that is triggered by personal and environmental factors. Personal factors include education, experience, commitment, and vision, the courage to take risks, and age, while environmental factors cover sociology, organization, family, opportunities, competitors, investors, and government policies.

Small and medium enterprises play an important role in economic growth (Fitriati & Hermiati, 2011), and act as economic engines (Raposo & do Paço, 2011). Small and medium enterprises contribute to innovation, productivity (Ambad & Damit, 2016; Heinonen & Poikkijoki, 2006), job creation (Ambad & Damit, 2016; Fitriati & Hermiati, 2011), and economic growth (Ambad & Damit, 2016; Fitriati & Hermiati, 2011; Van Gelderen et al., 2008). Skills are creative and innovative abilities used as a basis, and resources to seeking out for opportunities to succeed (Suryana, 2006), dare to take economic risks in creating new organizations and using new technology to provide value for others (Wahyuni, 2008). Work skills become an important part of developing human resources in the field of small and medium enterprises. As an innovator, it was instrumental in creating new products, new ideas, and new business organizations (Heinonen & Poikkijoki, 2006).

Employers' work skills are in acquaintance with innovation and creativity (Hasni, 2018). Skill, attitude, and market information search are factors that contribute to the company's success. With hard skills and soft skills, it can make entrepreneurs continue to contribute to building a country with an economy. Gibb in Fitriati and Hermiati (2010) state, the process of

entrepreneurship includes behavior, skills, and attributes belonging to a person. Skills that must be possessed include conceptual skills in managing strategies and calculating risk, creative skills in creating added value, skills in leading and managing, communication and interacting skills, business technical skills that they will do (Lubis, 2018). Work skills related to the ability to change something into something better by implementing management functions properly (Handriani, 2011).

Indicators of entrepreneurial work skills include: first, conceptual skills in managing strategy and calculating risk. This concerns the ability to carry out managerial functions and interpret information from various sources of information. Second, creative skills in creating added value. It is a skill in the field of technology and innovation in the effort to create added value. Third, skills in leading and managing. This relates to the ability to lead an organization and manage existing resources. Fourth, communication and interaction skills. It is a skill to establish relationships with many people because entrepreneurship is not possible to stand alone without the cooperation with others. Lastly, business technical skills to be carried out. Namely, the skills regarding special abilities possessed also implement them in matters relating to the business being run (Dharmawati, 2016). A good financial knowledge and understanding are needed in managing and leading an organization (Hartono et al., 2019).

Chang and Rieple (2013) argued that there are four dimensions of entrepreneurial skills as entrepreneurs, namely: first, technical skills. Several successful entrepreneurs have competence in managing operations, outside the basic production of products or services. It also includes the ability to manage supply chains and have knowledge about new technologies. Second, management skills. These skills include planning and organizing, identifying customers and distribution channels, managing resources, and understanding in the right place and control system structure. Additionally, it includes high-level skills, such as finding problem-solving, the ability to build core abilities, and the ability to deal effectively with employees. Third, entrepreneurship skills. It covers business planning, being sensitive to opportunities, analyzing the business environment, and accessing external expertise. Fourth, personal maturity skills. These skills include self-awareness, the ability to reflect on what is happening, recognizing and correcting weaknesses, problem-solving, and producing solutions.

Furthermore, economic literacy is essential for entrepreneurs to know the condition of the country's economy with the existing socio-economic issues. Economic literacy can be obtained through formal education, non-formal education in social life, and the information received from various personal sources. Daily economic life forges entrepreneurship knowledge to be rational in optimizing the economy towards prosperity. Economic literacy consists of the mastery of economic concepts to applications including finance.

In contrast, financial literacy is defined as the level of knowledge, skills, and beliefs of the community regarding financial institutions and their products and services, as outlined in parameters or index sizes. Based on the Financial Services Authority (2016), the level of financial literacy is divided into four parts, namely literate, sufficient literate, less literate, and not literate. In Indonesia, only about 29.66 population is declared as well literate, while, approximately 67.82 percent of the population counted in the financial inclusive index.

Saptono (2018) states that financial literacy greatly influences how students have entrepreneurial skills. This indicates that if financial literacy is developed in higher education, it will provide adequate literacy provisions as an entrepreneur's provisions. According to Wood and Doyle (2002), the factors that influence company employees' economic literacy, namely: the average economic literacy of employees is sufficient, employee education level has a positive effect on economic literacy and employees who have an economic background have better economic literacy. Financial literacy is much-needed knowledge in current policy debates given that this knowledge involves an understanding of debt, investment, and spending patterns (Mitchell & Lusardi, 2015). The lack of financial literacy tend to spend more on transactions, greater debt, and receive high-interest rates on loans. (Lusardi & Tufano, 2015). Meanwhile, economic literacy is a basic understanding of economic theories, concepts, and applications (Solihat & Arnasik, 2018).



Yıldırım, G. & Öztürk (Dilek et al., 2018) defined that economic literacy is the individual ability to identify economic problems, alternatives, costs, and benefits. It also understands in analyzing the incentives at work in economic situations. Additionally, economic literacy examines the consequences of changes in economic conditions and public policies (Kharizmi, 2015). According to Pandey and Bhattacharya (2012); Nuraeni (2015), economic literacy is the ability to use economic concepts to make decisions about income, savings, expenditure, and allocate money in improving welfare. In this study, economic literacy for small and medium industry entrepreneurs is measured by the ability to analyze changes in demand for goods, the role of entrepreneurs, government policies on pricing, the use of limited resources, the costs and benefits of economic transactions, inflation, and industrial development.

The development of technology and information has led to the world of digital literacy. The principle of digital literacy is that it makes easier for readers to access information. The utilization of e-commerce by small and medium enterprises is part of digital literacy. Constraints for small and medium enterprises to use e-commerce include, the lack of understanding of technical information technology, the cost of internet access, complaints from buyers because the goods are not by the original (Prabandari & Azzuhri, 2011).

Technology is very crucial in the context of business development in increasing quality and quantity. With the advancement of technology, the work runs more efficiently to reduce costs and improve product quality. Unfortunately, Jogiyanto (2009) remarked that small and medium enterprises do not widely adopt the technology. It is still on the surface, such as a transactional processing tool, even though it provides carrying capacity in business (Rahmana, 2009). Information and communication technology is also experiencing extraordinary developments in the growth and management of businesses, small and medium enterprises. Research also shows that technology has a significant influence on the development of small and medium enterprises (UNCTAD, 2002)

Technology can also enhance corporate entrepreneurship, with indications of organizational innovation, self-renewal, new business discovery, and responsiveness (Alvarez & Barney, 2007). With technology, actor's small and medium businesses can increase the level of accuracy in innovation, which can increase the company's added value. Based on the pros and cons considerations in the use of technology in small and medium enterprises, the authors consider the aspects of Task Technology Fit (TTF) or the compatibility of technological tasks in business management in the sector small and medium enterprises (Purnomo, 2011). Small and medium enterprises are still limited in the use of information technology in managing their businesses (Lubis & Junaidi, 2016). It becomes a primary requirement for the development of small and medium Usha (Oviliani, 2000).

Digital literacy will create the fabric of society with creative mindsets and perspectives. They will not be easily consumed by provocative issues, victims of information, or victims of digital-based fraud. Thus, the social and cultural life of people tend to be safe and conducive. Building a culture of digital literacy needs to involve the active role of the community together. The success of building digital literacy is one indicator of achievement in the fields of education and culture.

Research on the performance of small and medium enterprises with the variable entrepreneurial skills as an intervening variable does not exist yet. Today's entrepreneurial skills are important to study as an intervention variable because prospective young entrepreneurs can follow training and development, on the other hand many new young entrepreneurs are looking for work without special training assistance. The digital age makes information very quickly learned by entrepreneurs. Then, entrepreneurial learning is much obtained from digital media. From digital models to digital literacy, economic literacy, and entrepreneurial skills as predictors in improving entrepreneurs' performance in small and medium enterprises.

## METHOD

This study applied a qualitative method that aims to provide a preposition research proposal on the entrepreneurs' performance. This study conceptualizes entrepreneurs' performance as the behavior and development of the theory of human resources management. Data collection techniques in this study undergoing a literature survey which gathered from the research library. The technique taken in this study follows Bordens and Abbot (2005), which pointed out that a literature survey is a process of placing, obtaining, reading, and evaluating research literature. Employee skills tend to be widely studied, but employers' skills and behavior in the fourth industrial era are still limited to literature relating to digital literacy and economic literacy. This paper elaborates some of the findings of researchers' previous reference findings and explores with the grounded theory the development of human resources and the factors that influence them directly or indirectly. The following section explains the relationship between each variable in explaining the performance of entrepreneurs in the fourth industrial era.

## RESULTS AND DISCUSSION

### The Impact of Digital Literacy on Work

A person's skills can be honed and developed. The ability to manage and develop businesses for small and medium enterprises is very crucial and always developing. It indicates that skills require new knowledge that enhances and follows new innovation. In educational studies, the ability to read and enlarge experiences can be seen in the form of knowledge, skills, and attitudes. This becomes the rationality that to develop its business, entrepreneurs need to have good knowledge. Decision-making theory states that to make decisions (Turpin, 2004).

*"It needs to be acknowledged that tools, such as the MS Office suite, are more readily available and understood than most analytical decision support tools. If a manager is given a spreadsheet to experiment with, the chances might be better that it will be used"*

The findings obtained by Silvana (2017) indicated that digital literacy has a positive impact on knowledge, understanding, and skills, which are often used as sources of information by the public, especially among young people. The ability of someone is dealing with digital media in accessing, understanding content, disseminating, making, and even updating digital media for decision making in his or her life, if using digital media for productive activities, pleasure and self-development not for consumptive or destructive actions (Herlina, 2014). This indicates that digital literacy as knowledge of computers and other media is related to decision-making skills, analyzing media news, knowing new content, developing it to give birth to creativity and innovation. The skills to produce innovation and creativity are obtained through the right digital media. Right to access, right to choose, right to take and develop according to the objectives of small and medium enterprises.

*Proposition 1: There is a positive impact of digital literacy on employers' work skills in small and medium enterprises.*

### The Impact of Digital Literacy on the Performance of Entrepreneurs

A good performance is important for entrepreneurs, which determine the success and failure of their business continuity. One source of knowledge from the performance of entrepreneurs is obtained through digital-based social media. Internet, computers, android are digital media that are already familiar to entrepreneurs who are used in their operations. In productivity, performance and innovation are the main sources of change, because creativity and innovation will provide value-added. It includes the ability to access and use the information that will increase knowledge, even practical applications in their efforts as human capital (provision of education and knowledge of human resources), income (a tool to calculate profits and business prospects), and be able to change the future (create innovations based on digital media data, designing, making models, making products) in small and medium enterprises.

Digital literacy determines work behavior, Widyastuti et al. (2016) in "Digital Literacy in Productive Business Women in Yogyakarta Special Region" found that:

*“Based on the results, this research recommends that digital literacy played an important role to sustain women’s activities. The process of adoption of innovative technologies enhances women’s capability to improve small and medium enterprises activities. Also, internet access enhances women’s economic sustainability”.*

Literacy also determines the behavior of entrepreneurs, Salsabila (2017) in her research “The Effect of Economic Literacy and Digital Literacy on Entrepreneurial Behavior of the Registered Culinary Sector in Go Food Applications in Makassar City’s Fresh Market with the finding “a positive and significant relationship between Economic Literacy variables and Digital Literacy on entrepreneurial behavior”.

In the theory of performance (TOP), Elger (1962) states:

*“Current level of performance depends holistically on six components: context, level of knowledge, levels of skills, level of identity, personal factors, and fixed factors. Three axioms are proposed for effective performance improvements. These involve a performer’s mindset, immersion in an enriching environment, and engagement in reflective practice” (Elger, 1962).*

A variety of knowledge above can be obtained through good digital literacy, so it raises good performance.

*Proposition 2: There is a positive impact of digital Literacy on the performance of entrepreneurs in small and medium enterprises.*

### **The Impact of Economic Literacy on Work Skills**

Skills are the ability to develop business is strongly influenced by literacy. An individual’s knowledge from reading, social media, experiences with entrepreneurs becomes part of the literacy that brings the experience and skills (Kasendah & Wijayangka, 2019). Indeed, Rahmawati (2018) also said that the influence of financial literacy, the use of accounting information and human resources on the performance of entrepreneurs: a case study of small and medium-sized batik in Pekalongan district was very influential and significant. The theory that underlies this skill is the same as the theory of knowledge above that knowledge or literacy will shape one’s skills.

*Proposition 3: There is a positive impact of Economic Literacy on Employers’ Work Skills in Small and Medium Enterprises.*

### **The Impact of Economic Literacy on the Performance of Small and Medium Business Entrepreneurs**

Economic literacy is crucial for the success of an entrepreneur. Analysis of opportunities and investments, resource use and priority scale in the allocation, analysis of customers and expansion of production, demand trends, and available resources are very influential on the performance of entrepreneurs Small and Medium Enterprises. Previous research found that literacy influences the performance of entrepreneurs (Kasendah & Wijayangka, 2019; Meutia, 2016; (Salsabila, 2017) with significant influence.

*Proposition 4: There is a positive impact of Economic Literacy on the Performance of Entrepreneurs in Small and Medium Enterprises.*

### **The Impact of Work Skills on the Performance of Small and Medium Enterprises Entrepreneurs**

The performance of entrepreneurs is linked to their skills. Wahyuningsih et al. (2016) examined skills based on competencies owned by entrepreneurs for the development of the performance of micro batik small business entrepreneurs in the region of the city of Jambi. A variety of skills need to be developed to provide good entrepreneurial performance for entrepreneurs. This is following the study of the influence of entrepreneurship competence on the Performance of entrepreneurs (Utami & Mulyaningsih, 2016), the influence of Motivation and Entrepreneurial Ability on the Performance of Street Vendors in Kraksaan City (Lorena, 2018), the effect of work skills on sustainable business growth in small industries in the city of Sukabumi (Muhyi, 2012), the effect of entrepreneurial skills on the performance of business entrepreneurs (Razati & Si, 2016)

who found that skills had a significant effect on the performance of entrepreneurs Small and Medium Enterprises.

*Proposition 5: There is a positive impact of Employment Skills on Employer Performance in Small and Medium Enterprises.*

Based on the literature review and theorist's discussion above, it is proposed that entrepreneurs' performance variables in the development of Small and Medium Enterprises at this time. The Equation model is,  $PE = f(DL, EC, WS\dots)$ , (PE = Performance of SMEs, DL= Digital Literacy, EC= Economic Literacy, WS= Work Skills). In this study, the variables that influence directly or indirectly and correlatively include digital literacy, economic literacy, and work skills. Figure (1) shows the relationship both directly and indirectly between each proposed construct, as follows:

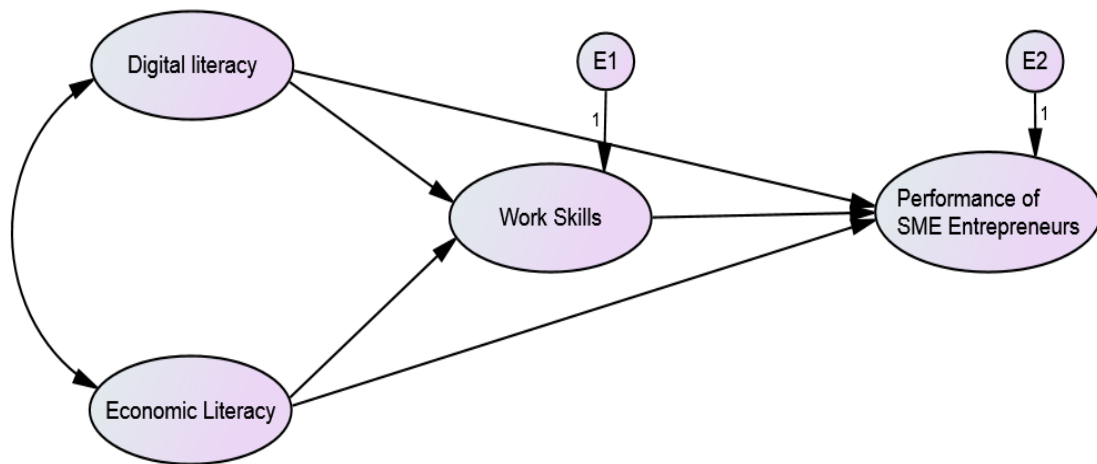


Figure 1: Relationship between Each Construct

## CONCLUSIONS AND SUGGESTION

Based on the results of studies in developing the performance of entrepreneurs above, the study of research on the performance of entrepreneur's small and medium enterprises in developing their business in the Industry 4.0 offers variables as a reference and analysis. Digital literacy variables, economic literacy, and work skills have a direct or indirect influence on the development of the performance of entrepreneur's small and medium enterprises. In the literature review of the fourth industrial era challenges, it was found that digital literacy has become a necessity in the industrial center development program, even the development of small and medium enterprises at the National level. Entrepreneurship education and training are needed to grow and develop digital business start-ups. Economic literacy as an entrepreneur's ability to take advantage of opportunities, resources, and various macro and micro economic analyzes needs to be assessed as the main competencies of entrepreneurs. Employers' skills are an important aspect of leadership and business management skills because without these two things they will become employee work skills. This research study offers a model proposition for the performance researchers of entrepreneurs Small and medium enterprises and policymakers in developing industry, regional and national centers.



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