



Research article

Do digital literacy and business sustainability matter for creative economy? The role of entrepreneurial attitude



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ARTICLE INFO

Keywords:

Digital literacy
 Business sustainability
 Entrepreneurial attitude
 Creative economy

ABSTRACT

In the last decade, the significant of the creative economy has continued to strive in taking part in the momentum of economic revival as the impact of the corona virus disease (Covid-19). This study highlights the factors affecting the creative economy, digital literacy, business sustainability, and entrepreneurial attitudes. In this study, a quantitative approach using structural equation modeling with partial least squares (PLS-SEM) was used to predict and confirm the hypotheses presented. This research was conducted for housewives on the islands of Sumatra, Java, and Bali in Indonesia using a google form questionnaire. The total sample was 500 respondents from these three islands. The findings indicate that digital literacy can explain the creative economy, business sustainability, entrepreneurial attitude. However, the variables of entrepreneurial attitudes need support from digital literacy and business sustainability. This research is a follow-up to the creative economy sector post the Covid-19 pandemic.

1. Introduction

In recent years, the importance of the creative economy has been recognized at the forefront of taking part in the momentum of economic revival due to corona virus disease [1]. It has invited the attention of government and policymakers to accelerate the recovery of the creative economy sector through various excellent programs, i.e., the digital market. As mentioned by Ref. [2]; the biggest challenge of the pandemic comes is the change in the sales system in the global creative industry. The pandemic has shifted from offline economic transactions to online activities because people avoid risks related to the transmission of COVID-19. This change provides a significant challenge for the creative economy sector, especially in developing countries [3]. In addition, only some creative economy actors in Indonesia understand online methods, which affects the creative economy sustainability [4].

Indonesia is the nation with the creative economy as the basis of economic activities. A prior study mentioned that Indonesia's Gross Domestic Product (GDP) currently receives additional income from the creative economy sector contributing IDR 1105 trillion [5]. Indonesia is ranked third in the world, where the country's GDP contributes to the creative economy sector [6]. Considering this matter, it is essential to enhance the creative economy sustainability In Indonesia and other countries as its role in providing new job opportunities. Some studies remarked that to run a creative industry business, it needs to have perseverance, ideas, and creativity that

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<https://doi.org/10.1016/j.heliyon.2022.e12763>

Received 3 September 2022; Received in revised form 19 November 2022; Accepted 29 December 2022

Available online 31 December 2022

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can be provided by all communities [4,7]. Similarly, a preliminary research mentioned that creative economy can contribute to socio-economic development [8]. In addition to being profitable, running a creative business is an auspicious business opportunity [9].

The development of creative industry has grown with the sophistication of technology [10]. Handling an online business can be provided by all community levels, including housewives. Housewives can take advantage of their time to conduct creative business using technology and the internet to help the family economy. The online business is usually suitable for selling clothing for women and children. It also can be a drop shipper, which can help market it as the first step to starting an online home business [11]. In this regard, building digital literacy needs to involve the role of community activities [12]. noted that digital literacy is one of the indicators of achievement in the field of education and the economy. Digital literacy is very important and it is the duty of all of us, including parents, to provide comprehensive knowledge especially about information circulating on the internet [13].

In addition to digital literacy, an entrepreneurial attitude is essential for supporting the creative economy. The entrepreneurial attitude is an attitude toward entrepreneurship that consists of knowledge that can influence the thinking process of the entrepreneur [14]. In managing a business on a home scale, housewives need to acquire sufficient knowledge and business motivation [15]. Family support to housewives in the industry is indispensable. Both morally and materially supported, this is an early stepping stone in business [16]. Business starts from a business idea that must adapt to current opportunities and competencies possessed by housewives. For example, they like cooking, fashion, makeup, and others. A novice businessman needs the ability to survive in business. Business sustainability is necessary to become an even bigger business [17].

Housewives to become an entrepreneur are closely related to creativity, daring to try, having extensive knowledge, to the skills of a person or group. It is not easy to become an entrepreneur and it needs an effort and literacy [18]. Since not all entrepreneurs can immediately to achieve success, it requires commitment and attitudes [19]. Therefore, this study examines the dimensions that affect the creative economy of housewives in Indonesia. This study also technically identifies factors affecting household sustainability and creative economy instruments. Therefore, research questions arise in this study, including, Does economic literacy matter for entrepreneurial attitude and creative economy? (RQ1), Does business sustainability affects entrepreneurial attitude and creative economy? (RQ2) How does entrepreneurial attitude mediates the connectivity between digital literacy, business sustainability, and creative economy?

This research performed two major contributions. First, it contributes to the literature by underlining some things that affected the creative economy during and post the corona virus disease in Indonesia. Second, this present paper also links digital literacy, business sustainability, and entrepreneurial attitudes in Indonesia that are missing in other studies. Some existing studies, for example, [2, 20]; have not addressed the nexus between digital literacy, business sustainability, and entrepreneurial attitudes. This paper presents an understanding of business enhancement and the significance of digital literacy, business sustainability, and entrepreneurial attitudes. In addition, the study in Indonesia is unique as its huge population and resources, it faces a sufficient number of the creative economy. In detail, the study in Java, Bali, and Sumatra, respectively covers the representative growing economic in the central, east and west areas in Indonesia.

2. Theoretical review and hypotheses

2.1. Digital literacy (DL)

Digital literacy is defined the ability and awareness to apply existing digital technology to work while showing the right attitude toward digital learning [21]. Digital literacy includes offline or online cognitive, technical, and socio-emotional learning perspectives [22]. The mental aspects of skill selection, information retrieval, critical thinking ability assessment and selection. The socio-emotional dimension relates to people's behavior when using digital technology. Digital literacy is also essential in modern business [23]. After all, it can be considered the most crucial thing in educational pedagogy today because it has an essential role in students' academic life. Digital literacy can improve the employability of graduates because it empowers them to succeed in business in the digital economy [13].

Digital literacy is also one of the competencies for entering a scholarly society. These digital literacy skills include the knowledge, skills, and attitudes to intelligently use digital technology and smart devices such as smartphones, tablets, laptops, and PCs for collaboration, communication, support, and expression. Digital literacy can translate into effective and efficient use of technology for information management, digital skills, ethical awareness and learning. A person needs to have a particular ability of digital literacy and be better in every technological development, currently in the fifth industrial revolution era [24,25]. Digital skills and technical literacy focus on using technology, but digital literacy goes beyond operational skills. For example, digital skills will include students who know to utilize digital technology for the usefulness of their presentations; for example, they download images from the internet and display them for their production. Digital literacy will focus on selecting appropriate images/information, recognizing copyright licenses, or obtaining permission to use images [26].

H1. Digital literacy has a positive impact on entrepreneurial attitude

H3. Digital literacy has a positive effect on the creative economy

2.2. Business sustainability (BS)

In 1972, the term 'sustainable development was first introduced [27]. This sustainability is based on two primary conditions, namely the needs of the poor who are needed and the limitations of environmental conditions to accomplish their future expectations

[28]. There are three sustainable and very close conditions, and any change in one will change the other. In contrast to, which emphasize the reduction of environmental damages, the perspectives that sustainability can simultaneously increase social wealth and health is invalid [29]. conveyed sustainable development as a proactive strategy provided by organizations to achieve their long-term goals. In other words, sustainability aims at achieving three performance goals: ecologically, socially and economically [30]. [31] mentioned that the term sustainability generally balances and maintains the well-being of the community. In other conditions, sustainability is also related to corporate social responsibility rather than focusing on the three aspects above [32] and moral issues [29]. Various existing points of view, business sustainability in this study on organizational goals to achieve profits and improve social development while still considering several environmental aspects [27].

H2. Business sustainability has a positive impact on entrepreneurial attitude

H4. Business sustainability has a positive effect on the creative economy

2.3. Entrepreneurial attitude (EA)

Some of the previous references pointed out the matter of the entrepreneurial attitude (EA) to shape individual entrepreneurial behavior [14,33]. In addition [34], conveyed that EA is an attitude toward entrepreneurship and this attitude is the knowledge that influences the thinking process of the entrepreneur. Start-up entrepreneurs develop an attitude in entering the entrepreneurial world. This condition makes them identify opportunities to start their new business [35]. Perspectives in the change of personality, skills, knowledge, perceptions, experiences, and others, it is this condition that distinguishes it from other societies. EAs are very important because they reveal one's motivation for starting a business [36,37]. Attitude is a psychological trait of a person, and entrepreneurial intention is an individual's mental capability. Therefore, this invention describes the entrepreneurial behavior of an entrepreneur. Thus, this attitude in entrepreneurship is a stepping stone in starting entrepreneurial behavior in a start-up business [33].

H5. Entrepreneurial attitude has a positive impact on the creative economy

2.4. Creative economy (CE)

The development of the creative economy is currently a field of business that includes art, knowledge, and technology, where a person's creativity is a vital part of the business [38]. Value added or creation is produced from ideas and creativity from creative business people and the application of information technology, especially cultural heritage [39]. The creative industry is a company of a commercial nature that constantly manages the creativity and intellectuals of business people, property, and its primary resources to profit from doing business [2]. The creative industry creates, manufactures, or distributes products and services that have a cultural and creative reflection. The good and services of the creative sector are linked with the development of existing information technologies, as they are innovative drivers for new specialized products [40].

The creative economy is a business activity that produces, promotes, distributes, or commercializes products, services, and activities related to regional culture [2]. The cultural industry has production and consumption activities that reflect or have a connection with its own culture. Under these conditions, this creative sector consists of a broader range of productive businesses, including the goods and services industry produced by the cultural industry or the technological innovation process [5]. From some previous definitions, the creative sector refers to business activities based on creativity and innovation that produce goods and services [20]. In Indonesia, the concept of the creative economy is used because the creative economy has a broader study than the creative industry. The creative economy sector is a source of the creation of economic, social, cultural, and environmental value [2].

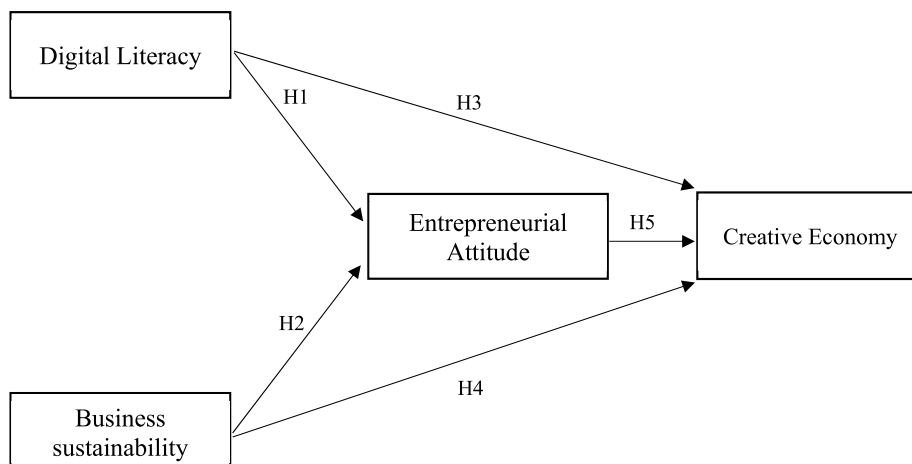


Fig. 1. The model framework. Note(s): This figure is provided based on prior studies and relevant literatures.

H6. Entrepreneurial attitude can mediate the link between economic literacy and creative economy

H7. Entrepreneurial attitude can mediate the link between business sustainability and creative economy

3. Methodology

3.1. Research design

This research used a quantitative approach with PLS-SEM to understand how digital literacy (DL) and Business Sustainability (BS) affect the Creative Economy (CE) and investigate the role of Entrepreneurial Attitudes (EA) in mediation engagement (see Fig. 1). The main advantage of using PLS-SEM is to escalate performed variance in the dependent variables and to estimate the data based on calculation model dimensions.

3.2. Respondents and data collection techniques

Respondents in this study were housewives in Sumatra Island, Java Island, and Bali Island, Indonesia. The rationale of taking these three island to represent the geographical areas in Indonesia, west, central, and east, respectively. We proposed 500 questionnaires using the Google form, which are given to participants via WhatsApp. The study was conducted from May to July 2022. Respondents in this study asked for their anonymity and they only provided initial name. This has been provided to meet ethical issue clearance. In addition, the specifics of respondents are shown in Table 1.

Table 1 displays an overview of information about respondents participating in this research activity. Most respondents were housewives, a small percentage running small-scale businesses (starting to do business) with very diverse work experience. From this table, it can be known that the qualification of the respondent's education level is a high school graduate with a percentage of 55.8%. They are in the food and beverage business as much as 71.8%. Business experience for 1–3 years. With 1–4 employees, as many as 70.8%. Most participants run an online business with an average income of under IDR 100 million per year.

3.3. Research instruments and data analysis

Researchers use survey methods to understand the phenomenon of Indonesia's creative economy. The instruments in this present paper were adapted from antecedent research paper and relevant literatures (see Table 1). The questionnaire was translated first from English to Indonesian with minor modifications to adapt to the Indonesian context. First, Digital Literacy (DL) was measured with eight items by Refs. [41–43]; while Business Sustainability (BS) was calculated by five items from Refs. [44,45]. Five things calculate Entrepreneurial Attitude (EA) according to Ref. [33]. And finally, the Creative Economy (CE) was measured with seven items by Refs. [2,20]; and [10]. The question was given to participants about their degree for each statement of criteria 1 (strongly disagree) and 5 (strongly agreed). This study's proximity of data analysis operates PLS-SEM with SmartPLS (version 3.0).

Table 1
The demographic of participants.

Categorical		Frequency	%
Gender	Female	500	100
	Male	–	–
Business scope	Foods and beverages	359	71.8
	Service	74	14.8
	Fashion	67	13.4
Business experience	>10 years	58	11.6
	7–9 years	121	24.2
	4–6 years	127	25.4
	1–3 years	153	30.6
	<2 years	41	8.2
Educational engagement	Senior High School	279	55.8
	Diploma	134	26.8
	Bachelor degree	73	14.6
	Postgraduate degree	9	1.8
	Certificate level	5	1
Number of employees	1–4	352	70.8
	5–19	134	26.8
	20–99	14	2.8
Average Revenue	≤100 million IDR	276	55.2
	>100–200 million IDR	135	27
	>200–300 million IDR	12	2.4
	>300 million IDR	5	1

Source: Authors own (2022)

4. Results and discussions

4.1. Evaluation of external models

It begins with the determination of the outer model of PLS, which aims to ensure that the existence of the instruments involved is reliable. The criteria in the model achieves the reliability when composite reliability (CR) and Cronbach's Alpha are higher than the threshold (0.05) [46]. Meanwhile, the study found that each construct's CR value was in the range of 0.861–0.926 to achieve reliability (see Table 2). In addition, indicators for convergent validity are achieved when the average of the extracted variance (AVE) is expressed as significant when it is > 0.60 [46]. All items are higher than 0.6, and the AVE value for each construct ranges from 0.554 to 0.602 (>0.5), which later implies achieving convergent validity. In addition to assessing convergence validity, this study also tested the validity of the discriminant using the cross-loading coefficient. Table 3 shows the cross-loading values for all variables (DL, BS, EA, and CE) ranging from 0.744 to 0.781, more significant than 0.70, indicating that the variable meets the criteria for discriminant validity.

4.2. Collinearity test

Collinearity tests are used to determine the degree of collinearity between the variables under investigation, indicated by the coefficient of variance inflation (VIF). A criterion to consider for passing the collinearity test is a VIF value less than 5.00 [46]. From the initial scoring data, the VIF coefficient values for all input variables range from 1.509 to 2.660 (<5.00). From this condition, it can be assumed that there is no collinearity between the configuration variables and is valid.

4.3. Hypothesis testing

Structural equation modeling is used to test model hypotheses. The t-statistic used for bootstrapping and the researchers present all data using a 500 bootstrap sample. As shown in Table 4 and see Fig. 2, the seven hypotheses proposed in this study met the criteria with t-values ranging from 2.577 to 12.893 (>1.96) for each relationship.

This study used the R-square Model (R^2), which displays the accuracy of model predictions. The coefficient of determination R^2 is a way of assessing how well the intrinsic structure can be explained by the extrinsic structure. The value of the coefficient of determination R^2 is expected to be between 0 and 1 [47]. These R^2 values that fall on or higher than the value of 0.75 can be defined as substantial, while for 0.50 and 0.25, they are categorized as medium and weak [47]. This calculation shows that DL and BS account for 49.6% of the EA variance and have moderate predictability. On the other hand, DL, BS, and EA explained 61.4% of CE variants with reasonable predictability. Furthermore, f^2 is used to determine whether the exogenous construct has a substantive effect on the endogenous construct. Referring to Ref. [47]; f^2 values of 0.02, 0.18, and 0.40 represent small, moderate, and significant effects of

Table 2
Measurement of outer model.

Construct	Items	λ	α	CR	AVE
DL	DL1	0.752	0.908	0.926	0.609
	DL2	0.779			
	DL3	0.801			
	DL4	0.745			
	DL5	0.773			
	DL6	0.831			
	DL7	0.735			
	DL8	0.823			
BS	BS1	0.724	0.800	0.861	0.554
	BS2	0.751			
	BS3	0.730			
	BS4	0.755			
	BS5	0.760			
EA	EA1	0.780	0.828	0.879	0.592
	EA2	0.767			
	EA3	0.755			
	EA4	0.779			
	EA5	0.767			
CA	CE1	0.788	0.874	0.902	0.570
	CE2	0.770			
	CE3	0.779			
	CE4	0.750			
	CE5	0.780			
	CE6	0.773			
	CE7	0.739			

Note(s): DL = digital literacy, EA = entrepreneurial attitude, BS = business sustainability, CE = creative economy.

Source: Authors own (2022)

Table 3
Discriminant validity.

Construct	BS	CE	DL	EA
BS	0.744			
CE	0.640	0.755		
DL	0.537	0.765	0.781	
EA	0.681	0.840	0.739	0.770

Note(s): DL = digital literacy, EA = entrepreneurial attitude, BS = business sustainability, CE = creative economy.
Source: Authors own (2022)

Table 4
Hypothesis testing.

Hypotheses	Relationship	T-value	P-values	Decision
H ₁	DL → EA	12.893	0.000	Confirmed
H ₂	BS → EA	10.910	0.000	Confirmed
H ₃	DL → CE	8.705	0.000	Confirmed
H ₄	BS → CE	2.577	0.010	Confirmed
H ₅	EA → CE	12.392	0.000	Confirmed
H ₆	DL → EA → CE	9.482	0.000	Confirmed
H ₇	BS → EA → CE	7.697	0.000	Confirmed

Note(s): DL = digital literacy, EA = entrepreneurial attitude, BS = business sustainability, CE = creative economy.
Source: Authors own (2022)

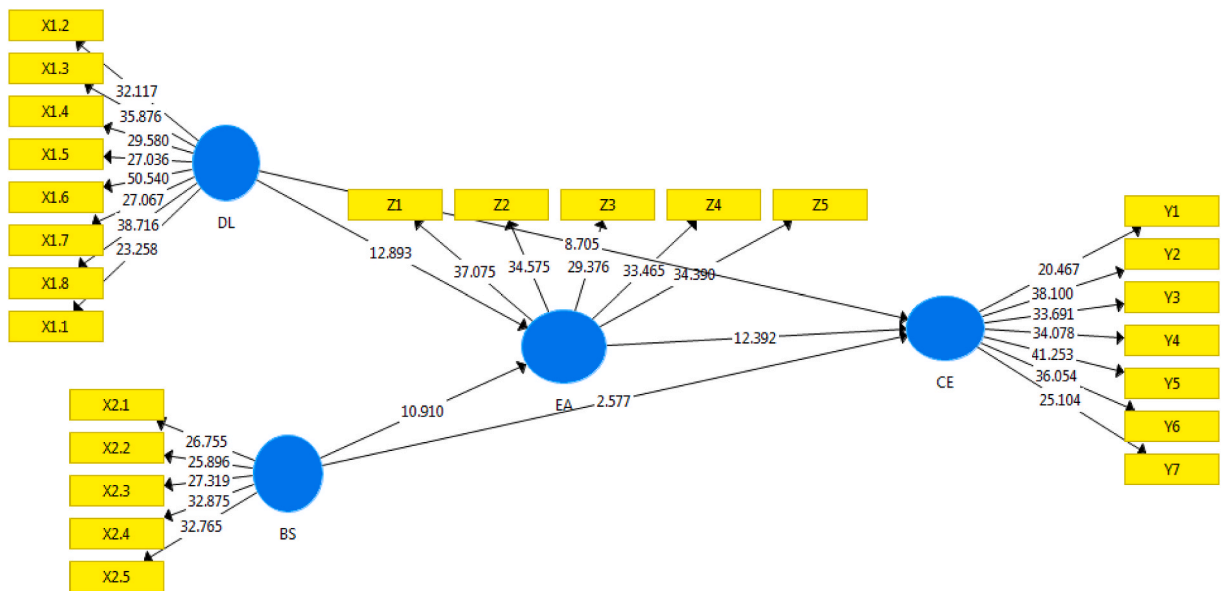


Fig. 2. The structural equation modeling calculation.
Source: Authors own (2022)

extrinsic structures on intrinsic structures, respectively. In particular, the size of the effect of DL and BS on the EA has a significant impact (the value of f^2 is 0.333). Furthermore, the measure of the impact of DL, BS, and EA on CE has a considerable effect (the value of f^2 is 0.577).

4.4. Discussions

The findings of this study can answer five hypotheses. In the initial part of this study, the first and third hypotheses were conflated, where the influence between DL and EA was with a p-value of 0.000 and t-value of 12.893. As for DL and CE, with p-values of 0.000 and t-values of 8.705. This result can be explained to the fact that most housewives are familiar with digital literacy. These findings support several studies that have been carried out by Ref. [41]. Housewives have marketed their business using more than two social media marketing applications and more than two e-commerce applications [48]. Some housewives can analyze competitors using social

media marketing/e-commerce housewives and already have business ideas without capital, which support the previous findings by Refs. [49-51]. Housewives know market research for best-selling products/market research through digital marketing and research on target SEO (Search Engening Optimisation). To present, housewives can do content writing and create content on social media [13,24, 52].

In addition, for second and the fourth hypothesis, the findings showed that the influence between BS and EA with a p-value of 0.000 and t-value of 10.910. As for BS and CE with a p-value of 0.010 and t-value of 2.577. The results of this study indicate that housewives have been able to combine several business plans. This supports the research carried out by Ref. [44]. With technology development, housewives can follow and update the business plan. Furthermore, housewives can observe competitor easily whether there is a new business strategy. Housewives can calculate the calculation of risk and support for the paper performed by Ref. [45]. For the fifth hypothesis, it was found that the influence between EA and CE. This indicates that a carrier as an entrepreneur is beautiful to housewives. These findings are in agreement with [53]; which mentioned that among the variety of options, housewives prefer to be entrepreneurs. Similarly [54,55], remarked that Being an entrepreneur means more benefits than disadvantages for a housewife. Lastly, when housewives have opportunities and resources, housewives want to start entrepreneurship [56,57].

For the sixth hypothesis, it was found that the effect of DL on CE through EA with a p-value of 0.000 and t-value of 9.482. Lastly, the statistical calculation of the seventh hypothesis noted that the effect of BS on CE through EA with a p-value of 0.000 and a t-value of 7.697. The findings show that a housewife environment and creative human resources that are professional and competitive. These outputs confirm an antecedent study by Ref. [2]; which documented that young households found quality, diverse, and competitive raw materials. Indeed [58], pointed out that there is a competitive, growing, and various industrial development in the environment of housewives. This research is also in agreement with [59,60]; which remarked that young housewives are informed of appropriate and competitive financing. Housewives obtained a reasonable and competitive infrastructure and technology. Lastly, this study supports a prior study by Refs. [9,61]; which mentioned that some institutions and business climates are conducive to developing the creative economy, capital intellectuality, and creative economy empowerment in the environment of housewives.

5. Conclusion

This study attempts to investigate the interconnectedness between digital literacy, business sustainability, entrepreneurial attitude, and creative economy in Indonesia. The findings remark that creative economy can be explained by digital literacy and business sustainability. Indeed, entrepreneurial attitude can provide the relationship between digital literacy, business sustainability and creative economy. This research highlights how the activities of housewives who are familiar with digital literacy and ease of doing business from this digital literacy can encourage households to know market research for best-selling products research through digital marketing and targeted research. Support the attitude of housewives seeing opportunities and resources, and housewives want to start entrepreneurship. Many are in favor of expanding the market for creative work. Housewives get the appropriate and competitive infrastructure and technology. Many institutions and business climates are conducive to developing the creative economy, capital intellectuality, and creative economy empowerment in the environment of housewives.

This paper provides practical and academic implications. First, this study presents input to housewives to involve with digital literacy and they can use social media as a business tool to increase family income. Second, the government can provide support and regulation to protect against this housewife's business by providing some assistance to reach business sustainability. Third, banks and capital institutions can offer soft loans to support the business development. This research shows that digital marketing models can replace conventional marketing. Governments and institutions can provide Training and infrastructure support that supports social media-based marketing models to sustain the creative economy. Lastly, this study also propose methodological contributions using PLS-SEM in predicting creative economy among housewives in Indonesia. The primary limitation of this paper was that the geographical sampling that solely focuses on Java, Sumatra, and Bali islands. Thus, further researchers can explore in the wider context of study.

References

- [1] C. Hevia, A. Neumeier, A conceptual framework for analyzing the economic impact of COVID-19 and its policy implications, COVID19 Policy Document Series 1 (2020) 1–18. <https://www.undp.org/content/dam/rblac/Policy Papers COVID 19/UNDP-RBLAC-CD19-PDS-Number1-EN-F2.pdf>.
- [2] A.N. Aisha, I. Sudirman, J. Siswanto, M. Andriani, A competency model for SMEs in the creative economy, *Int. J. Bus.* 24 (4) (2019) 369–392.
- [3] L.W. Wardana, The role of facebook as a social media marketing on housewives' start-up business, *J. Entrep. Dan Entrepreneur.* 7 (2) (2018) 79–86, <https://doi.org/10.37715/jee.v7i2.1107>.
- [4] S. Rosyadi, A.S. Kusuma, E. Fitrah, N.A. Zayzda, T. Pimoljinda, Barriers of public policy faced by SMEs of creative economy in Indonesia, *Int. J. Law Manag.* 64 (1) (2021) 32–48, <https://doi.org/10.1108/IJLMA-02-2020-0061>.
- [5] S. Santoso, Optimizing access to financial capital of creative economy for startups towards global competitiveness, *Business Economic, Communication, and Social Sciences (BECOSS) Journal* 2 (2) (2020) 181–189, <https://doi.org/10.21512/becossjournal.v2i2.6246>.
- [6] R. Santoso, A.Y.A. Fianto, Creative industry and economic recovery strategies from pandemic disruption, *JIET (Jurnal Ilmu Ekonomi Terapan)* 7 (1) (2022) 47–62.
- [7] S. Cerisola, E. Panzera, Cultural and creative cities and regional economic efficiency: context conditions as catalyzers of cultural vibrancy and creative economy, *Sustainability* 13 (13) (2021) 7150.
- [8] M. Banks, Creative economies of tomorrow? Limits to growth and the uncertain future, *Cult. Trends* 27 (5) (2018) 367–380.
- [9] Z. Zhou, R. Verburg, Open for business: The impact of creative team environment and innovative behavior in technology-based start-ups, *Int. Small Bus. J.* (2020) 1–19, <https://doi.org/10.1177/0266242619892793>.
- [10] G. Nobre, Creative Economy and Covid-19 : technology, automation, and the new economy. April, 2020, <https://doi.org/10.13140/RG.2.2.16293.04326/1>.
- [11] H.N. Karimi, Social media marketing (SMM) strategies for small to medium enterprises (SMEs), *Int. J. Inf. Bus. Manag.* 7 (4) (2015).

- [12] S.J. Allen, On the cutting edge or the chopping block? Fostering a digital mindset and tech literacy in business management education, *J. Manag. Educ.* (2020), <https://doi.org/10.1177/1052562920903077>.
- [13] Z.J. Liu, N. Tretyakova, V. Fedorov, M. Kharakhordina, Digital literacy and digital didactics as the basis for new learning models development, *Int. J. Emerg. Techn. Learn.* 15 (14) (2020) 4–18, <https://doi.org/10.3991/ijet.v15i14.14669>.
- [14] H.G. Arvidsson, D.N. Coudounaris, R. Arvidsson, The shift from causation to effectuation for international entrepreneurs: attitudes and attitude change versus social representations, *Int. J. Enterpren.* 24 (3) (2020) 1–23.
- [15] R.D. Kumalasari, K. Lukiyanto, A. Purnomo, External factors motivating successful women entrepreneurs: a study of women entrepreneurs community in A rural area, *PalArch's J. Archaeol. Egypt/Egyptology* 18 (1) (2020) 518–526. <https://archives.palarch.nl/index.php/jae/article/view/2064>.
- [16] A.M. Walker, K. Opferkuch, E. Roos Lindgreen, A. Raggi, A. Simboli, W.J.V. Vermeulen, S. Caeiro, R. Salomone, What is the relation between circular economy and sustainability? Answers from frontrunner companies engaged with circular economy practices, *Circular Economy and Sustainability* 2 (2) (2022) 731–758, <https://doi.org/10.1007/s43615-021-00064-7>.
- [17] V. Parida, D. Sjödin, W. Reim, Reviewing the literature on digitalization, business model innovation, and sustainable industry: past achievements and future promises, *Sustainability* 11 (2) (2019), <https://doi.org/10.3390/su11020391>.
- [18] E. Rusliati, M. Mulyaningrum, A. Wibowo, B.S. Narmaditya, Does entrepreneurial leadership matter for micro-enterprise development?: lesson from west java in Indonesia, *J. Asi. Fin. Econom. Bus.* 7 (8) (2020) 445–450, <https://doi.org/10.13106/jafeb.2020.vol7.no8.445>.
- [19] M.S. Dinc, S. Budic, The impact of personal attitude, subjective norm, and perceived behavioural control on entrepreneurial intentions of women, *Eurasian Journal of Business and Economics* 9 (17) (2016) 23–35.
- [20] R. Gouvea, D. Kapelianis, M.J.R. Montoya, G. Vora, The creative economy, innovation, and entrepreneurship: an empirical examination, *Creativ. Ind J.* 14 (1) (2021) 23–62, <https://doi.org/10.1080/17510694.2020.1744215>.
- [21] M.U. Perera, L. Gardner, A. Peiris, Investigating the interrelationship between undergraduates' digital literacy and self-regulated learning skills, 2016 International Conference on Information Systems, ICIS 2016, Tausend 2013 (2016) 1–13.
- [22] W. Ng, Can we teach digital natives digital literacy? *Comput. Educ.* 59 (3) (2012) 1065–1078, <https://doi.org/10.1016/j.compedu.2012.04.016>.
- [23] L. Anthonsamy, A.C. Koo, S.H. Hew, Self-regulated learning strategies in higher education: fostering digital literacy for sustainable lifelong learning, *Educ. Inf. Technol.* 25 (4) (2020) 2393–2414, <https://doi.org/10.1007/s10639-020-10201-8>.
- [24] G. Polizzi, Digital literacy and the national curriculum for England: learning from how the experts engage with and evaluate online content, *Comput. Educ.* 152 (2020) 103859, <https://doi.org/10.1016/j.compedu.2020.103859>.
- [25] S. Tejedor, L. Cervi, A. Pérez-Escoda, F.T. Jumbo, Digital literacy and higher education during COVID-19 lockdown: Spain, Italy, and Ecuador, *Publications* 8 (4) (2020) 1–17, <https://doi.org/10.3390/publications8040048>.
- [26] S. Purnama, M. Ulfah, I. Machali, A. Wibowo, B.S. Narmaditya, Does digital literacy influence students' online risk? Evidence from Covid-19, *Heliyon* 7 (6) (2021), e07406, <https://doi.org/10.1016/j.heliyon.2021.e07406>.
- [27] Y.M. Yusoff, M.K. Omar, M.D. Kamarul Zaman, S. Samad, Do all elements of green intellectual capital contribute toward business sustainability? Evidence from the Malaysian context using the Partial Least Squares method, *J. Clean. Prod.* 234 (2019) 626–637, <https://doi.org/10.1016/j.jclepro.2019.06.153>.
- [28] R. Borim-de-Souza, Z. Balbinot, E.F. Travis, L. Munck, A.R.W. Takahashi, Sustainable development and sustainability as study objects for comparative management theory, *Cross Cult. Manag.* 22 (2) (2015) 201–235, <https://doi.org/10.1108/CCM-02-2013-0027>.
- [29] T. Asif, O. Guangming, M.A. Haider, J. Colomer, S. Kayani, N.U. Amin, Moral education for sustainable development: comparison of university teachers' perceptions in China and Pakistan, *Sustainability* 12 (7) (2020) 3014.
- [30] S.S. Kamble, A. Gunasekaran, S.A. Gawankar, Achieving sustainable performance in a data-driven agriculture supply chain: a review for research and applications, *Int. J. Prod. Econ.* 219 (2020) 179–194.
- [31] M. Haseeb, H.I. Hussain, B. Ślusarczyk, K. Jermisittiparsert, Industry 4.0: a solution towards technology challenges of sustainable business performance, *Soc. Sci.* 8 (5) (2019) 154.
- [32] J. Abbas, Impact of total quality management on corporate green performance through the mediating role of corporate social responsibility, *J. Clean. Prod.* 242 (2020) 118458.
- [33] L. Collins, P.D. Hannon, A. Smith, Enacting entrepreneurial intent: the gaps between student needs and higher education capability, *Educ + Train* 46 (8/9) (2004) 454–463, <https://doi.org/10.1108/00400910410569579>.
- [34] N. Bosma, The Global Entrepreneurship Monitor (GEM) and its impact on entrepreneurship research, *Found. Trends Entrep.* 9 (2) (2013) 143–248, <https://doi.org/10.1561/03000000033>.
- [35] I. Ajzen, The theory of planned behavior, *Organ. Behav. Hum. Decis. Process.* 50 (2) (1991) 179–211, <https://doi.org/10.15288/jsad.2011.72.322>.
- [36] S. Agarwal, V. Ramadani, S. Gerguri-Rashiti, V. Agrawal, J.K. Dixit, Inclusivity of entrepreneurship education on entrepreneurial attitude among the young community: evidence from India, *J. Enterp. Commun.* 14 (2) (2020) 299–319, <https://doi.org/10.1108/JEC-03-2020-0024>.
- [37] D. Arias-Aranda, O. Bustinza-Sánchez, Entrepreneurial attitude and conflict management through business simulations, *Ind. Manag. Data Syst.* 109 (8) (2009) 1101–1117, <https://doi.org/10.1108/02635570910991328>.
- [38] J. Vickery, Creative economy report 2013 special edition: widening local development pathways, *Cult. Trends* 24 (2) (2015) 189–193, <https://doi.org/10.1080/09548963.2015.1031487>.
- [39] E. Lestariningsih, K. Maharani, T.K. Lestari, Measuring creative economy in Indonesia: issues and challenges in data collection, *Asia-Pacific Sustain. Develop. J.* 2018 (2) (2019), <https://doi.org/10.18356/16fa938f-en>.
- [40] D. Mietzner, M. Kamprath, A competence portfolio for professionals in the creative industries, *Creativ. Innovat. Manag.* 22 (3) (2013) 280–294, <https://doi.org/10.1111/caim.12026>.
- [41] H.M. Alakrash, N.A. Razak, Technology-based language learning: investigation of digital technology and digital literacy, *Sustainability* 13 (21) (2021), <https://doi.org/10.3390/su132112304>.
- [42] K.T. Smith, Digital marketing strategies that millennials find appealing, motivating, or just annoying, *SSRN Electr. J.* (2012), <https://doi.org/10.2139/ssrn.1692443>.
- [43] H.M. Taiminen, H. Karjaluo, He usage of digital marketing channels in SMEs, *J. Small Bus. Enterprise Dev.* 30 (2) (2015) 70–84.
- [44] A.M. Corrales-Estrada, L.L. Gómez-Santos, C.A. Bernal-Torres, J.E. Rodríguez-López, Sustainability and resilience organizational capabilities to enhance business continuity management: a literature review, *Sustainability* 13 (15) (2021), <https://doi.org/10.3390/su13158196>.
- [45] M. Hudson, A. Smart, M. Bourne, Theory and practice in SME performance measurement systems, *Int. J. Oper. Prod. Manag.* 21 (8) (2001), <https://doi.org/10.1108/EUM000000005587>.
- [46] S.M. Hair, L. Hopkins, V.G. Kuppelwieser, Partial least squares structural equation modeling (PLS-SEM) is an emerging tool in business research, *Eur. Bus. Rev.* (2014), <https://doi.org/10.1108/EBR-10-2013-0128>.
- [47] J.F. Hair, M.C. Howard, C. Nitzl, Assessing measurement model quality in PLS-SEM using confirmatory composite analysis, *J. Bus. Res.* 109 (November 2019) (2020) 101–110, <https://doi.org/10.1016/j.jbusres.2019.11.069>.
- [48] A.O. Ikumoro, M.S. Jawad, Intention to use intelligent conversational agents in e-commerce among Malaysian SMEs: an integrated conceptual framework based on tri-theories including unified theory of acceptance, use of technology (UTAUT), and T-O-E, *Int. J. Acad. Res. Bus. Soc. Sci.* 9 (11) (2019), <https://doi.org/10.6007/ijarbs/v9-i11/6544>.
- [49] B. Abima, B. Engotoit, G.M. Kituyi, R. Kyeyune, M. Koyola, Relevant local content, social influence, digital literacy, and attitude toward using digital technologies by women in Uganda, *Gend. Technol. Dev.* 25 (1) (2021) 87–111, <https://doi.org/10.1080/09718524.2020.1830337>.
- [50] P. Bejaković, Ž. Mrnjavac, The importance of digital literacy in the labor market, *Employee Relat.* 42 (4) (2020) 921–932, <https://doi.org/10.1108/ER-07-2019-0274>.
- [51] P.P. Nedungadi, R. Menon, G. Gutjahr, L. Erickson, R. Raman, Towards an inclusive digital literacy framework for digital India, *Education and Training* 60 (6) (2018) 516–528, <https://doi.org/10.1108/ET-03-2018-0061>.

- [52] R. Ata, K. Yıldırım, Exploring Turkish pre-service teachers' perceptions and views of digital literacy, *Educ. Sci.* 9 (1) (2019), <https://doi.org/10.3390/educsci9010040>.
- [53] F. Liñán, Y. Chen, Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions Development and cross-cultural application of a particular instrument to measure entrepreneurial intentions, *Enterpren. Theor. Pract.* 33 (3) (2009) 593.
- [54] B.A. Soomro, M. Memon, N. Shah, Attitudes towards entrepreneurship among the students of Thailand: an entrepreneurial attitude orientation approach, *Education and Training* 63 (2) (2021) 239–255, <https://doi.org/10.1108/ET-01-2020-0014>.
- [55] M. Vinothkumar, S. Subramanian, Self-efficacy, attitude, and subjective norms predict youth's intention to enlist in defense services, *J. Indian Acad. Appl. Psychol.* 42 (2) (2016) 310–319, <https://doi.org/10.1037/t59415-000>.
- [56] M. Constantinescu, A. Orindaru, A. Pachitanu, L. Rosca, S.C. Caescu, M.C. Orzan, Attitude evaluation on using the neuromarketing approach in social media: matching company's purposes and consumer's benefits for sustainable business growth, *Sustainability* 11 (24) (2019), <https://doi.org/10.3390/su11247094>.
- [57] L.W. Wardana, B.S. Narmaditya, A. Wibowo, A.M. Mahendra, N.A. Wibowo, G. Harwida, A.N. Rohman, The impact of entrepreneurship education and students' entrepreneurial mindset: the mediating role of attitude and self-efficacy, *Heliyon* 6 (9) (2020), e04922, <https://doi.org/10.1016/j.heliyon.2020.e04922>.
- [58] A. Hassan, I. Saleem, I. Anwar, S.A. Hussain, The entrepreneurial intention of Indian university students: the role of opportunity recognition and entrepreneurship education, *Education and Training* 62 (7–8) (2020) 843–861, <https://doi.org/10.1108/ET-02-2020-0033>.
- [59] Amos Mumba, T. Ketola, *Corporate responsibility and sustainability*, *Corporate Respons. Res.* (2015) 1–176.
- [60] D.H. Yar, W. Wennberg, H. Berglund, Creativity in entrepreneurship education, *J. Small Bus. Enterprise Dev.* 15 (2) (2008) 304–320, <https://doi.org/10.1108/14626000810871691>.
- [61] C.G.E. Salami, Youth unemployment in Nigeria : a time for creative intervention, *Int. J. Busin. Mark. Manag.* 1 (2) (2013) 18–26. [Www.Resjournals.Org/LJBMM](http://www.resjournals.org/LJBMM), <http://www.resjournals.org/LJBMM/PDF/2013/July/Salami.pdf>.