

Research Article

Innovation and Digital Business Literacy for Agriculture Sector

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Abstract

This study was conducted with the aim of determining the development of digital business literacy activities in agricultural management in Makassar City carried out by KT Cokonuri. This study was conducted in Gunung sari Village, Makassar City. The development of digital business literacy is suitable to be studied to measure the extent of development carried out by the KT Cokonuri Farming business. The research method used in this study is to use a qualitative research method with descriptive use. This study uses data collection techniques through field observation and interview methods. The informants in this study numbered three people, namely the chairman, treasurer, and also the field extension worker at KT Cokonuri. Informant sampling was used using the purposive sampling technique. This study shows that there is still a lack of development of digital business literacy carried out by KT Cokonuri members. Digital business literacy is only carried out if there are training activities by instructors and is not carried out routinely. The development that needs to be carried out is more related to digital business literacy activities, including (1) utilizing technology, (2) conducting routine socialization related to digital business, and (3) overcoming obstacles by adding facilities to support literacy activities.

Keywords: innovation development, digital business, agriculture

INTRODUCTION

Urban agriculture is the process of developing agriculture from a conventional agricultural system to an agricultural system assisted by several modern technologies. Urban areas are often the center of buying and selling activities, but several government programs require farmer groups to be involved in urban areas. Digital business is a more advanced development of a two-way promotional information system involving business actors using digital media (Tahir et al., 2022). In order for an area to gain benefits related to local agriculture, certain conditions must be met. First, there must be physical land conditions that must exist to meet the needs of local agricultural production. Second, certain supply and demand dynamics (i.e., market conditions) must exist for local agriculture to succeed (Werner et al., 2019).

With the increasing population and the depletion of natural resources, it is necessary to increase agricultural productivity in a sustainable and environmentally friendly manner (Ho et al., 2022). This technological change has driven changes in the way of innovation (Choudrie et al., 2017). Revealed Innovation covers a wide range of practices and processes, but nevertheless, from public perception to policy and science, innovation is often understood from the perspective of technological innovation.

Successful schemes focus mainly on specific (rare) species and are often supervised by scientists or volunteers. Non-targeted schemes to increase biodiversity usually benefit common species or have no overall impact (Chiffolleau & Loconto, 2018). Innovation strategy can be described as a company's activity and development plan to encourage, drive, motivate, and achieve progress in technology or services by investing financial and human assets in research and development activities. Many researchers emphasize the positive impact of innovation on the financial and operational dimensions of business performance and show significant differences in the results produced depending on the type (Velten et al., 2015).

When knowledge or information is not updated, information gaps may arise. The study on the impact of innovation implementation and its determinants was led by (Mirośław & Kalinowski, 2015). Based on their research, they concluded that innovation is an important prerequisite for sustainable development, but innovation should not be a value in itself; the nature of the resources available for agricultural innovation should apply the assumptions of sustainable development (Winn & Pogutz, 2013). Therefore, researchers recognize that when developing agricultural technologies, it is important to consider the environmental and social context (Esiobu et al., 2015). The emergence of the digital society in general and e-business, in particular, in the last few decades has expanded the use of digital devices beyond simple isolated work and communication uses; this emergence has created a digital ecosystem in which workers and consumers are embedded at various levels, such as social media platforms or integrated shopping and media platforms (Grefen, 2021). Through the provision of new knowledge (increasing the stock of knowledge), embedding this knowledge in new technologies (enlarging the technological set), and the diffusion of innovations in the economic system. In this way, the role of research and innovation can be seen as a way to avoid (or at least modify) trade-offs between goods, given the limited availability of resources, by increasing technical possibilities (Viaggi, 2015).

Digital transformation and advancement of information technology empower businesses to implement their social responsibilities at lower cost and in a more effective manner. In today's digital world, people can communicate with complete digital tools, such as social networks, for example, Facebook and Instagram, and various other applications (Puriwat & Tripopsakul, 2021). Digital transformation of the innovation process enables organizations to implement new modes of sharing, creating, disseminating, managing, and absorbing knowledge, recombining legacy capabilities (or technologies) with digital capabilities (or technologies) (Urbinati et al., 2022). With the increasing modernization of research programs around digital business development of urban agriculture and local market competition determining the same fate, it is popularly referred to as 'products' in the agricultural input market. In their study brought out more potential product outcomes beyond just production benefits. They explained extensively how many products can be game changers by increasing sales (Nayak et al., 2021).

Digital businesses are driven by the opportunity to expand the choice space, often disrupting other industry spaces and adding new dimensions of value to customers, companies, and partners. Transformation efforts in agriculture and food distribution include the widespread application of knowledge and innovation in the production of agricultural products and services. This aims to influence the readiness of producers to face challenges related to economic growth and increase the competitiveness of the rural and agricultural sectors (Kadoic et al., 2020). The main objective of the policy is to commercialize smallholder production with other commodities with industry as a strategy

that assumes that such commercialization will promote sustainability, improve equity, reduce poverty, and improve livelihoods (Agyekumhene et al., 2018).

Digital and physical innovations in agriculture are critical to ensure sustainable development in agriculture. Dynamic government funding in various technological transformations in the agriculture sector ensures maximum yields and profits. Thus, there should be a massive shift from production-centric to product-centric in the agriculture sector (Ramesh & Glady, 2020). Agricultural technology understands a certain level of complexity in the decisions taken by small-scale farmers. To some extent, the complexity lies in the lack of certainty regarding the benefits of the technology before its adoption. Farmers who are potential adopters and those who have adopted are aware of these benefits through the information feedback process that they have access to as they are part of the community. Learning about the benefits of technology has an impact on the adoption process of the technology (Jonas et al., 2019). Digital technology plays a major role in addressing this challenge, as it has the potential to significantly increase agricultural productivity and better allocate resources. Research on technology-based business model innovation has gained importance in agriculture (Krafft et al., 2017).

Innovations for agriculture, developing around the principles of sustainable agriculture and rural development, are emerging. These innovations almost always address concerns about the environment and rural communities and tend to challenge mainstream agriculture (Ingram et al., 2015). Agricultural innovations in multi-actor networks, we need to examine the mechanisms that enable their joint efforts, the relationships between diverse lifeworld and knowledge bases (Tisenkopfs et al., n.d.). Seizing agribusiness opportunities is essential to feed the region's rapidly growing urban population, which has the potential to generate a trillion-dollar food market by 2030. However, to achieve this goal, low levels of agricultural productivity as well as access to infrastructure and technological innovation must be addressed to fully reap the economic benefits (Adenle et al., 2017). Digitalization is an essential prerequisite to help urban areas adapt to the modern knowledge economy and to drive regional development and growth. Digitalization offers urban firms the opportunity to diversify into new, innovative business areas and open up local products and services to new value chains at the national and global levels (Rivza et al., 2019).

Farmer Group (KT Cokonuri) A farmer in Makassar. The reason we surveyed this farmer group is that farmers need to better understand the development of digital business skills. Some elements of digital business are media business actors, activities, and interests. The ever-evolving digital technology includes various digital media around the world. Media allows different audiences to access, evaluate, and communicate different information. This is in accordance with previous research by Limilia and Aristi (2019) which argues that media makes individuals more agile in sorting and studying information. We have a system. The progress of business development cannot be separated from the role of creative economic actors. As in research conducted by Arrizal and Sofyantoro (2020) business actors must first understand the qualifications of green creatives in developing digital businesses. Digital business includes activities related to marketing, sales, or business activities related to the digital world and modern technology. Digital business is profitable. As shown by a study conducted by Trisakti (2020) digital business activities benefit many stakeholders (Tahir et al., 2022).

The gap between societal expectations and funding structures for public research has triggered the need to update methods for assessing the impact of research in agriculture and food. We aim to contribute to this by examining and drawing lessons from

the trajectories and issues raised by these methods, as well as by proposing innovative conceptual insights (Temple et al., 2016). Industry 4.0, or the fourth industrial revolution (4IR), has received much attention, especially for its potential impact on humanity. What makes Industry 4.0 unique from other industrial revolutions is the fact that it is not only a massive technological advancement but will also come with a transformation of existing relationships in the production process (Jafari-Sadeghi et al., 2022). Disruptive technologies and innovations have played a significant role in augmenting the agricultural extension system. There are several digital tools and approaches that have recently been developed by several institutions and experts around better agricultural management and information systems (Nayak et al., 2021). The reason for asking this is the higher level of dynamics at which the environment, fashion, main tendencies, and aesthetic criteria in the perception of contemporary people are changing. All of these processes are greatly influenced by the rapid development of technology and communication media that fill most of the contemporary social environment and even replace some face-to-face communication (He et.al, 2021).

The purpose of this study is to analyze and measure the extent of sustainable agricultural knowledge of agricultural sector SMEs in carrying out digital business activities. Digital SMEs actors who are the subjects of this study are actors who are engaged in urban agricultural sector SMEs, namely Cokonuri farming business actors in Gunung Sari Village, Makassar City, South Sulawesi Province. The selection of the study subjects, namely Cokonuri farming group actors, is because it is in accordance with the criteria needed by researchers in studying the extent to which urban agricultural sector SMEs have knowledge of sustainable agriculture and its implementation in digital business literacy.

METHOD

This study uses qualitative research as well as descriptive research. Qualitative descriptive studies are the least “theoretical” of all qualitative approaches to research. In addition, qualitative descriptive studies are the least burdened, compared to other qualitative approaches, by pre-existing theoretical or philosophical commitments (Lambert & Lambert, 2013). Qualitative research covers a very broad range of philosophical and methodological approaches (Rietjens, 2015). Qualitative data analysis is the process of describing, classifying, and interconnecting phenomena with the researcher's concepts. First, the phenomenon being studied needs to be described precisely. The researcher must be able to interpret and explain the data; therefore, a conceptual framework needs to be developed, and the data classified. After that, concepts can be built and related to each other. When analyzing qualitative data, the researcher deals with meanings and not with plain numbers. Qualitative research can be conducted using a variety of sources such as observations, unstructured interviews, group interviews, collections of documentary materials, and so on, aiming to explore or collect data on a particular area of interest (Döringer, 2021). Researchers will conduct field observations and directly observe the members of KT Cokonuri and field instructors regarding the development of digital business literacy innovations being carried out.

The researcher will also conduct interviews with two informants, namely the head of KT Cokonuri, the treasurer, and the field extension worker. The researcher will interview directly and ask about five questions of the head, the treasurer, and several questions for the field extension worker. Using interviews is the most common method

in our sample (Koven, 2014). The farmer group is located in Gunung Sari, Makassar City. The questions the researcher asks are related to indicators of digital business literacy knowledge, knowledge of digital business markets, and knowledge of digital business literacy activities in business management. Informants are determined in this study using purposive sampling techniques. The purposive sampling method is one of the most widely used methods where researchers have an important role. The main goal of purposive sampling is to focus on certain characteristics of the population of interest, which will allow you to answer your research questions. The sample studied does not represent the population, but for researchers pursuing qualitative or mixed-method research designs, this is not considered a weakness (Rai & Thapa, 2015). It can be seen in Table 1 and Table 2.

Table 1*Research informants (KT Cokonuri)*

No.	Name	Code	Position	Age	Last Education	Farming Experience	Product
1	Yani	A	Chairman of KT	50 Years	Senior High School	4 Years	Japanese mustard greens, water spinach, cassava, okra and lemongrass
2	Faisal	B	KT Treasurer	53 Years	S1 Law	4 Years	okra and lemongrass

Table 2*Additional informants*

No.	Name	Code	Age	Last Education	Counseling Location	Extension Worker Experience
1	Erni	C	40 Years	S1 Agriculture	Cokonuri Farmers Group, Gunung Sari Subdistrict	3 Years

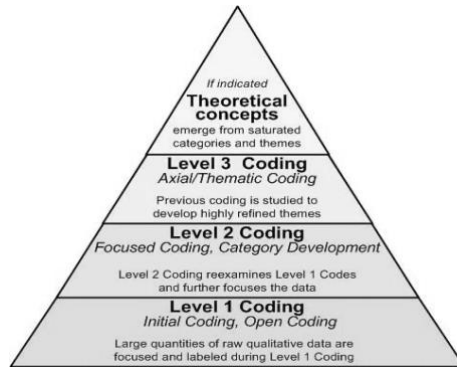
The information raised in this study is (1) part of a farmer group (2) located in the city of Makassar (3) members of KT Cokonuri informants in this study were also considered capable of answering questions that would later be asked regarding developments around digital business literacy innovation in farmer groups. This research is included in phenomenological research. The study aims to describe the phenomenon as accurately as possible, refraining from the previously given framework but remaining true to the facts (Halilovic et al., 2019). The stages of discussion in the research carried out to achieve the target indicator of the achievement of digital business literacy development in the agricultural sector are arranged as follows (see Figure 1).

Figure 1*Research stages*

Furthermore, the data validity test in this study used the triangulation process, time, and reflexivity. The triangulation process means the activity of checking data from several sources and techniques and also time. This technique can also be interpreted as

one of the techniques for carrying out a check on the validity of data also by utilizing other data unit parameters. In this study, time triangulation was used, which attempted to re-check and also used the same technique but at a different time. The reflexivity carried out next was to be able to recognize how the influence started from a self-position and also identity through the role as a researcher. The coding stages in this study can be seen in Figure 2.

Figure 2
Data coding stages



Source: Blair (2015)

This study has an inductive approach where this approach is carried out with various assumptions, then the researcher finds new facts that have been found using observation techniques and interviewing informants and later will find a conclusion from the researcher's observations. The data obtained from the interview results are still soft with the intention that the data can still experience development.

RESULT

Interview Result Data

In this study, the focus of the research is on the level of digital business literacy owned by urban farming business actors, especially in the agricultural sector, and then in this study attempts to examine the relationship between the development of digital business literacy in urban farming business actors in the agricultural sector that will be carried out by agricultural extension workers. Furthermore, the instrument in this study actively seeks to collect all information from previously determined informants based on several criteria, namely three informants consist of two key informants and one informant from agricultural extension. Additional information was obtained through focus group discussion (FGD). To provide a clearer scheme and picture of the results of the informant interviews that have been conducted (see Table 3).

Table 3
Summary results of interviews with informants

Question	Informant's Answer
Do you know about online business? Coding A	Yes, the first time we found out was from the training held by the government (head of KT Cokonuri, interview, December 14, 2022). <i>Coding A1</i>

	I know, because training has been carried out (Treasurer KT Cokonuri, interview, December 14, 2022). Coding A2
Digital Business Knowledge Source Coding B	Personally, I gained basic knowledge related to Digital Business from training held by the government and learning naturally (Head of KT Cokonuri, interview on December 14, 2022). Coding B1 Regarding knowledge, I gradually learned it since I joined KT Cokonuri because of the digital business training and literacy held by the extension team (Treasurer of KT Cokonuri, interview on December 14, 2022). Coding B2
Understanding of digital business literacy Coding C	My understanding of digital business is usually seen in applications such as Shopee and sales of people on Facebook. (Head of KT Cokonuri, interview on December 14, 2022). Coding C1 I don't really know about digital literacy; I only know that people usually sell their business results on social media, such as on their WA status (Treasurer KT Cokonuri, interview on December 14, 2022). Coding C2
Management and utilization of agricultural products Coding D	We usually sell the agricultural products in KT in large quantities to vegetable sellers and regular customers here to resell, such as water spinach and mustard greens. (Head of KT Cokonuri, interview on December 14, 2022). Coding D1 Usually we sell the agricultural products to vegetable sellers, and also usually the mothers around here usually buy them so they don't need to go to the market anymore to buy vegetables. Most people around here prefer to buy vegetables directly here because they are still very fresh and, of course, because we don't use pesticides, so the vegetables here are safe to consume. (Treasurer KT Cokonuri, interview on December 7, 2022). Coding D2

Source: Data Processing Results (2022)

It can be seen from the results of interviews with the two informants from the agricultural sector digital business category who were used as research samples, both of whom were the chairman and treasurer of the Cokonuri Farmers Group, so according to the researcher, the answers of the two informants were quite representative. Can be seen from Table 3. Summary of interview results. The questions in the interview include indicators of digital business literacy. Judging from the results of the interview summary, basically this agricultural sector digital business already understands what business is, but it can be seen that they are still very unfamiliar with digital literacy because they have never received material directly, they only see it from several social media that they use, even though it has very little influence.

The results of the interviews with the two informants confirmed that agricultural sector businesses do not yet understand digital literacy. The level of literacy they have is still very low, it is only limited to gaining knowledge from some of the problems they

face. From this, agricultural extension workers have an important role that must provide advice, knowledge and input on what steps they can take for agricultural sector digital businesses to develop digital literacy business urgency of digital literacy and its quite large role for agricultural sector businesses. digital on KT cokonuri because of seeing the Level (see Table 4).

Table 4

Summary results of interviews with agricultural extension informants

Question	Informant's Answer
The level of digital entrepreneurship literacy in the agricultural sector	From my review, the level of digital literacy in this KT is still very minimal. This is very unfortunate because they are already in urban areas but have not been able to fully understand digital business considering that now everything is digital (Erni, interview on December 14, 2022).
The urgency of digital business in the agricultural sector	The literacy of members of the agricultural sector SMEs is very minimal because they do not know the theory beforehand (Erni, interview on December 14, 2022).
Understanding of digital business literacy from agricultural extension workers	In my understanding, this is the ability of a person or group to use digital technology at a level that can include and encompass information searches (Erni, interview, December 14, 2022).
Contribution of agricultural extension workers to SMEs in the agricultural sector	In the agricultural sector of SMEs, I myself will provide related literacy so that they at least have a little idea about digital business (Erni, interview on December 14, 2022).
Digital business literacy extension materials in the agricultural sector	What I prepare for counseling materials is like materials (Erni, interview on December 14, 2022).
Steps taken by extension workers to develop digital business literacy in the agricultural sector	We must take part in developing digital business literacy in the agricultural sector so that later they can compete in this digital era (Erni, interview, December 14, 2022).

Source: Data Processing Results (2022)

From the summary of the interview results in Table 4, it was found that according to agricultural extension workers, they also emphasized that the innovation of agricultural sector businesses is still unfamiliar with digital. Gunung Sari agricultural sector businesses only learn from existing problems, but theoretically related to digital business literacy, they do not fully understand. And one of the causes is because extension workers have never provided direct socialization and education to agricultural sector SMEs in depth.

SMEs must stay abreast of current developments related to sustainable entrepreneurship and respond positively to the demands of all stakeholders today (Mendes et al., 2022). The focus of this study is on the farmer group environment with the aim of exploring information related to the development of digital business literacy

(Zuze & Weideman, 2013). How do members of these farmer entrepreneurs carry out literacy activities related to digital business? How do members of women farmer groups develop digital business literacy? And how do these farmer groups make efforts to improve also related to the development of digital business literacy?

One aspect that can help business actors in developing their businesses is that they manage to develop an understanding of digital business literacy or increase knowledge related to digital business literacy (Chiffolleau & Loconto, 2018). Digital business literacy helps farmers to develop new ideas, new knowledge, and broader marketing. Digital business literacy helps business actors in making important decisions, especially those related to marketing activities, digitalization, and others. The interview results can be seen (Purwanti et al., 2021).

The results of the interview above, the extension worker also realized the urgency of digital business literacy in agricultural sector SMEs, in the interview the informant stated that their literacy level was still very low, therefore the extension worker will provide suggestions and input on what steps can be taken in growing and developing digital entrepreneurship literacy considering the level of urgency and its quite large role for agricultural sector SMEs. Researchers have conducted interviews on December 2022. Members who have been used as informants in this study also provide a very good sense of enthusiasm in providing information related to the development of innovation and digital business literacy. Informants are also very interested in answering several questions that have been asked by related researchers ranging from knowledge of digital business literacy, knowledge of digital marketing, and knowledge of digital business literacy activities in business management.

The digital business owned by KT Cokonuri members was first discovered by members from the socialization carried out by field extension workers. The world of telecommunications is experiencing rapid development where marketing is assisted by communication tools and applications contained therein. This online-based marketing provides enormous opportunities if utilized properly by business actors in urban areas. A program that helps agricultural marketing through social media applications such as WhatsApp. From this application, KT Cokonuri members obtain the opportunity to develop modern businesses based on digitalization (Tahir et al., 2022). The digital business has been implemented quite well through the use of digital business. However, in terms of developing and improving digital business literacy itself, KT Cokonuri is said to have not routinely carried out these activities. In fact, the digital business literacy that is developed will help the marketing process and also add new experiences in entrepreneurship (Himki et al., 2022).

Digital Divide in Agricultural Context

In the context of technology, access is not far from this perception, and is generally used to indicate the state - or rather the lack thereof - in which technology is available. Thus, a society that does not have technological tools is said to live in a situation of lack of access to technology. This particular problem has put pressure on governments, as it implies serious problems at the social and economic level, since currently the lack of access to technology implies the social and economic exclusion of a group or sector, hindering proper development (Thomas et al., 2015). The nature of government intervention in the functioning of the agro-industrial sector also changes according to the new features of the agricultural sector that emerge in the making of evolutionary developments and technological leaps. However, regulatory transformations

in the agricultural sector are not only driven by technological factors, but also depend on general conditions (Revenko & Revenko, 2019).

Human resources endowed with such skills are the difference between digital services, digital skills, online applications, and information portals, which determine their ability to implement them in practice and get positive results (Leybert & Khalikov, 2019). Targeted technology dissemination through business methods, extension workers-farmers has been a traditional means of supporting digital businesses in urban areas especially in KT Cokonuri and has yielded tremendous results (Ayob et al., 2013).

Development of Digital Business Innovation and Literacy in Agriculture

Innovation is about doing something ‘new’ by using existing or new information in a new way (Mutsvangwa-Sammie et al., 2017). The development of digital business literacy can not only be seen from the socialization that supports digital business but also requires a marketing process in which there are very supportive literacy activities. Economic literacy is related to digital business or digitalization-based marketing. This technological innovation can also lead to potential new business models (Chandra & Collis, 2021). However, the results of the interviews obtained stated that knowledge about awareness of developing digital business literacy had not really been carried out by KT Cokonuri members. Activities related to digital business literacy carried out by KT Cokonuri were limited to training carried out by extension workers and socialization assistance from the government.

The current business model for large farmers to maintain profit margins is to become the lowest-cost producer of increasingly globalized commodities (Savira & Fahmi, 2020). Informants interviewed by researchers did not yet know and were more developed in digital business literacy activities in the farming businesses they managed. KT Cokonuri members do not fully understand what literacy is. Digital businesses included in the KT Cokonuri cultivation business are obtained through socialization from the government, and also training conducted by extension workers, and digital businesses are seen being used, such as WhatsApp.

People who live and make a living in this area are already familiar with the word internet. With a decent concept of the Internet, they know the extent to which their information accessibility can be realized through its connectivity (Usman & Tasmin, 2015). Disruptive technology is an innovation that significantly changes the way consumers, industries, or businesses operate. Disruptive technology sweeps away the systems or habits it replaces because it has recognizably superior attributes (Khoshnodifar et al., 2016). If the government and development partners come together to push this agenda in Makassar City, especially in KT Cokonuri, there is the potential to create a multiplier effect through trade, market access, and a regional innovation ecosystem (Hudák et al., 2017). Sadly, this is in the study Thelken & Jong (2020) which states that his research has not provided an adequate explanation of how the complexity inherent in generating social, environmental, and economic value simultaneously and considering the needs of future generations can affect the process of forming sustainable entrepreneurial intentions.

Steps for Agricultural Extension Workers in Developing Digital Business Literacy Innovations in the Agricultural Sector

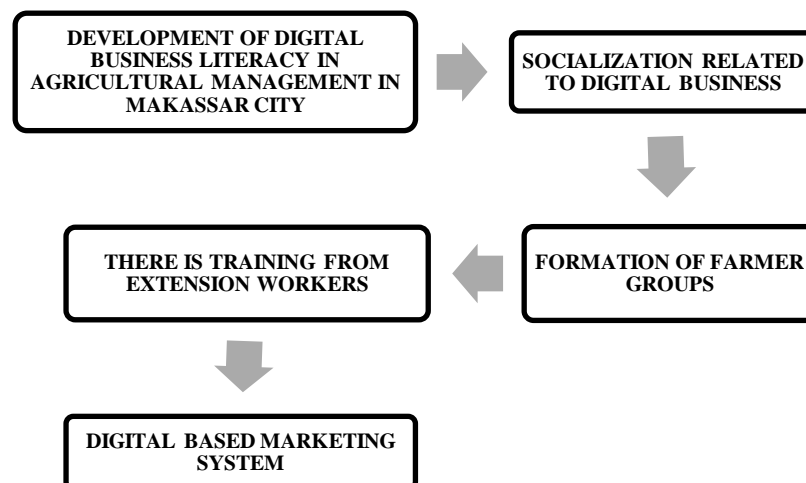
The need for digital information to the agricultural sector about product management, marketing, and also capital has a positive and real relationship with the

frequency of internet use that can be conveyed by agricultural extension workers in developing their farming businesses (Mugiono et al., 2020). Digital marketing can be interpreted as an effort and strategy for marketing that uses internet-based devices and existing technology in various marketing techniques that can be done through digital media channels by interacting and communicating buying and selling with prospective buyers in an online or virtual space (Bala & Verma, 2018). There are also various accesses that can be accessed by producers or consumers in digital use Gawade (2019) and with this extension activity, it is hoped that everything related to developing agriculture can be accepted and also implemented by the Farmer Group. Extension activities cannot be carried out when there is no community participation, and the success of extension activities can be realized properly when extension workers have the ability to attract community participation in every program that will be implemented (Albore, 2018).

One of the socialization activities that must be carried out by agricultural extension is to conduct socialization and provide education to KT Cokonuri related to digital business literacy because agricultural extension workers also have an important role as someone who can facilitate, provide motivation, and communicate in the agricultural sector (Danso-Abbeam et al., 2018). From the results of interviews with agricultural extension informants that have been carried out, it was found that extension workers understand the urgency related to digital business literacy in the agricultural sector, seeing this urgency, extension informants provide several appropriate steps to be able to develop digital business literacy in the agricultural sector, which can be seen in Figure 3.

Figure 3

Stages of digital business literacy development

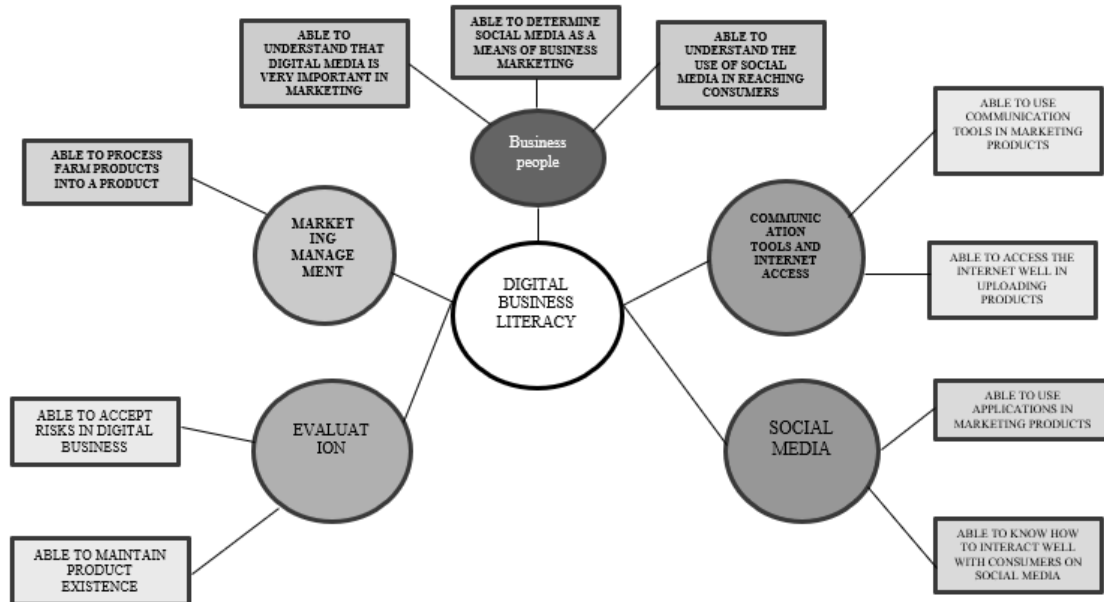


The purpose of the analysis before implementing literacy is to find out how far their understanding of the literacy that will be socialized is so that the literacy designed to be transferred to members of the Cokonuri Farmer Group is truly based on the needs of the members themselves. Thus, what must also be considered next is that the literacy that will be determined later can support agricultural sector business actors so that skills and understanding of digital business literacy are built.

Digital Business Literacy Components

From the results of research on agricultural sector SMEs, it can be found that there are several elements that are important components in the development of digital business literacy, as shown in Figure 4.

Figure 5
Components of digital business literacy



Thus, the results of the development of digital entrepreneurship literacy for SMEs in the agricultural sector from the five components obtained several results of achievement indicators in the development of digital entrepreneurship literacy for SMEs in the agricultural sector, which can be seen in Table 5.

Table 5
Indicator and accomplishment of digital business literacy

Digital Business Literacy	Indicator
Business Actors Understanding A.1	<ul style="list-style-type: none"> - Able to understand that digital media in product marketing. A.1.1 - Able to determine and accept social media as a means of business marketing. A.1.2 - Able to understand and access social media in reaching consumers. A.1.3
Utilization of communication tools A.2	<ul style="list-style-type: none"> - Able to use smartphones in conducting digital business marketing. A.2.1
Utilization of the internet and social media A.3	<ul style="list-style-type: none"> - Able to use social media to promote product results. A.3.1.2 - Able to understand how to interact with customers using Whatsapp for Business. A.3.3
Utilization of marketing management A.4	<ul style="list-style-type: none"> - Able to process agricultural products into products that have sales value. A.4.1 - Able to reach consumers easily. A.4.2

Able to conduct evaluation A.5	- Able to maintain the existence of the business being run. A.5.1 - Able to accept risks in digital entrepreneurship. A.5.2
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Utilizing Communication Tools

Furthermore, an element that is also very important in the development of digital business literacy is being able to utilize communication tools such as smartphones, which are one of the factors that can shape and even direct the choices made by leaders and business managers with strategic intentions and implications in marketing their business products. Previously, SMEs only used their smartphones for regular communication, but now they can use them to conduct digital marketing. In the development of digital media, smartphones can currently greatly support the performance of agricultural sector SMEs to do business online. So it is not surprising that this smartphone is a very important tool for business people to be able to support their business activities, be it small, medium and large businesses (Hossain et al., 2020). As a beginner SMEs businessperson, of course, you must also understand well what the functions of smartphones are in the development of digital business for your business (Khraim, 2021). Considering that now is the era of using all digital media that requires sophisticated tools (Raza et al., 2019).

DISCUSSION

Digital business literacy is the ability to use technology and information effectively and efficiently in implementing entrepreneurship in everyday life (Nambisan, 2017). Digital business literacy is important because with this we can find, evaluate, create, utilize, and communicate the products we produce (Safiullah et al., 2017). With digital literacy, a person can apply digital device skills optimally so that an entrepreneur can think critically, be creative, and collaborate with others and can also communicate more effectively in social and developing cultures (Steininger, 2019). Using digital literacy in entrepreneurship can be in various forms of literacy, such as computers, visuals, information, media, technology, and communication (Bican & Brem, 2020). Development and training can encourage entrepreneurial behavior and can even be applied to various job positions (Salamzadeh & Moghadam, 2018). Every individual must have at least four main competencies to be said to be digitally literate; these four things are Internet searching or Internet search, hypertext navigation or directional guidance, content evaluation or content evaluation, and the last is knowledge assembly or knowledge compiler (Reddy et al., 2020).

The findings in this digital literacy study first show that SME actors are able to understand that digital entrepreneurship is very important in the marketing process. This finding states that digital marketing is important for business actors to be able to identify target customers online. In business, determining target customers is very important so that the products or services offered are in accordance with the needs of the target. Warokka (2020) stated that digital marketing entrepreneurship can help a business reach a wider audience. Digital marketing can also be more cost-effective. This is in accordance with the findings of previous researchers Stone & Woodcock (2014) which stated that digital marketing is an activity to market a product that utilizes digital media and the internet. With the aim of being able to attract the attention of consumers and potential buyers quickly and accurately (Christina et al., 2019). Because, as we know, the acceptance of digital in society can be very broad, it is not surprising that digital

marketing activities can be the main choice for a company (Kaushik, 2016). As a result, companies can compete with each other to be able to create promotional content that can attract attention (García et al., 2019).

New digital business models often rely on digital technology that enables seamless exchange between companies, consumers, and goods (Broekhuizen et al., 2021). Many business actors still do not know about digital business. Digital business in the agricultural sector is more directed at how farmers have broader knowledge about digitalization and marketing in farming. Hence, later farmers can be known to the wider community. Well, this is where the government can play a role and facilitate the community or farmers by providing literacy such as books, training, mentoring, and advocacy.

Informants interviewed by researchers did not yet know and were more developed in digital business literacy activities in the farming businesses they managed. KT Cokonuri members did not fully understand what literacy was. Digital businesses included in KT Cokonuri farming businesses were obtained through socialization from Grab and also training conducted by extension workers and it was seen that digital businesses were assisted by other parties as previously mentioned. The involvement of digital media is due to several sources who use digital media as an option other than WhatsApp Status in providing value propositions to customers, and this situation is used to strengthen the role of WhatsApp Status.

This study was conducted to answer research questions in revealing the background of resellers who utilize the WhatsApp Status feature as a channel in conveying the value proposition of the products offered to consumers, where WhatsApp itself is the most widely used chat application in everyday life (Prihatna et al., 2019). The managed agriculture provides a great opportunity to market KT Cokonuri's agricultural products. However, literacy-related activities carried out are still lacking; KT Cokonuri needs to deepen literacy activities related to digital business so that the managed business will help livestock businesses advance and develop and add new mindsets related to digital marketing systems in this modern era (Tahir et al., 2022).

CONCLUSION

From the research that has been conducted, it is known that the development of digital business literacy in managing agricultural businesses in Makassar City is very important to be improved more deeply and widely to help manage agricultural businesses. The socialization carried out by the government also introduced how digital business can be applied in the KT Cokonuri livestock business. This is also inseparable from the activities carried out by the relevant extension workers from the digital business. Marketing of KT Cokonuri's garden products through WhatsApp social media. KT Cokonuri must implement, develop, and improve literacy activities related to digital business.

Implication

The development of digital business innovation and literacy has a significant impact on economic education. The impact covers various aspects, both in terms of curriculum, teaching methods, and opportunities for students and economic actors to be better prepared to face the development of the digital business world. Here are some of the impacts and practical implications of the development of digital business innovation and literacy on economic education: First, with the advancement of digital technology,

economic education is expected to include knowledge of digital platforms, e-commerce, big data, and other emerging technologies. This enhances students' skills in understanding and utilizing digital tools for economic purposes. Second, economic education can integrate various technology platforms for more interactive learning, such as digital economic simulations, the use of data analysis software, or e-learning platforms. This innovation creates a more engaging and relevant learning experience with current developments. Third, digital business literacy helps students understand how to do business through digital platforms. It encourages the development of technology-based entrepreneurial skills, such as application development, digital marketing, and e-commerce management. This learning is important because many businesses today rely on digital platforms.

Limitation and Future Direction

This study was carried out at Gunung Sari Village, KT Cokonuri, which has a generalization issue. Nonetheless, this study offers a foundation for further investigations into the growth of innovation and digital business literacy in other domains, particularly within the Economic Education study program. More in-depth studies can look more closely at how innovation and digital business literacy emerge. Through its application and implications, this research helps the KT Cokonuri Community immediately implement it in the KT Cokonuri cattle company while also expanding insights into the development of innovation and digital business literacy.

REFERENCES

- Adenle, A. A., Manning, L., & Azadi, H. (2017). Agribusiness innovation: A pathway to sustainable economic growth in Africa. *Trends in Food Science and Technology*, 59, 88–104. <https://doi.org/10.1016/j.tifs.2016.11.008>
- Agyekumhene, C., Vries, J. R., Paassen, A., Macnaghten, P., Schut, M., & Bregt, A. (2018). Digital platforms for smallholder credit access: The mediation of trust for cooperation in maize value chain financing. *NJAS - Wageningen Journal of Life Sciences*, 86–87, 77–88. <https://doi.org/10.1016/j.njas.2018.06.001>
- Albore, A. (2018). Review on Role and Challenges of Agricultural Extension Service on Farm Productivity in Ethiopia. *Journal of Agricultural Education and Extension*, 4(1), 93–100.
- Arrizal, N. Z., & Sofyantoro, S. (2020). Pemberdayaan ekonomi kreatif dan UMKM di masa pandemi melalui digitalisasi. *Birokrasi Pancasila : Jurnal Pemerintahan, Pembangunan, dan Inovasi Daerah*, 2(1), 39–48.
- Ayob, N., Yap, C. S., Amat Sapuan, D., & Abdul Rashid, M. Z. (2013). Social entrepreneurial intention among business undergraduates: An emerging economy perspective. *Gadjah Mada International Journal of Business*, 15(3), 249–267. <https://doi.org/10.22146/gamaijb.5470>
- Bala, M., & Verma, D. (2018). A critical review of digital. *International Journal of Management*, 8(10), 321–339.
- Bican, P. M., & Brem, A. (2020). Digital business model, digital transformation, digital entrepreneurship: Is there a sustainable “digital”? *Sustainability (Switzerland)*, 12(13), 1–15. <https://doi.org/10.3390/su12135239>
- Blair, E. (2015). A reflexive exploration of two qualitative data coding techniques. *Journal of Methods and Measurement in the Social Sciences*, 6(1), 14–29.

- <https://doi.org/10.2458/v6i1.18772>
- Broekhuizen, T. L. J., Broekhuis, M., Gijsenberg, M. J., & Wieringa, J. E. (2021). Introduction to the special issue – Digital business models: A multi-disciplinary and multi-stakeholder perspective. *Journal of Business Research*, 122, 847–852. <https://doi.org/10.1016/j.jbusres.2020.04.014>
- Chandra, R., & Collis, S. (2021). Digital agriculture for small-scale producers. *Communications of the ACM*, 64(12), 75–84. <https://doi.org/10.1145/3454008>
- Chiffolleau, Y., & Loconto, A. (2018). Social innovation in agriculture and food: Old wine in new bottles? *Jrnl. of Soc. of Agr. & Food*, 24(3), 306–317.
- Choudrie, J., Islam, M. S., Wahid, F., Bass, J. M., & Priyatma, J. E. (2017). Preface. *IFIP Advances in Information and Communication Technology*, 504. <https://doi.org/10.1007/978-3-319-59111-7>
- Christina, I. D., Fenni, & Roselina, D. (2019). Digital marketing strategy in promoting product. *Management and Entrepreneurship: Trends of Development*, 4(4(10)), 58–66. <https://doi.org/10.26661/2522-1566/2019-4/10-05>
- Danso-Abbeam, G., Ehiakpor, D. S., & Aidoo, R. (2018). Agricultural extension and its effects on farm productivity and income: Insight from Northern Ghana. *Agriculture and Food Security*, 7(1), 1–10. <https://doi.org/10.1186/s40066-018-0225-x>
- Döringer, S. (2021). The problem-centred expert interview’. Combining qualitative interviewing approaches for investigating implicit expert knowledge. *International Journal of Social Research Methodology*, 24(3), 265–278. <https://doi.org/10.1080/13645579.2020.1766777>
- Esiobu, N., Onubuogu, G. C., & Ibe, G. O. (2015). Analysis of entrepreneurship development in agriculture among arable crop farmers in Imo State, Nigeria. *International Journal of African and Asian Studies*, 7(2015), 92–100.
- Et.al, H. E. (2021). Effect of digital marketing and social media on purchase intention of smes food products. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12(3), 3672–3678. <https://doi.org/10.17762/turcomat.v12i3.1648>
- García, J. J. L., Lizcano, D., Ramos, C. M. Q., & Matos, N. (2019). Digital marketing actions that achieve a better attraction and loyalty of users: An analytical study. *Future Internet*, 11(6), 1–16. <https://doi.org/10.3390/fi11060130>
- Gawade, M. S. (2019). Fostering innovation, integration and inclusion through interdisciplinary practices in management. *International Journal of Trend in Scientific Research and Development*. <https://doi.org/10.31142/ijtsrd23072>
- Grefen, P. (2021). Digital literacy and electronic business. *Encyclopedia*, 1(3), 934–941. <https://doi.org/10.3390/encyclopedia1030071>
- Halilovic, S., Zaimovic, A., Berilo, A. A., & Zaimovic, T. (2019). Financial literacy assessment in Bosnia and Herzegovina. *Procedia Computer Science*, 158(5), 836–843. <https://doi.org/10.1016/j.procs.2019.09.121>
- Himki, A., Ramadhan, T., Durachman, Y., & Pramono, E. S. (2022). Digital business entrepreneurship decisions: an e-business analysis (A study literature review). *Startupreneur Business Digital (SABDA Journal)*, 1(1), 107–113. <https://doi.org/10.34306/sabda.v1i1.77>
- Ho, K. L. P., Quang, H. T., & Miles, M. P. (2022). Leveraging entrepreneurial marketing processes to ameliorate the liability of poorness: The case of smallholders and SMEs in developing economies. *Journal of Innovation and Knowledge*, 7(4), 100232. <https://doi.org/10.1016/j.jik.2022.100232>

- Hossain, S. F. A., Nurunnabi, M., Hussain, K., & Shan, X. (2020). Smartphone-based m-shopping behavior and innovative entrepreneurial tendency among women in emerging Asia. *International Journal of Gender and Entrepreneurship*, 12(2), 173–189. <https://doi.org/10.1108/IJGE-03-2019-0054>
- Hudák, M., Kianičková, E., & Madleňák, R. (2017). The importance of e-mail marketing in e-commerce. *Procedia Engineering*, 192, 342–347. <https://doi.org/10.1016/j.proeng.2017.06.059>
- Ingram, J., Maye, D., Kirwan, J., Curry, N., & Kubinakova, K. (2015). Interactions between Niche and Regime: An analysis of learning and innovation networks for sustainable Agriculture across Europe. *Journal of Agricultural Education and Extension*, 21(1), 55–71. <https://doi.org/10.1080/1389224X.2014.991114>
- Jafari-Sadeghi, V., Amoozad Mahdiraji, H., Alam, G. M., & Mazzoleni, A. (2022). Entrepreneurs as strategic transformation managers: Exploring micro-foundations of digital transformation in small and medium internationalisers. *Journal of Business Research*, 154(113287), 1–15. <https://doi.org/https://doi.org/10.1016/j.jbusres.2022.08.051>
- Jonas, P., Sabrina, A., Erik, G., & Paulo, B. (2019). *Innovation and the Diffusion of Technology in Agriculture in Floodplains in...: EBSCOhost*.
- Kadoic, N., Tomicic-Pupek, K., & Vrcek, N. (2020). Decision making on digital platforms in agriculture. *43rd International Convention on Information, Communication and Electronic Technology, MIPRO 2020 - Proceedings*. <https://doi.org/10.23919/MIPRO48935.2020.9245236>
- Kaushik, R. (2016). Digital marketing in Indian context. *IJCEM International Journal of Computational Engineering & Management*, 19(2), 2230–7893.
- Khoshnodifar, Z., Ghonji, M., Mazlounzadeh, S. M., & Abdollahi, V. (2016). Effect of communication channels on success rate of entrepreneurial SMEs in the agricultural sector (A case study). *Journal of the Saudi Society of Agricultural Sciences*, 15(1), 83–90. <https://doi.org/10.1016/j.jssas.2014.04.001>
- Khraim, H. S. (2021). Factors affecting Jordanian entrepreneurs' intentions to use smartphone applications in business. *Uncertain Supply Chain Management*, 9(4), 1037–1046. <https://doi.org/10.5267/j.uscm.2021.x.003>
- Koven, M. (2014). Interviewing: Practice, ideology, genre, and intertextuality. *Annual Review of Anthropology*, 43, 499–520. <https://doi.org/10.1146/annurev-anthro-092412-155533>
- Krafft, M., Arden, C. M., & Verhoef, P. C. (2017). Permission marketing and privacy concerns — Why do customers (not) grant permissions? *Journal of Interactive Marketing*, 39, 39–54. <https://doi.org/10.1016/j.intmar.2017.03.001>
- Lambert, V. ., & Lambert, C. E. (2013). Qualitative descriptive research: An acceptable design. *Pacific Rim International Journal of Nursing Research*, 16(4), 255–256. <http://antispam.kmutt.ac.th/index.php/PRIJNR/article/download/5805/5064>
- Leybert, T., & Khalikov, E. (2019). *Digital and organizational transformation of the educational process* (Vol. 1, Issue Icdtli, pp. 95–103). <https://doi.org/10.2991/icdtli-19.2019.20>
- Limilia, P., & Aristi, N. (2019). Literasi media dan digital di Indonesia: Sebuah tinjauan sistematis. *Jurnal Komunikatif*, 8(2), 205–222. <https://doi.org/10.33508/jk.v8i2.2199>
- Mendes, A. C. S., Ferreira, F. A. F., Kannan, D., Ferreira, N. C. M. Q. F., & Correia, R. J. C. (2022). A BWM approach to determinants of sustainable entrepreneurship

- in small and medium-sized enterprises. *Journal of Cleaner Production*, 371(March), 133300. <https://doi.org/10.1016/j.jclepro.2022.133300>
- Mirowsław, S., & Kalinowski, J. (2015). Dylematy wdrażania innowacji na obszarach wiejskich. *Roczniki Naukowe SERiA*, 3, 367–372.
- Mugiono, M., Dian, S., Prajanti, W., Wahyono, W., Pgri Batang, S., Ki, I. J., No, M., Selatan, P., & Batang, K. (2020). The effect of digital literacy and entrepreneurship education towards online entrepreneurship intention through online business learning and creativity at marketing department in Batang Regency. *Jee*, 10(1), 21–27. <http://journal.unnes.ac.id/sju/index.php/jeec>
- Mutsvangwa-Sammie, E. P., Manzungu, E., & Siziba, S. (2017). Profiles of innovators in a semi-arid smallholder agricultural environment in south west Zimbabwe. *Physics and Chemistry of the Earth*, 100, 325–335. <https://doi.org/10.1016/j.pce.2016.09.002>
- Nambisan, S. (2017). Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. *Entrepreneurship: Theory and Practice*, 41(6), 1029–1055. <https://doi.org/10.1111/etap.12254>
- Nayak, S., Dwivedi, R., & Singh, A. K. (2021). Digital innovation for strengthening seed market and augmenting targeted business in agriculture. *International Journal of Electronic Business*, 16(3), 279–295. <https://doi.org/10.1504/IJEB.2021.116612>
- Prihatna, K. A., Ayal, R., Sistarani, M., & Christanti, Y. (2019). What Whatsapp status enables reseller to do as channel. *International Journal of Innovative Technology and Exploring Engineering*, 8(9 Special Issue 3), 44–55. <https://doi.org/10.35940/ijitee.I3009.0789S319>
- Puriwat, W., & Tripopsakul, S. (2021). The impact of digital social responsibility on preference and purchase intentions: The implication for open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 1–11. <https://doi.org/10.3390/joitmc7010024>
- Purwanti, Y., Erlangga, H., Kurniasih, D., Pratama, A., Sunarsi, D., Manan, A., Imam Duta Waskita, N., Ilham, D., Aditya Dwiwarman, D., & Purwanto, A. (2021). The influence of digital marketing & innovation on the school performance. *Turkish Journal of Computer and Mathematics Education*, 12(7), 118–127.
- Rai, N., & Thapa, B. (2015). *A study on purposive sampling method in research*. Kathmandu: Kathmandu School of Law. <http://stattrek.com/>
- Ramesh, D. K., & Gladyp, M. V. (2020). Adaptation of digital and physical innovation in agriculture with special reference to academicians. *International Journal of Recent Technology and Engineering (IJRTE)*, 9(4), 148–153. <https://doi.org/10.35940/ijrte.d4869.119420>
- Raza, M., Md Isa, N., & Huda Bt Abd Rani, S. (2019). Effect of celebrity-endorsed advertisement and entrepreneurial marketing on purchase behavior of smartphone consumers in Pakistan. *Journal of Management Sciences*, 6(1), 15–29. <https://doi.org/10.20547/jms.2014.1906102>
- Reddy, P., Sharma, B., & Chaudhary, K. (2020). Digital literacy: A review of literature. *International Journal of Technoethics*, 11(2), 65–94. <https://doi.org/10.4018/IJT.20200701.oa1>
- Revenko, L. S., & Revenko, N. S. (2019). *Global agricultural policy trends: Bridging the digital divide* (Vol. 107, Issue Icefb, pp. 115–120). <https://doi.org/10.2991/icefb-19.2019.29>
- Rietjens, S. (2015). Qualitative data analysis. *Routledge Handbook of Research Methods*

- in Military Studies*, 15(1), 100352. <https://doi.org/10.4324/9780203093801.ch12>
- Rivza, B., Vasilevska, D., & Rivza, P. (2019). Impact of digital innovation on development of agriculture in Latvia. *Engineering for Rural Development*, 18, 682–687. <https://doi.org/10.22616/ERDev2019.18.N485>
- Safiullah, M., Pathak, P., Singh, S., & Anshul, A. (2017). Social media as an upcoming tool for political marketing effectiveness. *Asia Pacific Management Review*, 22(1), 10–15. <https://doi.org/10.1016/j.apmr.2016.10.007>
- Salamzadeh, A., & Moghadam, S. J. (2018). Do senior bankers care about entrepreneurial behaviour?: case of senior managers of Iranian vanguard banks. *World Review of Entrepreneurship, Management and Sustainable Development*, 14(1/2), 271. <https://doi.org/10.1504/wremsd.2018.10009000>
- Savira, M., & Fahmi, F. Z. (2020). Digitalizing rural entrepreneurship: Towards a model of Pangalengan digital agropolitan development. *IOP Conference Series: Earth and Environmental Science*, 592(1), 0–17. <https://doi.org/10.1088/1755-1315/592/1/012030>
- Steininger, D. M. (2019). Linking information systems and entrepreneurship: A review and agenda for IT-associated and digital entrepreneurship research. *Information Systems Journal*, 29(2), 363–407. <https://doi.org/10.1111/isj.12206>
- Stone, M. D., & Woodcock, N. D. (2014). Interactive, direct and digital marketing: A future that depends on better use of business intelligence. *Journal of Research in Interactive Marketing*, 8(1), 4–17. <https://doi.org/10.1108/JRIM-07-2013-0046>
- Tahir, T., Hasan, M., & Supatminingsih, T. (2022). Development of digital business literacy in farming management in Makassar City. *Economics Development Analysis Journal*, 02(04), 452–466.
- Temple, L., Biénabe, E., Barret, D., & Saint-Martin, G. (2016). Methods for assessing the impact of research on innovation and development in the agriculture and food sectors. *African Journal of Science, Technology, Innovation and Development*, 8(5–6), 399–410. <https://doi.org/10.1080/20421338.2016.1219484>
- Thelken, H. N., & Jong, G. (2020). The impact of values and future orientation on intention formation within sustainable entrepreneurship. *Journal of Cleaner Production*, 266, 122052. <https://doi.org/10.1016/j.jclepro.2020.122052>
- Thomas, L. S., Alvarado, D. M., Araya, C. A., Ramírez, J. B., Ramírez, J. M. B., Viquez, G. B., Acuña, S. G., & Redondo, F. V. (2015). The development of automated information systems to reduce the digital divide in agricultural communities: The case of the agricultural information service in Tierra Blanca (SIT). *Costa Rica. International Journal on Food System Dynamics*, 5(4), 230–240. <https://doi.org/10.18461/ijfsd.v5i4.548>
- Tisenkopfs, T., Kunda, I., šūmane, S., Brunori, G., Klerkx, L., & Moschitz, H. (n.d.). Learning and innovation in agriculture and rural development: the use of the concepts of boundary work and boundary objects. *Journal of Agricultural Education and Extension*, 21(1), 13–33. <https://doi.org/10.1080/1389224X.2014.991115>
- Trisakti, U. (n.d.). *Indonesia dalam nilai keuntungan dan ibadah era COVID-19 Lutfi Nur Agustian* (Vol. 3, Issue 2, pp. 1–9).
- Urbinati, A., Manelli, L., Frattini, F., & Bogers, M. L. A. M. (2022). The digital transformation of the innovation process: orchestration mechanisms and future research directions. *Innovation: Organization and Management*, 24(1), 65–85. <https://doi.org/10.1080/14479338.2021.1963736>

-
- Usman, A. S., & Tasmin, R. (2015). Entrepreneurial Skills development strategies through the mandatory students' industrial work experience scheme in Nigeria. *Procedia - Social and Behavioral Sciences*, 204(November 2014), 254–258. <https://doi.org/10.1016/j.sbspro.2015.08.148>
- Velten, S., Leventon, J., Jager, N., & Newig, J. (2015). What is sustainable agriculture? A systematic review. *Sustainability (Switzerland)*, 7(6), 7833–7865. <https://doi.org/10.3390/su7067833>
- Viaggi, D. (2015). Research and innovation in agriculture: Beyond productivity? *Bio-Based and Applied Economics*, 4(3), 279–300. <https://doi.org/10.13128/BAE-17555>
- Warokka, A. (2020). Digital marketing support and business development using online marketing tools: An experimental analysis. *International Journal of Psychosocial Rehabilitation*, 24(1), 1181–1188. <https://doi.org/10.37200/ijpr/v24i1/pr200219>
- Werner, S., Lemos, S. R., McLeod, A., Halstead, J. M., Gabe, T., Huang, J. C., Liang, C. L., Shi, W., Harris, L., & McConnon, J. (2019). Prospects for New England Agriculture: Farm to fork. *Agricultural and Resource Economics Review*, 48(3), 473–504. <https://doi.org/10.1017/age.2019.33>
- Winn, M. I., & Pogutz, S. (2013). Business, ecosystems, and biodiversity: New horizons for management research. *Organization and Environment*, 26(2), 203–229. <https://doi.org/10.1177/1086026613490173>
- Zuze, H., & Weideman, M. (2013). Keyword stuffing and the big three search engines. *Online Information Review*, 37(2), 268–286. <https://doi.org/10.1108/OIR-11-2011-0193>