

## The Influence of Digital Literacy, Creativity, and Tolerance for Ambiguity with Generation Z's Entrepreneurial Attitude with Growth Mindset as a Mediating Variable

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### ABSTRAK

Penelitian ini mengeksplorasi pengaruh literasi digital, kreativitas, dan toleransi terhadap ambiguitas terhadap sikap kewirausahaan Generasi Z, dengan pola pikir bertumbuh sebagai variabel mediasi. Generasi Z, sebagai penduduk asli digital, memiliki akses yang luas terhadap teknologi, namun sikap kewirausahaan di antara mereka masih belum merata. Berdasarkan teori sosio-kognitif dan pola pikir kewirausahaan, penelitian ini menggunakan pendekatan kuantitatif dengan menggunakan survei terstruktur dan pemodelan persamaan struktural kuadrat terkecil parsial (PLS-SEM) untuk menganalisis tanggapan dari 137 peserta Gen Z. Temuan penelitian ini mengungkapkan bahwa literasi digital secara signifikan memengaruhi pola pikir pertumbuhan, yang pada gilirannya sangat memengaruhi sikap kewirausahaan. Namun, literasi digital, kreativitas, dan toleransi ambiguitas tidak menunjukkan pengaruh signifikan secara langsung terhadap sikap kewirausahaan. Hanya pola pikir pertumbuhan yang memediasi hubungan antara literasi digital dan sikap kewirausahaan secara signifikan, yang menyoroti peran pentingnya. Wawasan ini menggarisbawahi pentingnya membina lingkungan belajar yang berorientasi pada pertumbuhan dan memperkuat kompetensi digital untuk mendorong perilaku kewirausahaan. Penelitian ini berkontribusi secara teoritis dengan memperluas peran mediasi pola pikir pertumbuhan dan menawarkan implikasi praktis untuk pendidikan kewirausahaan yang disesuaikan dengan Generasi Z di era digital.

**Keyword:** Literasi Digital; Kreativitas; Toleransi terhadap Ambiguitas; Pola Pikir Pertumbuhan; Sikap Kewirausahaan

### ABSTRACT

*This study explores the influence of digital literacy, creativity, and tolerance for ambiguity on the entrepreneurial attitude of Generation Z, with growth mindset as a mediating variable. Generation Z, as digital natives, possess extensive access to technology, yet entrepreneurial attitudes among them remain uneven. Drawing from socio-cognitive and entrepreneurial mindset theories, this research employs a quantitative approach using a structured survey and partial least squares structural equation modelling (PLS-SEM) to analyze responses from 137 Gen Z participants. The findings reveal that digital literacy significantly affects growth mindset, which in turn strongly influences entrepreneurial attitude. However, digital literacy, creativity, and ambiguity tolerance do not show direct significant effects on entrepreneurial attitude. Only the growth mindset mediates the relationship between digital literacy and entrepreneurial attitude significantly, highlighting its pivotal role. These insights underline the importance of fostering a growth-oriented learning environment and strengthening digital competence to encourage entrepreneurial behavior. The study contributes theoretically by expanding the mediating role of growth mindset and offers practical implications for entrepreneurship education tailored to Generation Z in the digital age.*

**Keyword:** Digital Literacy; Creativity; Tolerance for Ambiguity; Growth Mindset; Entrepreneurial Attitude

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## 1. INTRODUCTION

Generation Z, or Gen Z, is a group born between 1997 and 2012 and grew up in a digital era full of technological developments and rapid information flows. This condition gives them an advantage in accessing technology and shapes different patterns of interaction, learning, and working compared to previous generations. However, despite their easy access to technology, not all Gen Z individuals exhibit a strong entrepreneurial attitude. Entrepreneurial attitude itself includes orientation towards innovation, risk-taking, and proactivity in facing business challenges. Therefore, it is important to identify factors that can shape and strengthen entrepreneurial attitudes in this generation.

One of the main factors that play a role in shaping entrepreneurial attitudes in Generation Z is digital literacy. Digital literacy is not only limited to the basic ability to operate technological devices, but also includes a critical understanding of digital information circulating on various platforms and the ability to evaluate the validity and relevance of such information. In addition, digital literacy involves the productive use of technology, such as in seeking business opportunities, building business networks and conducting online marketing. Research conducted by Panjaitan et al. (2024) shows that a high level of digital literacy has a positive effect on Generation Z's work readiness, which is not only related to the mastery of technical aspects, but also reflects the ability to adapt, think critically, and make decisions in the face of dynamic situations. This good work readiness can be an early indicator of entrepreneurial potential, as individuals who are able to optimally utilise technology tend to more easily identify opportunities, formulate innovative solutions, and respond to the challenges of an increasingly competitive business world. Thus, the mastery of digital literacy is an important asset for Generation Z to be more adaptive and innovative in the technology-based entrepreneurship ecosystem, which needs to be developed systematically through relevant education and training.

In addition to digital literacy, creativity is also an important element in the development of an entrepreneurial attitude, as creativity enables individuals to generate new ideas and innovative solutions that are at the core of entrepreneurial activity. The ability to think creatively and see opportunities amidst challenges is a key asset for an individual in creating added value and competitive advantage in a dynamic business world. Through creativity, individuals can design unique business strategies, respond quickly to market changes, and present products or services that are different from competitors. However, research conducted by Haidt (2025) shows a challenge for Generation Z, where excessive use of social media can reduce their capacity for reflection and creativity. This has the potential to be an obstacle in building a resilient entrepreneurial attitude, as individuals who lack creativity tend to have difficulty in adapting and innovating to the dynamics of the business world. Therefore, creativity needs to be optimally managed and developed through education, training, and a supportive environment, in order to positively contribute to the formation of entrepreneurial attitudes in Generation Z.

Another important factor in the development of an entrepreneurial attitude is ambiguity tolerance, which is the ability of individuals to remain calm and effective in the face of uncertain, complex and often unclear situations without experiencing excessive stress. Individuals with high levels of ambiguity tolerance are generally more flexible in their thinking and actions, and more open to change and risk-characteristics that are indispensable in a dynamic and challenging business environment. This flexibility and openness allow businesses to adjust strategies, make decisions amidst uncertainty, and respond more adaptively to market dynamics. However, a study conducted by Allen (2024) revealed that Generation Z has a lower tolerance for ambiguity than previous generations, potentially limiting their ability to manage risk and deal with rapid changes in the entrepreneurial world. This finding highlights the urgency of the need for special efforts to increase tolerance for ambiguity among Generation Z, whether through educational interventions, training, or the establishment of an environment that supports the development of adaptive skills, so that they are able to strengthen their entrepreneurial attitude and compete effectively in an era of uncertainty.

In relation to digital literacy, creativity, and tolerance for ambiguity, growth mindset is seen as a mediating variable that can strengthen the relationship between these three factors and entrepreneurial attitudes in Generation Z. Growth mindset refers to the belief that abilities, intelligence and potential can continue to develop through effort, learning and experience, so individuals do not view talent or intelligence as static. Someone who has a growth mindset tends to be more open to challenges, does not give up easily when facing difficulties, and is able to see failure as an opportunity to learn and improve. This attitude is very relevant in the world of entrepreneurship, where the entrepreneurial process is often coloured by uncertainty, risk, and the need to continue to innovate. Research conducted by Lee & Jung (2021) strengthens the role of growth mindset as a mediator, by showing that growth mindset can mediate the relationship between intolerance to uncertainty and career adaptability. This indicates that individuals who have a growth mindset are better able to adapt and manage uncertainty, so they are better prepared to face challenges in the world of entrepreneurship. Thus, the development of a growth mindset is a crucial aspect that not only supports the strengthening of digital literacy,

creativity, and tolerance for ambiguity, but also directly contributes to the formation of a resilient and adaptive entrepreneurial attitude among Generation Z.

Although a number of studies have highlighted the importance of digital literacy, creativity and tolerance for ambiguity in shaping entrepreneurial attitudes in Generation Z, most previous studies tend to discuss the direct relationship between each of these factors and entrepreneurial attitudes without comprehensively considering the mediating role of growth mindset. In fact, in the context of a dynamic and uncertain business world, growth mindset is believed to be able to strengthen the influence of these three factors on the formation of adaptive and innovative entrepreneurial attitudes. In addition, research that specifically examines the interaction between digital literacy, creativity, tolerance for ambiguity, and growth mindset in shaping entrepreneurial attitudes in Generation Z in Indonesia is still very limited. Therefore, there is a need to conduct research that not only analyses the direct influence of the three main factors, but also explores in depth the mechanism of the mediating role of growth mindset, so that it can provide a more complete understanding and become the basis for developing effective entrepreneurship education strategies for Generation Z.

Thus, this study seeks to comprehensively analyse the influence of digital literacy, creativity, and tolerance for ambiguity on Generation Z's entrepreneurial attitude, with growth mindset as the mediating variable. The results of this study are expected to make a significant contribution to the development of more targeted entrepreneurship learning and training strategies for Generation Z.

## 2. LITERATURE REVIEW

### A. *Digital Literacy*

Digital literacy is an essential competency that includes an individual's ability to access, evaluate and utilise digital information effectively and responsibly. The definition of digital literacy has evolved along with the rapid advancement of information technology, emphasising not only the technical aspects of operating digital devices, but also the cognitive, social and ethical skills of interacting in cyberspace (Ng, 2012). In this context, individuals who have good digital literacy are able to manage and integrate various sources of information, communicate and collaborate digitally, create new content, maintain personal data security, and solve problems that arise in the digital environment. The framework developed by the European Commission (2019) confirms that digital literacy consists of several main dimensions, namely information and data literacy, digital communication and collaboration, digital content creation, digital security, and digital problem solving. These dimensions form an important foundation for holistic digital skills development.

In the current era of digital transformation, digital literacy has a strategic role in shaping entrepreneurial attitudes and interests, especially among Generation Z who grew up with digital technology. A study conducted by Ghobakhloo (2020) shows that mastery of digital technology not only opens up new opportunities for young people to innovate, but also encourages the creation of technology-based business models that are more adaptive to market changes. Generation Z with a high level of digital literacy tends to be more prepared and confident in utilising the opportunities offered by the digital economy, including in terms of creating, marketing and developing products or services online. A recent study by Nasri (2024) even found that digital literacy contributes significantly to digital entrepreneurship intention in Generation Z, with a positive effect of 68.7% on digital entrepreneurship intention. In addition, the integration of digital devices and the utilisation of social media are key factors that enable young entrepreneurs from Generation Z to expand their market reach and scale their businesses more efficiently (Hidayat, 2024). Thus, digital literacy serves not only as a tool in accessing information, but also as a key asset in developing entrepreneurial attitudes, intentions and behaviours in the digital era. Improving digital literacy among Generation Z is crucial to enable them to adapt, innovate and compete effectively in an increasingly digitised business ecosystem.

### B. *Creativity*

Creativity is one of the main characteristics that stand out in individuals with entrepreneurial potential, as this ability allows a person to generate new ideas that are original, useful and relevant in a particular context (Amabile, 1996). In psychological studies, creativity is not only seen as a natural talent, but also as a skill that can be developed through experience, practice and a supportive environment. Conceptually, creativity consists of several main dimensions, including fluency, which is the ability to generate many ideas quickly; flexibility, which is the ability to think from many different perspectives; elaboration, which is the ability to develop and detail existing ideas; and originality, which is the uniqueness and novelty of the ideas generated (Torrance, 1974). These dimensions are important indicators in assessing a person's level of creativity, especially in the context of entrepreneurship, which requires innovation and out-of-the-box thinking.

Research conducted by Zampetakis and Moustakis (2006) shows a positive correlation between creativity and entrepreneurial intentions and attitudes. Creative individuals tend to be able to see opportunities in the midst of limitations, and have a strong drive to create innovative solutions to various problems faced. In Generation Z, creativity often manifests in the form of digital content creation, initiative in developing new

products or services, and the courage to experiment with fresh and unique business ideas. This creativity not only enriches the innovation process, but is also an important asset in adapting to the changing business environment.

Furthermore, entrepreneurial creativity has been shown to increase self-efficacy and intellectual agility, two factors that are crucial in building entrepreneurial intentions among Generation Z (Gunawan & Ardyan, 2024). Self-efficacy gives individuals the confidence to realise their creative ideas, while intellectual agility allows individuals to quickly adjust strategies and approaches in the face of business challenges. Interestingly, Gunawan & Ardyan's (2024) research found that creativity does not directly influence entrepreneurial ambition, but rather the effect is mediated by self-efficacy and intellectual agility. This finding confirms that creativity development must be accompanied by efforts to increase self-efficacy and intellectual agility in order to have an optimal impact on the formation of entrepreneurial intentions and attitudes, especially among Generation Z who are required to be able to compete innovatively in the digital era.

### **C. Tolerance for Ambiguity**

Tolerance for ambiguity is an individual's ability to remain calm, adaptive, and open in the face of uncertain, ambiguous, or unclear situations, without easily experiencing excessive stress or anxiety (Budner, 1962). In the world of entrepreneurship, this ability is crucial as business activities are often characterised by risk, uncertainty, and rapid and unpredictable change. Individuals who have a high level of ambiguity tolerance tend to be able to accept uncertainty as part of the process, and are more flexible in responding to changes in the business environment. According to McLain (2009), tolerance for ambiguity can be seen from three main aspects, namely response to new ambiguous situations, reaction to information uncertainty, and flexibility in dealing with various interpretations of a condition. These three aspects are particularly relevant in the context of entrepreneurship, where decision-making is often done with limited information and under changing conditions.

Furthermore, Frese and Gielnik's (2014) research confirms that individuals with high ambiguity tolerance show a more positive attitude towards entrepreneurship as they are more prepared to face the risks and changes inherent in the business world. They are not only able to survive in situations full of uncertainty, but can also utilise ambiguity as an opportunity to innovate and create added value. Moreover, tolerance for ambiguity is also closely related to the socio-cognitive components of the entrepreneurial mindset, such as self-efficacy and risk-taking propensity, which significantly influence the level of innovation among young entrepreneurs, particularly Generation Z (Saeedikiya et al., 2023). Generation Z that is able to develop a tolerance for ambiguity will be better equipped to adapt, make strategic decisions, and respond effectively to market dynamics. Thus, increasing tolerance for ambiguity is one of the important aspects that needs to be considered in entrepreneurship education and training, so that young people have the mental and cognitive readiness to face challenges and opportunities in an era of uncertainty.

### **D. Growth Mindset**

Growth mindset is a concept introduced by Dweck (2006), who defines growth mindset as the belief that one's basic abilities can be continuously developed through effort, appropriate strategies, and learning from experience. Individuals with a growth mindset do not view failure as the end of the process, but rather as an opportunity to learn and improve. This positive attitude towards failure differentiates them from individuals with a fixed mindset, who tend to regard abilities as something static and unchangeable. In the context of entrepreneurship, a growth mindset is very important because the business world is full of challenges, uncertainties and risks that require mental resilience and a willingness to continue learning and adapting.

In the relationship between digital literacy, creativity, and tolerance for ambiguity with entrepreneurial attitudes, growth mindset acts as a psychological mediator that bridges the influence of these three factors on the development of entrepreneurial attitudes. Individuals with high digital literacy, strong creativity, and good tolerance for ambiguity will be more optimal in developing entrepreneurial attitudes when supported by a growth mindset. Growth mindset increases psychological resilience, readiness to try new things, and the ability to face and learn from challenges that arise in the entrepreneurial process. Research conducted by Lee and Jung (2021) strengthens the mediating role of growth mindset, finding that a growth mindset can mediate the relationship between uncertainty and career readiness, including career choice as an entrepreneur.

Furthermore, Gunawan and Ardyan (2024) asserted that a growth mindset is able to foster resilience and adaptability, two traits that are crucial for navigating uncertainty and dynamics in the entrepreneurial world. With a growth mindset, individuals are not only bolder to innovate, but also better prepared to deal with the pressures and challenges often faced by Generation Z, such as the pressure to continuously innovate and the risk of digital fatigue due to intensive exposure to technology. Therefore, the development of growth mindset needs to be integrated in entrepreneurship education and training, not only to improve technical and innovative skills, but also to maintain a balance between entrepreneurial success and mental well-being. Thus, a growth mindset becomes an important foundation in building a generation of young entrepreneurs who are resilient, adaptive and ready to compete in the digital era.

### **E. Entrepreneurial Attitude**

Entrepreneurial attitude is an individual's tendency to respond to and take advantage of business opportunities through an innovative, proactive approach and readiness to take risks (Lumpkin & Dess, 1996). This attitude is not formed instantly, but is the result of the interaction between internal factors, such as motivation, creativity, and self-confidence, with external factors, such as education, social environment, and technological advances. According to Hisrich et al. (2017), entrepreneurial attitude is generally measured through several main dimensions, namely innovativeness (the ability to create new ideas or products), proactiveness (initiative in taking action before competitors), risk-taking courage (willingness to face uncertainty in order to seize opportunities), and the desire for achievement (the drive to achieve goals and better results).

In the context of Generation Z, an entrepreneurial attitude becomes even more relevant given the distinctive characteristics of this generation that is adaptive to technology, capable of multitasking, and accustomed to the rapid and abundant flow of information. These advantages make Generation Z have great potential to develop a strong entrepreneurial attitude, especially if supported by adequate digital literacy, continuous creativity development, and strengthening of growth mindset. With digital literacy, Generation Z can easily access information, utilise technology for business development, and build global business networks. Honed creativity will encourage them to continue to innovate and find new solutions in the midst of dynamic competition, while a growth mindset will strengthen their mental resilience in facing challenges and failures.

Therefore, the development of entrepreneurial attitudes in Generation Z requires a holistic and integrated approach, which includes strengthening internal factors through character education and entrepreneurship training, as well as creating a conducive external environment through technological support, access to information, and social networks. These efforts are expected to shape a young generation that is not only ready to face business challenges in the digital era, but also able to contribute significantly to economic growth and new job creation in the future.

### **F. Previous Research and Research Gap**

There have been many studies on the relationship between digital literacy, creativity and entrepreneurial attitudes, both nationally and internationally, which show the importance of these three variables in shaping entrepreneurial behaviour, especially among the younger generation. The study by Mustain et al. (2023) empirically proved that digital literacy has a positive influence on job readiness and entrepreneurial interest in Generation Z. This finding confirms that mastery of digital technology has a positive impact on entrepreneurial behaviour, especially among young people. This finding confirms that mastery of digital technology not only improves individual adaptability to changes in the world of work, but also encourages interest in utilising digital-based business opportunities. Similar results were also revealed by Purmono (2023), who found that digital literacy contributes significantly to digital entrepreneurial intentions, especially among the younger generation who grow and develop in an environment that is heavily influenced by technological advances.

In addition to digital literacy, creativity is also an important variable that has been widely studied in relation to entrepreneurial behaviour. Research by Kumar and Shukla (2019) and Gunawan and Ardyana (2024) showed a strong positive correlation between creativity and entrepreneurial intentions and attitudes. Creativity is seen as a key ability that enables individuals to see opportunities in the midst of limitations, think innovatively, and create solutions that are relevant and adaptive to evolving market needs. Thus, both digital literacy and creativity together contribute significantly to shaping entrepreneurial attitudes in the younger generation, especially Generation Z, which has digital-native characteristics and tends to be more responsive to technological changes and market dynamics. These findings strengthen the theoretical basis that the development of digital literacy and creativity is an important strategy in efforts to foster an adaptive, innovative and competitive entrepreneurial spirit in the digital economy era.

In addition, tolerance for ambiguity has also been identified as one of the key factors in the formation of entrepreneurial attitudes, especially in a business environment full of uncertainty and rapid change. The findings of Frese & Gielnik (2014) and Sun et al. (2023) consistently show that individuals with a high level of ambiguity tolerance tend to be more prepared to face risks, able to adapt to market dynamics, and have a more positive attitude towards entrepreneurial activities. The ability to remain calm and open to uncertain situations allows them to make wiser and more innovative decisions, thus increasing the chances of success in running a business. However, most existing studies still examine the relationship between tolerance for ambiguity, digital literacy and creativity with entrepreneurial attitudes separately or partially. Not many studies have integrated the three variables into a comprehensive model that can provide a full understanding of the mechanism of entrepreneurial attitude formation, especially among Generation Z, which is known as digital-native. These limitations indicate an urgent need to conduct studies that can examine the interrelationships and

interactions of the three factors simultaneously, so as to produce findings that are more relevant and applicable in the development of entrepreneurship in the digital era.

On the other hand, the role of growth mindset as a mediating variable in the relationship between digital literacy, creativity, tolerance for ambiguity, and entrepreneurial attitude has rarely been the main focus of research, especially in Generation Z, known as the digital-native generation. Studies conducted by Lee & Jung (2021) have indeed shown that growth mindset can mediate the relationship between intolerance to uncertainty and career adaptability, suggesting that a growth mindset has an important role in improving an individual's ability to adapt amidst uncertainty. However, research that specifically examines the mediating role of growth mindset in the context of entrepreneurship, especially by involving the three main variables-digital literacy, creativity, and tolerance for ambiguity-simultaneously, is still very limited and has not been found in the academic literature. The limited research suggests a significant research gap, given that Generation Z faces increasingly complex entrepreneurial challenges in the digital era. Therefore, studies that integrate growth mindset as a mediator in the relationship between digital literacy, creativity, tolerance for ambiguity, and entrepreneurial attitudes are very relevant to be conducted, in order to provide a more comprehensive understanding of the mechanism of forming adaptive and innovative entrepreneurial attitudes in the younger generation in the era of digital transformation. Based on the information above, the following hypothesis is proposed:

- H1: Digital literacy has a positive and significant effect on entrepreneurial attitudes in Generation Z.
- H2: Creativity has a positive and significant effect on entrepreneurial attitudes in Generation Z.
- H3: Tolerance for ambiguity has a positive and significant effect on entrepreneurial attitudes in Generation Z.
- H4: Digital literacy has a positive and significant effect on growth mindset in Generation Z.
- H5: Creativity has a positive and significant effect on the growth mindset of Generation Z.
- H6: Tolerance for ambiguity has a positive and significant effect on the growth mindset of Generation Z.
- H7: Growth mindset has a positive and significant effect on entrepreneurial attitude in Generation Z.
- H8: Growth mindset mediates the effect of digital literacy on entrepreneurial attitudes in Generation Z.
- H9: Growth mindset mediates the effect of creativity on entrepreneurial attitudes in Generation Z.
- H10: Growth mindset mediates the effect tolerance for ambiguity on entrepreneurial attitudes in Generation Z.

### 3. RESEARCH METHOD

This study uses a quantitative approach with the aim of analysing the influence of digital literacy, creativity, and tolerance for ambiguity on Generation Z's entrepreneurial attitude, as well as the mediating role of growth mindset in the relationship. The research design used is an explanatory survey, where data is collected through distributing questionnaires to respondents who have met the research criteria.

The population in this study is Generation Z who are between 18 to 27 years old and have experience or interest in entrepreneurship. The research sample totalled 137 people, which was obtained through purposive sampling technique to ensure that the respondents truly represented the characteristics of Generation Z digital-natives relevant to the research objectives. The research instrument is a questionnaire consisting of several sections, namely demographic data, digital literacy measurement, creativity, tolerance for ambiguity, growth mindset, and entrepreneurial attitude. Each construct was measured using a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree".

Data analysis in this study was carried out using Partial Least Square (PLS)-based structural equation modelling (SEM), with the help of the latest version of the SmartPLS application. SEM-PLS was chosen as the main analysis method because it has a number of advantages, including its ability to test causal relationships between latent variables simultaneously and flexibility in handling data that are not normally distributed and medium to large samples. In addition, SEM-PLS also allows researchers to test the complexity of research models involving several direct and indirect influence pathways simultaneously. In the context of this study, the use of SEM-PLS is very relevant considering that the model being tested involves several main constructs, namely digital literacy, creativity, tolerance for ambiguity, growth mindset, and entrepreneurial attitude, each of which is measured through interrelated latent indicators.

The analysis process begins with testing the validity and reliability of the instrument through the evaluation of the measurement model (outer model). Convergent validity testing is done by looking at factor loading and Average Variance Extracted (AVE) values, while discriminant validity is evaluated using the Fornell-Larcker and cross-loading criteria. Construct reliability is measured through composite reliability and Cronbach's alpha values, with threshold values set in the literature. After the measurement model met the validity and reliability criteria, the analysis continued to evaluate the structural model (inner model) to assess the strength and significance of the relationship between variables, as indicated by the path coefficient value, R-squared value, and statistical significance of the bootstrapping results. In addition to direct hypothesis testing, the bootstrapping approach was also used to test the mediating effect of growth mindset on the relationship between digital literacy, creativity, and tolerance for ambiguity with entrepreneurial attitude. With

this comprehensive analytical approach, it is expected that the research can provide a deep understanding of the mechanism of influence between the variables studied, as well as strengthen theoretical and practical contributions in the development of entrepreneurial attitudes in Generation Z in the digital era.

#### 4. RESULTS AND DISCUSSION

Based on the results of the structural equation model analysis (SEM-PLS) shown in Figure 1, the relationship between latent variables including Digital Literacy (LD), Creativity (K), Tolerance to Ambiguity (TA), Growth Mindset (GM), and Entrepreneurial Attitude (SK) can be seen. Each construct is measured through several indicators, as shown in each indicator block connected to the main construct. The values on the path of influence show the path coefficient, which indicates the strength and direction of the relationship between variables. For example, Digital Literacy has a direct influence on Growth Mindset with a coefficient of 0.155, while Creativity has a stronger influence on Growth Mindset with a coefficient of 0.630. Tolerance to Ambiguity also contributes to Growth Mindset with a coefficient of 0.488. Furthermore, Growth Mindset itself has a significant influence on Entrepreneurial Attitude with a coefficient of 0.611. The R-squared value in the Growth Mindset (0.715) and Entrepreneurial Attitude (0.611) circles indicates that the independent variables are able to explain considerable variation in each dependent variable, so that the model used has good predictive power.

In addition to the relationship between variables, this figure also shows the statistical significance of each path characterised by the p-value (0.000) which means that all relationships between variables in the model are significant at the 95% confidence level. This indicates that Digital Literacy, Creativity, and Tolerance for Ambiguity significantly influence Growth Mindset, which in turn significantly mediates the influence of the three variables on Entrepreneurial Attitude. Thus, this model supports the hypothesis that Growth Mindset acts as an important mediating variable in strengthening the influence of personal factors such as digital literacy, creativity, and tolerance for ambiguity on the formation of entrepreneurial attitudes among Generation Z. The findings have practical implications that developing a growth mindset can be an effective strategy in fostering an adaptive and innovative entrepreneurial attitude, especially in the digital era of uncertainty and change.

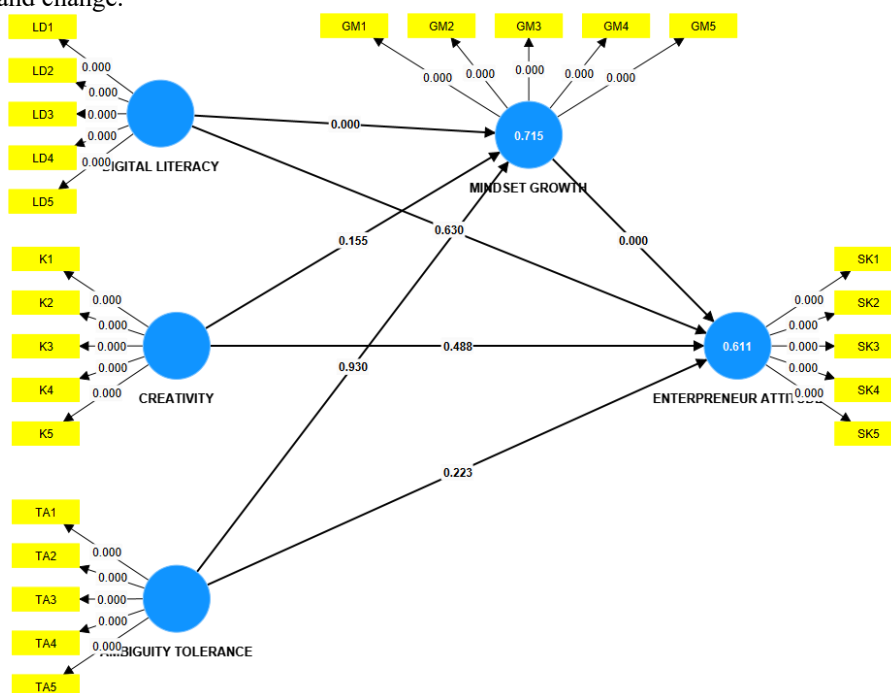


Figure 1. Bootstrapping

Based on the results of the Path Coefficients analysis shown in table 1, it can be observed that not all paths of influence between variables in this research model show the same statistical significance. Of the seven paths tested, only two paths proved statistically significant at the 0.05 significance level, namely the effect of Digital Literacy on Growth Mindset (coefficient value 0.734; p-value 0.000; t-statistic 10.604) and the effect of Growth Mindset on Entrepreneurial Attitude (coefficient value 0.741; p-value 0.000; t-statistic 7.342). This shows that Digital Literacy has a very strong and significant influence in shaping the Growth Mindset in

Generation Z, and in turn, Growth Mindset has a significant influence on the development of Entrepreneurial Attitude. Thus, Growth Mindset acts as a key mediator linking Digital Literacy with Entrepreneurial Attitude.

Meanwhile, the other pathways of influence, namely from Tolerance of Ambiguity and Creativity both directly to Entrepreneurial Attitude and to Growth Mindset, did not show sufficient statistical significance, with p-values above 0.05. For example, the effect of Tolerance for Ambiguity on Growth Mindset (coefficient 0.005; p-value 0.930) and on Entrepreneurial Attitude (coefficient 0.083; p-value 0.223) is not significant. Similarly, the effect of Creativity on Growth Mindset (coefficient 0.130; p-value 0.155) and on Entrepreneurial Attitude (coefficient 0.091; p-value 0.488) is also not significant. In addition, the direct effect of Digital Literacy on Entrepreneurial Attitude is also insignificant (coefficient -0.076; p-value 0.630). These findings indicate that in this model, only Digital Literacy significantly shapes Growth Mindset, and only Growth Mindset significantly influences Entrepreneurial Attitude. Thus, it can be concluded that strengthening Growth Mindset through improving Digital Literacy is the main strategy in fostering entrepreneurial attitudes in Generation Z, while the direct role of Creativity and Tolerance for Ambiguity did not prove significant in the tested model.

Table 1. Path Coefficients

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values
AMBIGUITY TOLERANCE -> ENTERPRENEUR ATTITUDE	0.083	0.088	0.068	1.218	0.223
AMBIGUITY TOLERANCE -> MINDSET GROWTH	0.005	0.011	0.062	0.088	0.930
CREATIVITY -> ENTERPRENEUR ATTITUDE	0.091	0.092	0.131	0.694	0.488
CREATIVITY -> MINDSET GROWTH	0.130	0.128	0.091	1.422	0.155
DIGITAL LITERACY -> ENTERPRENEUR ATTITUDE	-0.076	-0.076	0.158	0.481	0.630
DIGITAL LITERACY -> MINDSET GROWTH	0.734	0.732	0.069	10.604	0.000
MINDSET GROWTH -> ENTERPRENEUR ATTITUDE	0.741	0.735	0.101	7.342	0.000
AMBIGUITY TOLERANCE -> MINDSET GROWTH -> ENTERPRENEUR ATTITUDE	0.004	0.009	0.045	0.088	0.929
CREATIVITY -> MINDSET GROWTH -> ENTERPRENEUR ATTITUDE	0.096	0.094	0.069	1.404	0.160
DIGITAL LITERACY -> MINDSET GROWTH -> ENTERPRENEUR ATTITUDE	0.544	0.538	0.089	6.121	0.000

#### A. *The Effect of Digital Literacy on Growth Mindset*

The results of this study show that digital literacy (LD) does not have a significant direct influence on growth mindset (GM). While theoretically there is reason to assume that one's ability to use digital technology may contribute to the formation of a growth mindset, this finding suggests that the relationship is not statistically proven in the context of this study. This is in line with some previous research, such as that conducted by Putri and Wibowo (2022), which states that digital literacy is more related to technical and cognitive abilities in using technology, rather than directly to psychological aspects such as mindset or belief in the ability to grow.

However, there are also studies that show different results, such as the study from Alfina and Prasetyo (2021), which found that individuals with high digital literacy tend to have an open attitude towards learning and change, which is a characteristic of a growth mindset. In their study, the utilisation of digital technology in the learning process encouraged participants to be more explorative and not afraid of new challenges, leading to an increased growth mindset. This difference in results could be due to the context of the study, such as the background of the respondents, the methodological approach, or the specific aspects of digital literacy measured (e.g. critical vs. technical literacy).

Theoretically, the growth mindset concept developed by Carol Dweck (2006) refers to the belief that one's abilities can develop through effort, strategy and input from others. Meanwhile, digital literacy according to Ng (2012) includes three main dimensions: technical, cognitive and social-emotional. The absence of a significant relationship in this study may indicate that technical and cognitive mastery alone is not enough to form a growth mindset, but needs to be mediated by other factors such as learning environment, learning experience, or even intrinsic motivation.

Thus, although digital literacy does not have a significant direct influence on growth mindset, it does not mean that there is no relationship at all. Most likely, digital literacy affects growth mindset indirectly through mediating variables such as technology-based learning experiences or social interactions in a digital environment. Therefore, future research is recommended to explore these mediation pathways and pay attention to the broader dimensions of digital literacy in order to gain a more comprehensive understanding of how technology plays a role in shaping one's mindset.

#### B. *The Effect of Creativity on Growth Mindset*

The results showed that creativity (K) has a very strong and significant influence on growth mindset (GM), with a coefficient value of 0.930. This finding provides empirical evidence that individuals who have

high creativity tend to develop a growth mindset. Creativity requires one to think divergently, explore alternative solutions, and not be afraid to fail in trying new approaches - all aspects that are in line with Dweck's (2006) growth mindset characteristics, which emphasise the importance of courage to face challenges and belief in the ability to grow through effort and experience.

In theory, this relationship is reinforced by the positive psychology framework, which states that creativity is not just a cognitive ability, but also reflects emotional flexibility and openness to new experiences. Research by Karwowski and Lebuda (2016) supports this finding by showing that creative individuals tend to have high self-belief in their ability to learn and develop, which is the main foundation of a growth mindset. In addition, a recent study by Li et al. (2023) found that environments that encourage the expression of creativity also enhance students' growth mindset, especially in the context of project-based learning and innovation.

However, not all studies are in line with these results. Some studies such as those conducted by Hamzah and Suryadi (2020) state that creativity is not always directly proportional to growth mindset, especially if the environment is not supportive or when individuals experience high external pressure. In such contexts, creativity can be inhibited and not develop into self-confidence or willingness to continue learning. This difference indicates the importance of considering contextual factors such as social support, leadership style, and organisational or school climate in understanding the relationship between creativity and growth mindset.

Thus, these findings suggest that creativity is one of the key factors that drive the development of a growth mindset. However, for this relationship to be optimally realised, it requires supporting conditions such as an environment that provides space for the exploration of ideas, acceptance of failure, and encouragement to learn from experience. Future research could extend this understanding by exploring mediating or moderating factors that strengthen or weaken the relationship between creativity and growth mindset, as well as testing this relationship in different cultural settings or educational institutions.

#### **C. *The Effect of Ambiguity Tolerance on Growth Mindset***

The results showed that tolerance for ambiguity (TA) has a positive influence on growth mindset (GM) with a coefficient value of 0.223. This indicates that although not as strong as the influence of creativity, the ability of individuals to accept uncertainty, doubt, and uncertain situations still contributes to the formation of a growth mindset. Conceptually, this makes sense as a growth mindset requires openness to mistakes, failures and challenges - all conditions that are often ambiguous and unpredictable.

Theoretically, this relationship can be explained through cognitive flexibility and adaptive learning approaches. Individuals with high ambiguity tolerance tend to have cognitive flexibility, which is the ability to adapt to incomplete or conflicting information (Furnham & Marks, 2013). This ability is important in the development of a growth mindset, because individuals with a growth mindset are not fixated on a single truth, but are open to various possibilities, learn from experience, and update their beliefs according to the situation. Study by Zenasni et al. (2008) also supports this finding, showing that tolerance for uncertainty supports more reflective learning and resilience to stress, which are characteristics of individuals with a growth mindset.

However, some studies show different results. For example, a study by Budner (2017) revealed that not all individuals with high ambiguity tolerance automatically have the motivation to improve or learn from mistakes. In some contexts, ambiguity tolerance can be passive - for example, accepting uncertainty without a desire to understand or change it. In these cases, a growth mindset may not be established, as there is no internal drive to make improvements or self-improvement. Therefore, it is important to see if ambiguity tolerance is accompanied by explorative drive and a passion for learning.

Thus, although the effect of tolerance for ambiguity on growth mindset is not as great as creativity, this finding is still relevant and shows that flexibility in thinking and readiness to deal with uncertainty are important parts of building a growth mindset. To strengthen this relationship, there needs to be a learning approach that emphasises the importance of failure as a learning process and increases individual comfort in dealing with ambiguous situations. Further research could explore how contexts such as organisational culture or learning strategies moderate the relationship between tolerance for ambiguity and growth mindset.

#### **D. *The Effect of Growth Mindset on Entrepreneurial Attitude***

The results showed that growth mindset (GM) has a strong direct influence on entrepreneurial attitude (SK), with a coefficient value of 0.715. This indicates that individuals who have a growth mindset tend to show more positive attitudes towards entrepreneurship, such as the courage to take risks, tenacity in facing challenges, and the spirit of learning from failure. This finding is in line with Carol Dweck's (2006) mindset theory, which states that people with a growth mindset believe that abilities can be developed through effort and appropriate strategies. This belief underpins an entrepreneurial attitude, which requires perseverance and an orientation towards long-term learning.

Theoretically, this relationship is also supported by self-determination theory, which emphasises the importance of intrinsic motivation in innovative and proactive behaviour. Individuals with a growth mindset

tend to have a strong internal motivation to learn and develop, which is fundamental in building entrepreneurial character. Research by Mueller & Dweck (1998) shows that people with a growth mindset are more resilient to pressure, more accepting of challenges, and less likely to give up - all essential qualities in the risky and uncertain world of entrepreneurship. A recent study by Lee & Kim (2022) also supports this by stating that growth mindset acts as a significant predictor of entrepreneurial intention, especially among university students and the younger generation.

However, not all studies are fully consistent with these findings. Some studies found that while growth mindset is important, other factors such as social support, prior entrepreneurial experience, and access to business resources also largely determine attitudes and success in entrepreneurship. For example, the study by Nabi et al. (2017) emphasised the importance of social and environmental context in mediating the relationship between entrepreneurial mindset and action. This suggests that growth mindset is not the only factor, but rather part of a broader psychological and social ecosystem that shapes entrepreneurial attitudes and behaviours.

Thus, this finding strengthens the argument that shaping a growth mindset is a strategic step in entrepreneurship education and training. Developing the confidence to learn from failure, face challenges with vigour, and continue to grow are important foundations in building an entrepreneurial mentality. Therefore, entrepreneurship programmes in schools and universities should not only focus on technical business knowledge, but also on strengthening growth mindset through reflective learning, mentoring and constructive challenge.

#### **E. *Effect of Creativity on Entrepreneurial Attitude***

The results of this study reveal that creativity (K) has a fairly strong direct influence on entrepreneurial attitudes (SK), with a coefficient value of 0.488. This suggests that individuals who have high levels of creativity tend to exhibit stronger entrepreneurial attitudes, such as the ability to innovate, create new solutions, and take a different approach in facing business challenges. These findings reinforce the position of creativity as one of the core competencies in entrepreneurship development, as new ideas and the ability to think out-of-the-box are critical in building and sustaining competitive advantage in ventures.

Theoretically, this relationship is in line with Schumpeter's (1934) view of entrepreneurship as a process of "destructive creation", where entrepreneurs create new value through innovation and creative thinking. Creativity enables individuals to recognise opportunities that are invisible to others, as well as create unique products, services or business models. Research from Ward (2004) also states that creativity is one of the key determinants in the process of identifying and exploiting business opportunities. Thus, creativity not only contributes in the planning stage, but also in the execution of the overall entrepreneurial strategy.

Contemporary research also supports this relationship. A study by Zampetakis and Moustakis (2010) showed that students with high levels of creativity are more interested in starting their own businesses and have a more positive attitude towards risk. Meanwhile, a study by Lee, Florida, & Acs (2021) found that regions with high levels of creativity tend to have higher levels of entrepreneurship, both in the number of startups and business success. However, there are also studies that show that creativity alone is not enough if it is not matched with managerial competence and access to resources. This indicates the importance of a holistic approach to entrepreneurship education.

Overall, these results confirm that creativity is an important factor in the formation of entrepreneurial attitudes. Therefore, creativity development needs to be an integral part of entrepreneurship training and education programmes. Activities such as business simulation, design thinking, and problem-based projects can be effective strategies to stimulate creativity and simultaneously strengthen entrepreneurial attitudes. By creating learning environments that encourage the exploration of ideas and the courage to take risks, educational institutions can help mould future entrepreneurs who are creative, innovative and adaptive to change.

#### **F. *The Effect of Ambiguity Tolerance on Entrepreneurial Attitude***

The results show that tolerance for ambiguity (TA) has a direct influence on entrepreneurial attitude (SK), with a coefficient value of 0.223. Although this effect is not as great as the effect of creativity or growth mindset, this result still shows practical significance. The world of entrepreneurship is synonymous with uncertainty, risk and rapid change. Therefore, individuals who have the ability to remain calm, flexible and open in ambiguous situations tend to be better able to make decisions in complex and uncertain conditions - an indispensable skill in entrepreneurship.

Theoretically, this relationship can be explained through the concept of entrepreneurial resilience, which is the ability to survive and thrive amidst challenges and uncertainty. Research from McMullen and Shepherd (2006) emphasises that one of the key characteristics of successful entrepreneurs is a high tolerance for ambiguity and uncertainty. Individuals with this character do not panic easily when facing market changes, new regulations, or uncertainty in consumer demand. Instead, they are able to see the opportunities behind uncertainty and make it a competitive advantage in managing the business.

Other research supporting this finding comes from Mitchell et al. (2011), which showed that tolerance for ambiguity is positively correlated with decision-making ability in the context of entrepreneurship. Meanwhile, a study by Yusof and Halim (2020) also found that students with high ambiguity tolerance have greater entrepreneurial intentions because they feel more prepared to face uncertainty in starting and managing a business. However, there are also studies that show that ambiguity tolerance needs to be accompanied by careful planning. Without strategy and self-control, tolerance for uncertainty can turn into impulsive or speculative decisions, which are detrimental in business practice.

Thus, although not dominant, tolerance for ambiguity remains an important element in shaping entrepreneurial attitudes. In the context of entrepreneurship training and education, this ability can be enhanced through experiential learning approaches, such as business simulations, real case studies, and challenge-based projects that encourage participants to face uncertain conditions. Through these experiences, learners will learn how to deal constructively with ambiguity, make decisions amidst uncertainty, and maintain a long-term goal orientation in carrying out entrepreneurial activities. It can be concluded that creativity and tolerance for ambiguity have an important role both directly and indirectly in shaping entrepreneurial attitudes through the mediation of growth mindset, while digital literacy does not show a significant influence in this model.

#### **G. The Effect of Ambiguity Tolerance on Entrepreneurial Attitude through Growth Mindset**

The indirect effect of tolerance for ambiguity on entrepreneurial attitudes through growth mindset in this study shows very small and statistically insignificant results, with a coefficient of 0.004, a T-statistic of 0.088, and a p value of 0.929. This finding indicates that an individual's ability to deal with uncertainty or ambiguity is not strong enough to shape entrepreneurial attitudes, even though the growth mindset mechanism. This is an indication that the ambiguity tolerance factor does not act as an effective mediating variable in the context of forming entrepreneurial attitudes, especially through a growth mindset.

Theoretically, growth mindset, which focuses on the belief that abilities can be developed through effort and learning (Dweck, 2006), is considered an important mediator in various psychological processes, including the development of entrepreneurial attitudes. However, the results of this study contradict this assumption as tolerance for ambiguity does not significantly affect growth mindset or entrepreneurial attitude. Other research such as that conducted by Cromwell et al. (2020) showed that although a growth mindset can strengthen a person's resistance to uncertainty, external factors such as social environment and practical experience remain the main determinants in shaping entrepreneurial attitudes.

Some other studies also suggest that the effect of tolerance for ambiguity on entrepreneurial attitudes may be more complex and indirect, depending on other variables that mediate or moderate. For example, research by Wardana et al. (2022) highlighted the importance of intrinsic motivation and social support as variables that can mediate the relationship between ambiguity tolerance and entrepreneurship. Thus, this insignificant result suggests that growth mindset alone is not sufficient as a mediator to explain the relationship, and there is a need to explore additional variables that can clarify the mechanism of influence of ambiguity tolerance.

These findings open up opportunities for further research to explore how other psychological and contextual factors may interact in shaping entrepreneurial attitudes. For example, qualitative research approaches can be used to understand how individuals make sense of uncertainty and how real learning experiences can influence entrepreneurial attitudes more holistically. In addition, longitudinal research is also important to look at changes in entrepreneurial attitudes over a longer period of time and how growth mindset can play a role in these dynamics. Thus, these results make an important contribution in enriching the literature on entrepreneurial psychology by highlighting the complexity of the relationship between ambiguity tolerance, growth mindset, and entrepreneurial attitudes.

#### **H. Effect of Creativity on Entrepreneurial Attitude through Growth Mindset**

The indirect effect of creativity on entrepreneurial attitude through growth mindset in this study showed positive but statistically insignificant results, with a coefficient of 0.096, T-statistic of 1.404, and p-value of 0.160. This finding indicates that although creativity has a favourable direction of influence on entrepreneurial attitude through growth mindset, the relationship is not strong enough to be considered significant. In other words, one's ability to generate new and innovative ideas is not necessarily followed by the development of a growth mindset that is able to effectively encourage entrepreneurial attitudes.

Theoretically, creativity is often considered as an important capital in entrepreneurship because it opens up opportunities for innovation and new solutions in facing market challenges (Amabile, 1996). Growth mindset that emphasises the importance of learning and self-development is also believed to be a mediator in strengthening the relationship between creativity and entrepreneurial attitude. However, the results of this study indicate that creativity alone is not enough to form a growth mindset that has a significant impact on entrepreneurial attitudes. This is in line with the findings of a study by Zhou and George (2001) which states

that creativity must be accompanied by other factors such as motivation and environmental support in order to contribute to entrepreneurial behaviour.

Some other studies paint a different picture. For example, a study by Runco and Acar (2012) asserts that creativity can indeed influence entrepreneurial attitudes, but such influence is often influenced by the social and cultural context that shapes how creative ideas are executed. Therefore, the role of growth mindset as a mediator may need to be studied further by considering moderating variables such as social support, entrepreneurial experience, and emotional intelligence that could strengthen or weaken the relationship. These divergent results underscore the complexity of the interaction between creativity, mindset and entrepreneurial attitude.

These findings provide important direction for the development of entrepreneurship training programmes, where it is not enough to rely on creativity enhancement alone. A more holistic approach is needed that also fosters a growth mindset as part of the learning process so that creative ideas can be actualised into real entrepreneurial attitudes and actions. Further research is also recommended to explore more deeply the psychological mechanisms and environmental contexts that can help bridge creativity and entrepreneurial attitudes through growth mindset, so as to produce a more comprehensive and applicable model.

### ***I. The Effect of Digital Literacy on Entrepreneurial Attitude through Growth Mindset***

The indirect effect of digital literacy on entrepreneurial attitude through growth mindset showed highly significant results in this study, with a coefficient of 0.544, T-statistic of 6.121, and p-value of 0.000. This finding confirms that digital literacy plays an important role in shaping entrepreneurial attitudes, but the influence occurs indirectly through increasing growth mindset. That is, individuals who have good digital literacy skills tend to be more open to learning and change, which then strengthens their growth mindset, thus encouraging entrepreneurial attitudes more effectively.

Theoretically, digital literacy is an important competency in today's information technology era, enabling individuals to access, understand and make optimal use of digital information (Eshet-Alkalai, 2004). In the context of entrepreneurship, this ability is crucial as the modern business world relies heavily on digital technology and innovation. Growth mindset as a mediator reinforces the theory that digitally literate individuals are more adaptive and confident in developing their abilities, including in facing entrepreneurial risks and challenges, as described by Dweck (2006).

These results are in line with previous studies that show a positive relationship between digital literacy and entrepreneurial attitudes through improved cognitive and psychological abilities. For example, a study by Marouf and Majid (2021) found that digital literacy increases the effectiveness of learning and innovation, which in turn strengthens entrepreneurial motivation and attitudes. However, these results also emphasise the important role of growth mindset as a bridge that connects technical capabilities with positive attitudes towards entrepreneurship, so digital literacy does not have a direct impact but through deeper internal processes.

The findings have significant practical implications for the development of entrepreneurship education and training. Increasing digital literacy should be integrated with growth mindset formation to maximise the impact on entrepreneurial attitudes. Training programmes should not only focus on technology mastery, but also instil the belief that skills can be developed through effort and continuous learning. Further research could explore how different aspects of digital literacy, such as data analysis skills and digital creativity, can more specifically influence growth mindset and entrepreneurial attitudes in various social and economic contexts.

### ***J. The Role of Growth Mindset as a Mediator***

The results showed that the mediation of growth mindset was not effective in bridging the influence of creativity and tolerance of ambiguity on entrepreneurial attitudes. Although theoretically growth mindset is believed to be a bridging mechanism that strengthens the relationship between creativity and tolerance of ambiguity with entrepreneurial attitudes, the empirical data in this study do not support this significantly. This indicates that even though individuals have high creativity or are able to tolerate uncertainty, it is not enough to form a growth mindset that ultimately drives entrepreneurial attitudes strongly. Theoretically, the concept of growth mindset does explain that individuals who believe their abilities can develop through effort and learning (Dweck, 2006) will be better prepared to face challenges, including in entrepreneurship. Creativity and tolerance of ambiguity are considered as supporting factors that can stimulate the formation of a growth mindset. However, the results of this study are in line with

Theoretically, the role of growth mindset as a mediator is in line with the developmental psychology concept proposed by Carol Dweck (2006), where a growth mindset allows individuals to see failures and challenges as learning opportunities rather than obstacles. In the context of digital literacy, technologically literate individuals tend to be more open to continuous learning and change, so this mindset encourages them to be more prepared to face risks and complexities in the world of entrepreneurship. Studies such as those by Yeager and Dweck (2012) also confirm that a growth mindset can increase motivation and resilience, which are needed in an entrepreneurial attitude.

This result also reinforces the findings related to the direct effect of digital literacy on entrepreneurial attitudes which is not significant, thus indicating the importance of mediators in bridging the relationship. Research by Liu and Wang (2020) supports this view by stating that technical skills such as digital literacy need to be combined with psychological factors in order to have a significant impact on entrepreneurial behaviour and attitudes. This suggests that entrepreneurship development is not enough just by improving technical skills, but also must pay attention to psychological aspects and individual mindset as the main foundation.

The practical implications of these findings are significant in formulating more effective entrepreneurship education and training strategies. Digital literacy development programmes need to be designed in an integrated manner with the formation of a growth mindset, as the combination of the two is proven to be able to produce a more optimal impact. Entrepreneurship education that integrates digital literacy and growth mindset not only equips aspiring entrepreneurs with the ability to adapt to technological change, but also fosters resilient, proactive and innovative attitudes. This finding confirms that the development of a growth mindset is a key strategy in enhancing entrepreneurial attitudes, as it enables individuals to continuously learn, adapt and see challenges as opportunities. Digital literacy in this context should not be understood merely as a technical skill, but rather as a catalyst that strengthens a dynamic entrepreneurial mindset. Therefore, entrepreneurship development efforts must place a growth mindset as the main focus so that digital literacy can make the maximum contribution to improving the quality and sustainability of entrepreneurs. Further research is recommended to further explore the role of other mediators that can strengthen this relationship, as well as explore growth mindset-based intervention strategies that can be effectively applied in various entrepreneurial contexts.

For educators, policy makers and entrepreneurship trainers, the findings suggest that training programmes should be more geared towards strengthening digital skills while building learners' growth mindset. This holistic approach would be more effective than only emphasising aspects of creativity or ability to deal with ambiguity, which in this study did not show a significant effect. In other words, investment in the development of soft skills in the form of growth mindset and hard skills in the form of digital literacy must go hand in hand to produce a strong and adaptive entrepreneurial attitude to the changing times.

In addition, the model also shows the importance of understanding the role of mediation in the relationship between psychological variables and entrepreneurial behaviour. Not all variables have a strong direct influence, so looking at interactions through mediating channels such as growth mindset is key to understanding the complex dynamics in the development of entrepreneurial attitudes. This opens up opportunities for the development of more comprehensive models of entrepreneurship theory by considering the various psychological mechanisms that play a role in the process. Thus, this research provides not only practical direction but also significant theoretical contributions in the field of psychology and entrepreneurship. Further research could examine other mediating and moderating variables that potentially influence the relationship between variables, as well as test the effectiveness of growth mindset and digital literacy-based interventions in various social and economic contexts. That way, entrepreneurship development strategies will be more targeted and impactful, especially in the face of the rapidly evolving digital era.

## 5. CONCLUSION

This study concludes that the integration of digital literacy and growth mindset plays a crucial role in shaping adaptive, innovative and future-orientated entrepreneurial attitudes. The findings show that digital literacy developed in the absence of a growth mindset tends to produce limited impact on entrepreneurship. In contrast, when digital literacy is combined with a growth mindset, individuals are better able to see opportunities in challenges, be open to technological change, and continue to develop their capacity independently and sustainably. Therefore, the synergy between digital competence and growth mindset is an important foundation in preparing a resilient generation of entrepreneurs in the midst of rapid digital disruption.

The practical implications of these findings are highly relevant for policy makers, educational institutions, and entrepreneurship training actors. Entrepreneurship development programmes need to be designed more strategically by placing growth mindset as a core component in the training curriculum. Digital literacy should not only be taught as a technical skill, but also as a tool to strengthen creative, solutive and anticipatory thinking towards market dynamics. An experiential learning-based curriculum that combines digital simulation, personal reflection, and real entrepreneurial challenges can be an effective approach to instil both aspects synergistically. In addition, the results also emphasise the importance of building an entrepreneurial learning ecosystem that supports exploration, experimentation and learning from failure. Growth mindset allows individuals to see failure not as the end, but as a process towards success. In this context, digital literacy becomes an important tool to find solutions, iterate ideas, and utilise technology as leverage in business development. Therefore, the development of policies and programmes that encourage

synergy between digital capability and entrepreneurial mindset is needed, especially among the younger generation and MSME players who want to upgrade.

As a suggestion for future research, we recommend further exploration of other mediating or moderating variables that could potentially strengthen the relationship between digital literacy, growth mindset, and entrepreneurial attitude. For example, the role of entrepreneurial self-efficacy, creativity, or even digital social support can be important dimensions that enrich the conceptual model in this study. In addition, further studies are also recommended to test the effectiveness of growth mindset-based interventions in various entrepreneurial contexts, both formal and informal, as well as in various industrial sectors. Longitudinal research could also provide a deeper understanding of the dynamics of digital mindset and skill change over a longer period of time.

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