

The Business Contribution of the LI-CEG Model in Tourism SME Areas Based on Local-Themed Destinations

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ABSTRACT

The purpose of this study is to examine the Internet of Things (IoT) business literacy and cognitive dimensions that influence the growth intention of SMEs in local-themed tourism destinations in Malang Raya, Indonesia, with entrepreneurial spirit as a mediating factor. The quantitative research method, the sample of this study was 380 SMEs selected through proportional random sampling and analysis using CFA and CB-SEM in SmartPLS 4.0. The results showed that all variables have a significant influence on the desire to grow, both directly and indirectly. The originality of this study lies in the integration of technological literacy, cognitive ability, and entrepreneurial orientation to explain the dynamics of SME growth in a tourism-driven economic context, offering a holistic vision structure for strategic SME development. This recommendation provides actionable recommendations for policymakers and business stakeholders for digital literacy in design initiatives, cognitive ability enhancement programs, and business training to strengthen SME competitiveness in local and global markets.

The entrepreneurial spirit, which includes the willingness to take risks, a focus on innovation and proactivity are another important component that drives the desire to develop SMEs. According to Prasetyo et al. (2022), the entrepreneur spirit could moderate the relationship between technology literacy and a desire to improve, particularly in dynamic business environments such as tourism destinations. However, the business IoT literacy and cognition dimensions among SMEs in East Java tourism areas remain very poor, owing to inadequate access to technology, resources, and adequate training. SMEs require strategic interventions such as digital literacy training and cognitive ability building to support their business sustainability.

The LI-CEG (IoT Literacy, Cognitive Dimension, Entrepreneurial Spirit, and Growth Intention) framework is a structural model designed to analyze how entrepreneurs' technological readiness (IoT Literacy) and their thinking ability (Cognitive Dimension) influence their internal drive (Entrepreneurial Spirit), which ultimately shapes Growth Intention (SMEs). Overall, the model successfully establishes Entrepreneurial Spirit as a central mediator and the strongest predictor of growth intention. However, a crucial research gap lies in the complex mechanism of the Cognitive Dimension: while this dimension has been shown to enhance Entrepreneurial Spirit (positive indirect effect), it exhibits a negative and significant direct effect on Growth Intention. The model posits that higher cognitive intelligence directly hinders growth intention, indicating a trade-off that has not been fully explained in the literature. This raises the need for in-depth exploration to understand the specific behavioral and psychological mechanisms (e.g., increased caution or risk aversion due to more careful risk calculations amidst the uncertainty of IoT implementation) that cause Cognitive Ability to directly reduce growth ambitions.

In light of this context, researchers studied how IoT business literacy and cognitive characteristics contribute to SMBs' aspirations to grow through an entrepreneurial spirit in East Java's local destination-based tourism destinations. That is anticipated, that this study, will, tactical offer, suggestions to improve the sustainability and competitiveness of SMEs, that helps in the growth of regional tourism.

THEORETICAL REVIEW

Literacy IOT (Internet of Thinks)

Business IoT literacy plays a role in increasing perceived usefulness, where SMEs believe that IoT adoption will provide tangible benefits, such as operational efficiency, better business management, and the ability to create engaging travel experiences for customers. Meanwhile, cognitive dimensions such as critical thinking and innovation skills support perceived ease of use by making it easier for SMEs to understand and implement IoT technology.

Entrepreneurial spirit

Entrepreneurial spirit is a combination of entrepreneurial attitudes and characteristics that include risk-taking, innovation, and proactivity. Prasetyo et al. (2022) revealed that entrepreneurial spirit can be a key driver of growth

among SMEs, especially in competitive business environments such as tourist destinations. The combination of technological literacy, cognitive abilities, and entrepreneurial spirit can create SMEs that are more resilient and adaptive to market challenges. This study also shows that entrepreneurial spirit plays a significant mediating role between technological literacy and business sustainability.

Cognitive Dimension

The cognitive dimension, which encompasses critical thinking skills, creativity, and innovation, is a crucial element in business success. Wahyuni et al. (2023) stated that cognitive abilities help SMEs identify market opportunities, adapt to changes in the business environment, and create added value in their products or services. In local thematic tourism areas, SMEs are required to continuously innovate to meet the needs of a dynamic tourism market. Low cognitive abilities often hinder SMEs from transforming, making training and coaching essential.

Growth Intention

The desire to grow is a motivation for entrepreneurs to increase their business scale, both in terms of production capacity and market penetration. Herawati, A., Susanti, E., & Wijaya, S. (2022). noted that SMEs with a strong desire to grow tend to be more active in seeking new opportunities, utilizing technology, and innovating (Prasetyo et al., 2022). In the context of SMEs based in local thematic destinations, the desire to grow is crucial for maintaining competitiveness and relevance in the ever-changing tourism market.

METHODOLOGY

This study uses an inferential approach with a quantitative descriptive design that integrates analytical techniques (Hair et al., 2021) *Structural Modeling Equation* (SEM) PLS to test hypotheses and relationships between variables. The research instrument is in the form of a questionnaire based on the Likert scale which is compiled based on theoretical constructs. The research will be carried out in East Java SMEs that are already using IoT. This research sample has a purpose sampling criteria in the condition that East Java SMEs are already using IoT-based digital marketing. If you look at the population of According to statistical data in 2023, the SMEs of East Java were 1,153,576, so the most valid researcher related to SMEs that are included in the thematic criteria are in the Malang Raya, Banyuwangi and Jember areas for which the population is active in the field of digitalization based on the Central Statistics Agency, but based on observations in the field, suggestions from the head of marketing of the East Java Cooperatives and SMEs Office, this research may have a sampling purpose, namely looking from SMEs in the Local Theme category that become the East Java Flagship: SME achieved, so it was found that the good Malang Raya was used as a sample of this research. You can know that the population of SMEs in Malang Raya are the following :

Table. 1 Research Population

Region Name	Number of SMEs
Malang City	11.658
Kabupaten Malang	13.552
City of Batu	3.848
Total	29.058

The above table shows the total number is 29,058, so the sample in this study will be calculated through the sample size calculator as follows.

Figure 2. Research Sample

Based on the calculation of a simple size calculator, it was found that there were 380 samples from this study. Therefore, it can be concluded that the questionnaire will be distributed to 380 SMEs. The type of data collected in this study is in the form of ordinal data obtained from primary and secondary data. The primary data came from surveys, questionnaires that were distributed in the research subjects. Secondary data comes from sources other than primary data. The technical data collection in this The study uses *stratified sampling* by divisor the population into homogeneous subgroups or strata to ensure proportional representation of different segments of the population. In terms of this sampling, the willingness of SMEs to be part of the research sample is very important, in addition that he will guarantee that there is no conflict of interest between the researcher and the defendant

The following is the distribution of research samples in the Greater than Malang area:

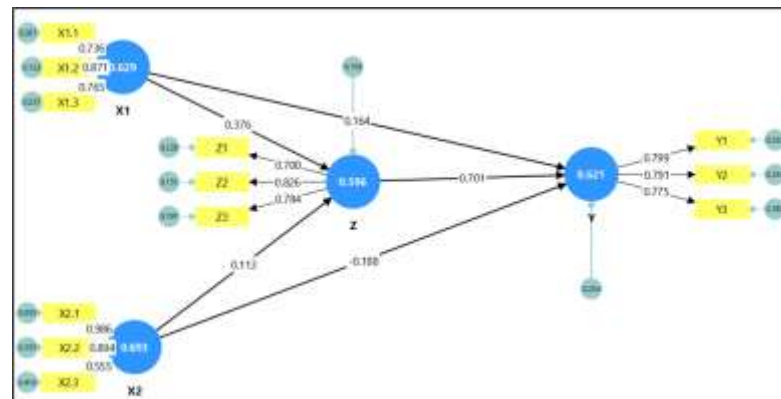
Table. 2 the distribution of research samples in the Greater than Malang area

No.	Region	Superior Products for MSMEs	Key sectors	Distribution Locations	Research Sample

1	City of Batu	Processed apples, strawberries, milk, souvenirs	Agrotourism, gastronomy	Family and education resort	114 SMEs
3	Malang City	Packaged , Tempeh Chips, Cakes, Handicrafts, Malang Tempo Doloe	Urban and creative culinary industry	MSME Incubator Facilitation and Active Digitalization and Kayutangan Traditional Mode	125 SMEs
4	Malang Regency	Fruit, Dampit Coffee, Malangan Batik, Bamboo	Agrotourism, gastronomy, handicrafts	Bantur The district has the potential to be a company based on coastal MSME tourism	141 SMEs

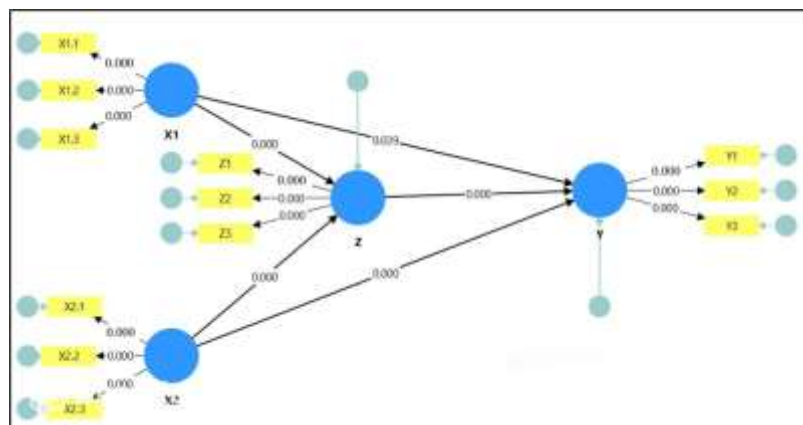
Based on the initial observation of information from East Java Office of Cooperatives and SMEs, the table above shows the SMEs that are active in the sustainability business process. Supported by the government's program, a festival of exhibitions is held to accommodate East Java's SMEs spread across several regions. From the explanation above, that is fixed that each investigation The object has a difference number of samples. Therefore, the *sampling* is used *proportionally random sampling* is a technical sample that provides equal opportunities for each element (member) of the population that is selected to be a member of the sample (R. B. Johnson and Christenen 2012). After going through the sampling calculation process That has been calculated in each cluster, then, using the Simple *Random Variety* Sampling Sampling That is the sampling of population members is transported out randomly using batches without paying attention to the strata in the population. The method to obtain a sample is directly transported out in the sampling unit, then each unit The *sampling* as an element of a remote population gains an equal opportunity to be a sample or to represent is population . This method is done if the members of the homogeneous population are considered.

RESULTS



Source : SmartPLS 4.0

Figure 3. Outer Load Factor and AVE Results



Source : SmartPLS 4.0

Figure 4. Drill Results SEM-PLS

Table. 3 Road Coefficient of Results

Name	Original Sample (O)	Sample (M)	(DESVE ST)	T Statistics (O/STDEV)	P values
X1 -> Y	0,164	0,161	0,079	2.069	0,039
X1 -> Z	0,376	0,378	0,066	5.727	0,000
X2 -> Y	-0,188	-0,186	0,037	5.111	0,000
X2 -> Z	0,113	0,114	0,032	3.532	0,000
Z -> Y	0,701	0,709	0,141	4.969	0,000
X1 -> Z -> Y	0,264	0,265	0,060	4.403	0,000
X2 -> Z -> Y	0,079	0,080	0,024	3.245	0,001

The results of the analysis using the SEM-PLS approach through the SmartPLS 4.0 application presented that IoT business literacy (X1) had a positive and significant influence on entrepreneurial spirit (Z) with a path value coefficient of 0.376 ($p = 0.000$). This indicates that the ability of SMEs to understand and apply IoT technology supports the formation of an entrepreneurial spirit, such as the courage to innovate, take risks and act

proactively. These findings are in line with the study by Ahmad and Setiawan (2023) which shows that IoT literacy in small and medium-sized businesses contributes to the ability to manage resources more efficiently and increases the ability to adopt technology-based data in business processes. In the context of SMBs in the tourism sector, technology mastery is an important catalyst in shaping innovative and adaptive behavior.

The results presented that the cognition dimension (X2) contributed affirmatively to that of entrepreneur spirit with a path coefficient of 0.113 ($p = 0.000$), but the value was relatively small. These results can be seen if knowledge, creativity and critical thinking skills have a significant relationship, their contribution to the entrepreneurial spirit is non-dominant. This confirms the argument of Wahyuni et al. (2023) that the cognitive dimension helps SMEs in identifying opportunities and adapting to change, but these results will only have a significant impact if they are supported by motivational factors and a supportive social context.

The entrepreneur spirit (Z) itself has been proven to have a very strong influence on the desire to develop (Y), with a trajectory value coefficient of 0.701 ($p = 0.000$). This means that the highest that of entrepreneurial spirit owned by SMEs, the greater than their desire to grow, develop and expand their business. This is consistent with the recommendations of Prasetyo et al. (2022) who set that entrepreneur spirit acts as a mediating variable that strengthens the relationship between technological literacy and business growth intentions. In the context of tourism-themed, WHO SMEs have a high entrepreneurial spirits are more adaptable to tourism trends and are able to create product differentiation.

The direct contribution of IoT literacy to the desire to develop was 0.164 ($p = 0.039$), and the direct contribution of the cognition dimension to the desire to develop was negative at -0.188 ($p = 0.000$). This finding is quite interesting, because it shows that high cognitive competence without entrepreneur motivation can actually create inconsistencies in business decision-making. These results are supported by Rusu et al. (2023) who found that technological innovation only affects business success when mediated by a strong entrepreneurial orientation.

Table. 4 Parameter Estimates

	Estimates parameter	Standard errors	T-Values	P values
X1.1 <- X1	0,671	0,038	17.549	0,000
X1.2 <- X1	1.069	0,074	14.356	0,000
X1.3 <- X1	0,991	0,073	13.621	0,000
X2.1 <- X2	1.475	0,258	5.808	0,000
X2.2 <- X2	0,894	0,038	23.389	0,000
X2.3 <- X2	0,396	0,033	11.863	0,000
Y1 <- Y	0,787	0,026	29.734	0,000
Y2 <- Y	0,980	0,069	14.185	0,000
Y3 <- Y	1.200	0,085	14.058	0,000
Z1 <- Z	0,663	0,035	18.704	0,000

Z2 <-Z	1.221	0,091	13.429	0,000
Z3 <-Z	1.201	0,092	13.048	0,000

The parameter The above estimation table shows the results of the estimated weight (*load*) of each indicator against the latent build it measured, equipped with standard error values, *t-statistic* and *p-value* as a measure of statistical importance. Overall, all indicators in this model show a significant contribution to their respective constructs, indicated by a $p < 0.05$ in all paths.

In the IoT business literacy construct (X1), the three indicators, namely X1.1, X1.2, and X1.3, show the parameter estimates of 0.671; 1.069; and 0.991 respectively. The *t-statistical* values for each indicator reached 17,549; 14,356; and 13,621, well above the limit of 1.96 (for a significance level of 5%), which means that the three indicators contributed significantly to the formation of the construct X1. Building the cognition dimension (X2), the X2.1 indicator has the highest weight (1.475) with a *t-statistic* value of 5.808, while the X2.2 and X2.3 indicators have values of 0.894 and 0.396, respectively, with *t-statistic* of 23.389 and 11.863. Although the X2.3 indicator has the lowest weight, a high *t-value* and a *p-value* of 0.000 still indicate that this indicator is significant. This suggests that indicators with low load can still be accommodated in the default model if they are statistically significant and have a theoretical justification effect.

In the build of the expanding desire (Y), the three indicators show a high parameter Weight : Y1 (0.787), Y2 (0.980) and Y3 (1.200). The *t-statistic* values of 29,734; 14,185; and 14,058 respectively indicate a very strong level of importance. This indicates that the three indicators are very representative to explain the variable of the desire to develop. Construct of entrepreneurial spirit (Z), indicators Z1, Z2 and Z3 show an estimated parameter of 0.663 each; 1.221; and 1,201. The *t-statistical* values for each The indicators are also quite high: 18.704, 13.429 and 13.048, which indicates that the contribution of each indicator in the measurement The Z construct is very significant and statistically responsible.

Based on the above explanation, it can be concluded that there are no indicators with a *p-value* above 0.05, so all indicators are statistically significant in the formation of the latent build to be studied. These results show that the *measurement model* has qualified the validity of the indicator and can be used for further testing of the *structural model* . Therefore, this model is empirically valid to explain the relationship between IoT literacy, cognition dimensions, entrepreneurial spirit, and the desire to develop in the context of local tourism SMEs.

Table. 5 Outdoor Table Loading

	Exterior loads (standardized)
X1.1 <- X1	0,736
X1.2 <- X1	0,871
X1.3 <- X1	0,765
X2.1 <- X2	0,986

X2.2 <- X2	0,894
X2.3 <- X2	0,784
Y1 <- Y	0,799
Y2 <- Y	0,791
Y3 <- Y	0,775
Z1 <- Z	0,700
Z2 <- Z	0,826
Z3 <- Z	0,784

The results of *the external loading* analyses were used to evaluate the contribution of each indicator in latent formation builds in this research model. Based on the results of data processing with SmartPLS 4.0, all indicators have *standardized external loading* values, most of which are above the minimum limit of 0.70, as suggested by Hair et al. (2021). This shows that these indicators have a fairly strong correlation with the construct them measure.

In the business IoT literacy build (X1), the three indicators show a fairly high and consistent situation outside carrying value, namely X1.1 of 0.736, X1.2 of 0.871, and X1.3 of 0.765. The three values are above 0.70, which indicates that each indicator has good measurability and is relevant to explain IoT literacy business variables. Build dimension cognition (X2), the two indicators X2.1 and X2.2 show very high results loading, which is 0.986 and 0.894 respectively, which means the contribution of the indicators to the build is very Strong. However, the X2.3 indicator shows a charge. value of 0.784, which is relatively low. If this indicator has an important substantive significance in a theoretical context, then it can be maintained with conceptual justification. The desire to develop (Y), the three indicators also presented satisfactory results, namely Y1 (0.799), Y2 (0.791) and Y3 (0.775). All of these values are within the ideal range and reflect that the indicator consequently measures the variable in question. Entrepreneurship (Z), indicators Z1, Z2 and Z3 show values of 0.700, 0.826 and 0.784, respectively. These values show that the indicator has good relevance to explain the entrepreneurial spirit possessed by SMEs.

Validity, Reliability, And R-Squared

Table. 6 Reliability and Validity Test

	Cronbach's alpha (standardized)	Cronbach's alpha (non-standardized)	Composite reliability (rho_c)	Average difference extracted (AVE)	R-square
X1	0,830	0,828	0,831	0,629	
X2	0,842	0,846	0,900	0,693	
Z	0,826	0,820	0,828	0,621	0,375
And	0,818	0,818	0,816	0,596	0,287

The results of the Reliability and Validity Test of the builds in this model shows that all variables, both exogenous and endogenous, meet the required

statistical criteria. Cronbach's alpha value for all constructions was above 0.80, indicating that the research instrument had high internal reliability. Cronbach's alpha values for the business IoT variable literacy (X1) and cognition dimension (X2) were 0.830 and 0.842, respectively. All articles in the The constructs are consistent in the measurement of the notion in question, as evidenced by the values of 0.826 and 0.818 obtained by the variables of entrepreneur spirit (Z) and desire to develop (Y), respectively.

In addition, the recommendations of the composite reliability (CR) analysis, also known as ρ_c , which evaluated the internal PLS model consistency, were satisfactory. With a CR value greater than 0.80, the complete build displays exceptional consistency. Interestingly, the variable with the highest CR value, X2 (cognition dimension), was followed by X1 (0.831), Y (0.828) and Z (0.816).

The Average Difference Extracted Value (AVE) was used to conduct the convergent test of validity and determine the results. All variables have an AVE value above 0.50, which is the minimum limit for declaring that the construct has good convergent validity. The highest AVE value was found in the cognition dimension construct (X2) of 0.693, indicating that more than 69% of the difference of the indicators in this construct can be explained by the latent construct. Meanwhile, the AVE value of other variables such as IoT business literacy (X1) of 0.629, desire to develop (Y) of 0.621, and entrepreneurial spirit (Z) of 0.596 also indicate adequate build validity.

The result of the determination coefficient (R^2), the endogenous *entrepreneur spiritual variable* (Z) showed an R^2 value of 0.287, which meant that the variables X1 and X2 together were able to explain about 28.7% of the variability of the entrepreneur spirit of SMEs. Meanwhile, the *variable desire to develop* (Y) has an R^2 value of 0.375, which indicates that the combination of influences of X1, X2 and Z is able to explain 37.5% of the variance in the desire to develop.

The validity of the model is more supported by another metric. In addition, the entrepreneur spirit variables determination coefficient (R^2) was 0.287, while the ambition to develop variables was 0.375. This indicates that the model has a moderate ability to explain the variability of endogenous variables, where the combination of business IoT literacy and cognition dimensions can explain around a 37.5% variation in the desire to develop SMEs in local issues tourism areas

DISCUSSION

Enterprise IoT Literacy Affects Entrepreneur Spirit

According to the study's findings, MSME owners who are adept at understanding and using Internet of Things Technologies of Things (IoT) report Feeling More Entrepreneurial. The recommendations of this study shows that agritourism SMEs applying business IoT literacy have been adopted to strengthen the attractiveness of educational family tourism products, such as through online ordering, QR codes on products, or digitization of the process of visitor fruit harvesting farms. These recommendations support the argument that the use of

technology directly increases *customer engagement* and fosters innovation. The recommendations of the Bumi Aji Sejahtera SMEs are actors of MSMEs in the local agricultural sector. Processed Food & Beverage Sector. Its success is supported by the ability to manage digital marketing and production systems such as QR code labels, online ordering, and distribution tracking. With a technology-based approach, this SME strengthens the role of IoT literacy as a determinant of business growth. Their courage to expand the market and participation in entrepreneurial training reflect a high entrepreneurial spirit. The results of this study are supported by Setiawan (2023); Yuwono et al. (2024); Mishrif and Khan (2023) & (Davis, 1989).

The Cognition Dimension Affects the Entrepreneurial Spirit

This study also confirms that critical thinking ability, creativity, and problem-solving skills, which are classified as cognition, play a role in fostering entrepreneurial spirit, though not as strong as the influence of technology. Actors of MSMEs WHO have good cognitive abilities tend to be able to see hidden opportunities and adapt to business situations . High cognitive level is not enough without emotional encouragement and environmental support. Research by Wahyuni et al. (2023) supports this outcome, where the ability to think outside the box must be balanced with the courage to act to produce real impact on entrepreneurship. These recommendations strengthen the theory of Rusu et al. (2023), that knowledge without action of Entrepreneurship can cause indecision and stagnation in business. decision-making. Findings in the field on MSME actors WHO I have creative ideas for products but I don't dare to market more broadly because they also consider many risks that have not been implemented as much.

Field findings such as Silhouette Crochet in Songgokerto, Batu City, are an example of how based on educational tourism craftsmanship with a combination of creativity (cognition) and the application of digital technology can propel SMEs to national achievements. This point-based craft product not only relies on manual capabilities, but also manages to make heavy use of e-commerce and social media platforms to build a market. So that This shows that the existence of sustainability and the growth of entrepreneurial spirit have become plans and principles that are applied.

Enterprise IoT Literacy Affects Efforts to Grow

The results of the study shows that Internet of Business IoT literacy has a positive impact and significant influence on the growth *intention* of Small and Medium Enterprises (SMBs) in the tourism destinations sector in Greater Malang. Based in the findings, OMS SMEs have a high level of IoT literacy is able to integrate technology into various operational aspects, ranging from sensor-based digital marketing, intelligent *inventory management* systems, to *real-time* sales data monitoring. This implementation not only improves efficiency and accuracy in decision-making, but also strengthens the ability to adapt to the dynamics of tourism demand. Therefore, IoT literacy is the main driver of the emergence of the confidence and courage of SMEs to expand their business scale, expand their market network and develop product innovations.

Empirical evidence supports this interpretation. Use of IoT in gastronomy. SMEs in Yogyakarta tourism districts increased operational efficiency by 35% and

expanded market reach, according to Prasetyo et al. (2023). In a similar vein, Susanto and Handayani (2022) found that IoT-based digital literacy among Bali's creative SMEs increased their competitiveness in the international arena markets and promoted product innovation. According to Rahmawati et al. (2024), in the particular context of Greater than Malang, tourism SMEs OMS used IoT for real-time consumer engagement saw a 28% increase in repeat business, which directly bolstered their expansion efforts.

IoT literacy for Malang Raya SMEs act as a catalyst for long-term shift towards sustainability and enterprise expansion rather than just as a tool for operational optimization. Through this integration, companies can improve the traveler experience, develop a creative brand image, and quickly adjust to changes in consumption behavior.

The results also show that a greater desire to grow is closely correlated with familiarity with digital technology. IoT-enabled entrepreneurs frequently attach greater push towards increasing production and expanding their market reach. This trend is evident in places like Batu City Souvenir Center and Kayutangan Heritage, where MSME owners are progressively implementing online marketing dashboards based on app-based customer support and digital inventory systems. These observations reinforce Vodă's (2021) claim that digital adoption instills entrepreneurs with greater than confidence to seek business growth. The results also echo Rahmawati et al. (2024), who underline the importance of training and structured digital policies support for SMEs in key tourism areas.

However, there are barriers remaining. Limited access to insufficient technology and training remain the primary obstacles preventing SMEs from adopting new systems effectively (Jain and Kaur, 2023). It is encouraging that Batu City and Malang City have taken steps forward by establishing business incubators and providing digital assistance programs through local government and university partnerships. Given Malang De Raya's pivotal role as a major tourism hub in East Java, strengthening IoT literacy stands out as a basic strategy to ensure the region's SMEs remain competitive and sustainable within the tourism-driven economic ecosystem.

Effects of the Cognition Dimension on Growth Intensity

The study results indicate that the cognitive abilities of MSME owners in the Greater than Malang region have a clear idea and significant impact on their intention to grow. Entrepreneurs with strong analytical skills, broad perspectives and a solid understanding of market dynamics are able to identify business opportunities more quickly and accurately, then translate them into concrete growth strategies. Point field observations to instances such as Songgokerto, Batu City's Crochet Silhouette, where a combination of inventiveness (cognitive ability) and decisive action have produced remarkable results. In order to reach a wider audience, it is based on craft company, which specializes in weaving and aggressively uses social media and e-commerce. platforms in addition to physical experience. Such an approach demonstrates how knowledge and understanding can help long-term business planning and sustainability growth when coupled with concrete actions. The results of this study are supported by Rusu et al. (2023);

(Anderson, 2010); Rahmawati and Suroso (2021); Herawati et al. (2022). The results indicate that improving cognitive ability need to be seen as a target strategy in order to increase SME expansion aspirations in Greater De Malang tourism-oriented districts. Empowerment programs should therefore incorporate market development, analysis, skills, product, innovation, and data-driven decision-making, in addition to technical training. This that encompasses all method guarantees that knowledge is not fair collected but successfully converted into company plans that can produce long-term growth .

From Entrepreneur Spirit Affects Intensity to Growth

Overall, the results indicate that improving cognitive ability need to be seen as a target strategy in order to increase SME expansion aspirations in Greater De Malang tourism-oriented districts. Empowerment programs should therefore incorporate market development, analysis, skills, product, innovation, and data-driven decision-making, in addition to technical training. This that encompasses all method guarantees that knowledge is not fair collected but successfully converted into company plans that can produce long-term Growth . WHO MSME actors have the courage to take risks, the spirit to continue learning, and the orientation of the future, are better prepared to respond to challenges and seek new opportunities. In the Greater than Malang area, MSME actors with this character seem to be actively participating in digital marketing trainings, getting involved in products exhibitions and collaborations with strategic fire for business expansion

The results demonstrate that the cornerstone of long-term company growth is an entrepreneurial mindset that includes risk-taking, creativity, and initiative. SMEs move from seeking short-term profitability to ensuring long-term viability when these three factors work together harmoniously. This entrepreneurial spirit is further fortified by broad company networks, varied customer encounters and community This mindset has driven innovative products. development, innovative marketing tactics and service quality improvements in the Malang Raya Example. In addition to serving company owners, these projects enhance the area's reputation as a traveler destination with unique and superior options. Therefore, a method strategy to preserve and improve the competitiveness of SMEs in the area is to strengthen this entrepreneurial mindset through education, mentoring and increasing market access.

Spirit The Entrepreneur as a Mediator of Enterprise IoT Literacy Affects Efforts to Grow

The research shows that, especially when mediated by the entrepreneurial spirit, IoT Business Literacy significantly influences the expansion intentions of SMEs in local themes based on destination tourism areas in Malang Raya. This research implies that corporate actors are not always motivated to grow by merely understanding, embracing, and using IoT technology in their operations. Only when entrepreneurs have a strong entrepreneurial spirit characterized by the viscera to carry measured risks, a dedication to ongoing innovation and a proactive orientation towards market opportunities will the benefits of the enterprise IoT

Literacy become fully apparent (Hasan et al., 2022; Kim et al., 2024; Sulthana et al., 2025; Zhang & Li, 2023).

These recommendations suggest that it is not enough to provide technical training on the use of IoT based SMEs on the basis of local subject matter destinations. That is necessary to strengthen the entrepreneurial spirit through intensive mentoring, training creative business communities and cultivating innovative mindsets so that the use of technology actually encourages an increase in business scale. For policy makers, development of SMEs strategies in the thematic Need of the tourism sector to combine digital literacy with the strengthening of entrepreneurial character to sustainably produce growth.

Of Entrepreneur The Spirit as Mediator of Entrepreneurial Cognition Dimension Affects the Desire to Develop

The results of the analyses show that *The entrepreneurial cognition dimension* has a significant effect on *the Desire to Develop* in SMEs of the tourism sector areas based on local theme destinations in Malang Raya, with Entrepreneurial Spirit acting as a total or partial mediator (depending on the indicator). These recommendations indicate that knowledge, business reasoning capacity and ability to recognize opportunities (cognition dimension) alone are not enough to encourage the desire to develop directly; This influence is understood when business actors have an entrepreneurial spirit that motivates real actions such as service innovation, measurable risk-taking and proactively responding to market demand (Hongyun et al., 2022; Bağış et al., 2023; Stone et al., 2024). (Hongyun et al., 2022; Bağış et al., 2023; Stone et al., 2024).

The results of this research Forming a quality UKM recognized by the East Java Office of Cooperatives and SMEs in the field of SMEs slope, specifically UKM Silhouette Crochet in Batu City, which won the Crafts Champion in 2023 with successful combinatorial craftsmanship creativity and digital literacy through e-commerce and social media. Bumi Aji Sejahtera SMEs (F&B Champion 2024) use QR codes, online ordering, and distribution tracking combining IoT, literacy, and *entrepreneurship spirit* . In Malang Regencia , CV. Pelangi Indonesia (Juara Kriya 3, 2023) uses digital branding and marketplace collaboration to commercialize creative ideas. SME POTY (F&B Champion 3, 2024) exemplifies the transformation from home production to semi-industry with digital inventory and marketing through Shopee, TikTok, and digital mentoring. Meanwhile, CLEMAT CLEMUT (number 1 winner, 2024) strengthens digital brands. Through Community Collaboration, showing the synergy of technology, literacy and entrepreneurship spirit that sparks the desire to develop.

CONCLUSIONS AND RECOMMENDATIONS

This study shows that IoT business literacy and the business cognition dimension have a significant effect on the desire to develop SMEs in tourism areas based on local theme destinations in Greater Malang , both directly and through entrepreneur spirit as a mediation variable . Enterprise IoT literacy provides a core technology that enables businesses to manage, market, and develop products digitally. However, the results also confirm that the positive influence will be

optimal if accompanied by a strong entrepreneurial spirit reflected in the courage to take risks, creativity, innovation and market orientation opportunities. The second factor, namely the business dimension cognition, which includes the knowledge, understanding and strategy capabilities of MSME actors, has been proven to encourage the desire to develop. However, these recommendations also demonstrate that cognitive abilities alone are not enough without the encouragement of an entrepreneurial spirit that can turn perspectives into concrete actions.

In theory, these recommendations are reinforced by the view of the Resource-Based Vision (RBV) that places knowledge and technology resources as strategic assets that need to be optimized through entrepreneurial capabilities to generate sustainable competitive advantages. These findings are also supported by the Technology Acceptance Model Theory (TAM), where the perceived *utility* and *perceived usability* of IoT technology will affect the acceptance of technology by SMBs. However, the acceptance of this technology will only be effective in encouraging growth if actors have the entrepreneurial spirit to turn it into innovative and market-oriented business strategies. In practice, involvement is the need for an SME empowerment program that not only increases digital literacy and cognitive ability, but also builds entrepreneur's mindset and motivation to maximize growth in the tourism sector based on local theme destinations .

FURTHER STUDY

Further study can expand the LI-CEG model by including digital engagement variables and tourist behavior to see more comprehensively the contribution of businesses to locally-themed destinations in the tourism SMEs area.

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