

# The Effect of Social Capital and Collaborative Knowledge Creation on E-Business Proactiveness and Organizational Agility in Creating Business Sustainability

Erland Perdana<sup>a\*</sup>, Tantri Yanuar Rahmat Syah<sup>b</sup>

<sup>a,b</sup>Faculty of Economics and Business, Esa Unggul University, Indonesia

Received 19 December 2022; accepted 28 March 2023

## ABSTRACT

Social capital is significant for an organization while collaborative knowledge creation and e-business proactiveness support the organization in every business process. This research intends to identify social capital and collaborative knowledge creation in influencing e-business proactiveness and organizational agility in order to obtain business sustainability. This research was conducted in three months on 24 companies from the Financial Services Industry (FSI) sector in Greater Jakarta, Indonesia, involving 155 respondents. The data was analyzed using the SEM-PLS. The results confirm that social capital positively impacts e-business proactiveness and collaborative knowledge creation in the FSI sector. Besides, e-business proactiveness and collaborative knowledge creation demonstrate a positive influence on the FSI's organizational agility. Then, organizational agility significantly impacts business sustainability, while e-business proactiveness has yet to be proven to increase business sustainability in the FSI sector. The managerial implications of this research can be applied by organizations in developing social capital through social networks such as business partners in order to improve other aspects in creating business sustainability.

## KEYWORDS

Social capital  
Collaborative knowledge creation  
E-business proactiveness  
Organizational agility  
Business sustainability

## INTRODUCTION

An organization is formed by a group of people with structural relationships and social networks who collaborate in achieving the organization's goals. These social networks are better known as social capital. Having the ability and expertise to build social networks, social capital is the primary key to business sustainability, in which groups are interconnected and work together to drive organizational success (Swanson, Kim, Lee, Yang, & Lee, 2020). Bourdieu & Biggart (1986) put forward the basic theory of social capital as an aggregate of potential resources from networks and relationships of people who know each other and have attachments. Previous research explained that social capital is a provision for increasing collaborative knowledge creation and e-business proactiveness within an organization during the COVID-19 pandemic (Al-Omouh, Simón-Moya, &

\*Corresponding Author: [erland.perdana@student.esaunggul.ac.id](mailto:erland.perdana@student.esaunggul.ac.id); doi: 10.35313/ijabr.v5i02.326

Sendra-García, 2020). Yli-Renko et al. (2001) also analyzed that social capital formed through interaction, quality of relationships, and networks tied to consumers is able to increase the acquisition of sufficient knowledge to find new product innovations. Other research added that there is a bond between two elements in social capital that collaborate to form knowledge and the quality of the established relationship (Lin, 2014; Tu, 2020).

Owned social capital plays a role in the organization's skills, abilities, and knowledge. Knowledge is one of the critical aspects that will support business continuity. A model put forward by previous research explained that the knowledge possessed by an individual can be channeled through relationships with other individuals so that learning becomes explicit, which is managed by the organization (Arif, Egbu, Alom, & Khalfan, 2009). Moreover, Poell & Van der Krogt (2003) explained that knowledge is created not only based on management boundaries but also on the daily work activities carried out by employees. Collaborative practices conducted in various ways can also encourage knowledge formation by creating strategies and prioritizing the cycle of tacit and explicit knowledge (Faccin & Balestrin, 2018). Therefore, expanding knowledge in good work groups fosters better cooperative systems where information is turned into new knowledge (Grimsdottir & Edvardsson, 2018; Zhao, Zhang, & Wu, 2019).

In addition to the knowledge factor, the organization must prioritize e-business proactiveness in carrying out its activities. The existence of social capital and collaborative knowledge has a strong relationship with e-business proactiveness, which in turn can improve company performance. Capability to information technology and having a proactive attitude to always move forward will encourage organizational resilience and competitive advantage in every condition encountered (Oh & Teo, 2006; Piccoli & Ives, 2014). Through their research, Petti & Zhang (2011) found that organizational performance is shaped by the technological capabilities of a group of people within the organization. Performance improvement can happen because information technology systems help speed up information processing so the organization can carry out strategic actions (Vannoy & Medlin, 2012). Organizational competitive advantages are also strengthened through e-business proactiveness so that the organization can face an environment that is dynamic and constantly changing (Leyton, Pino, & Ochoa, 2015). Previous research has emphasized that being proactive in e-business entrepreneurship can be supported by encouragement from senior or higher-level management (Al-Omouh et al., 2020).

Emphasis on social capital, collaborative knowledge, and e-business proactiveness is expected to help companies become more agile. The agility possessed by an organization will be significant for the company to always be agile in facing business obstacles. Research has shown that employee engagement and effective learning can increase when an organization has good agility (Nafei, 2016). Besides, managing information technology increases organizational agility and competitive advantage (Altschuller, Gelb, & Henry, 2010; Lee, Sambamurthy, Lim, & Wei, 2008; Madhok & Marques, 2014; Nissen & Rennenkampff, 2017; Pouloudi, Ziouvelou, & Vassilopoulou, 2003). The strength of the integration between structures within the organization and the connectivity the company develops with its partners and consumers will ease it to analyze ambiguous opportunities in a shorter time, in other words, have organizational agility (Seethamraju & Krishna Sundar, 2013).

Through all the efforts made, the ultimate goal of every organization is to become a sustainable business. Business sustainability is an essential factor for the organization, in which there are factors for developing innovation and business models (Boons, Montalvo, Quist, & Wagner, 2013). Business sustainability is built using many dimensions, including the utilization of information technology, knowledge, and competence, as well as other factors from the organization's external environment (Yanti, Amanah, Muldjono, & Asngari, 2018). In addition, the utilization level of e-business proactiveness and innovation directly contribute to long-term business sustainability (Al-Omouh, Al-Qirem, & Al Hawatmah, 2018).

Research conducted by Al-Omouh et al. (2020) explained the relationship between social capital, collaborative knowledge creation, e-business proactiveness, and organizational agility. However, in assessing the success of an organization, it is essential to also pay attention to the sustainability of the organization's business. At present, where the conditions of business competition are becoming more stringent with the widespread imitation of business ideas and solutions being carried out, competitive advantage is not enough to create business sustainability; thus, the level of organizational behavior needs to be evaluated continuously (Al-Omouh et al., 2018). Proactive use of information technology needs attention to support business sustainability, especially when the internet has become an essential part of human life (Karim, 2022).

Apart from the business sustainability aspect, Al-Omouh et al. (2020) also provided suggestions for further research in sectors and regions that differ from previous research since each business area possesses different business behavior. This study, therefore, approaches Financial Services Industry (FSI) in Greater Jakarta, Indonesia. The sector is changing quickly and becoming very competitive. Current consumer conditions have developed, have more extensive knowledge, and are price-sensitive. This situation creates the need to investigate the FSI sector's sustainability. Moreover, both established firms in the financial services industry and recent entrants are exploring the potential of the newest channel, e-business (Boyes & Stone, 2003).

This study investigates the relationship between social capital and collaborative knowledge creation on e-business proactiveness and organizational agility in creating business sustainability in the FSI sector. This research is expected to contribute to the theoretical understanding of each variable studied and to provide managerial implications for organizations in FSI. This research discusses how an organization's social capital through relationships in a network becomes an essential key for the FSI sector to develop knowledge and e-business proactiveness so that companies can maintain their sustainability.

## LITERATURE REVIEW

### Social Capital

Social capital is a form of relationship between individuals in a particular group that later forms a capital or an ability (Hanifan, 1916). It is not like tangible objects such as money or property, but something intangible and owned by every individual in coexistence (Hanifan, 1916). Social capital becomes part of an organization in the form of trust, norms, and networks that will facilitate the organization for organized action (Septyanto & Dewanto, 2018). Granovetter & Swedberg (2018) maintained that social capital is obtained from the quantity and quality of an individual's network, and it pays attention to the amount of economic, cultural, and social capital the network has. Social capital is also a strength possessed by a group of people who jointly contribute knowledge and expertise collectively when thinking about and taking the best steps to overcome a problem. It has three essential aspects: social interaction, the quality of social relations, and the strength of social networks (Syahra, 2003; Yli-Renko et al., 2001).

### E-Business Proactiveness

Organizations that implement e-business use information and communication technology to interact, make decisions, and process data and information within their organizations (Beynon-Davies, 2012). Meanwhile, a proactive attitude is an attitude that shows the goal of moving forward

(Al-Omouh et al., 2020). Thus, e-business proactiveness means an organizational attitude to promote the use of e-business to develop corporate efforts. This progress continues according to the times, where there are changes in information technology innovations that continue to increase and are used as fundamental capabilities a company needs (Oh & Teo, 2006). Utilization of the potential of information technology provides access and management to various parties quickly and accurately (Subandi, Ramdhani, Syah, & Negoro, 2020). In addition, applying the right technology will also develop organizational capabilities through innovation processes, creating applications, and creating new products or services (Setiawan, Susanti, & Syah, 2019).

E-business proactiveness is a substantially superior result generated by social capital, whereby e-business strengthens the trust of social relations (Liu, Ke, Wei, & Lu, 2016). Social capital has supported and encouraged the development of e-business by enhancing connections, networks, and relationships between individuals and groups inside and outside the company (Vannoy & Medlin, 2012). Also, social capital influences the workforce's ability to use technology or e-business proactiveness. Thus, the crews must strengthen external network capabilities that moderate their relationships in order to improve e-business proactiveness capabilities (Petti & Zhang, 2011). Oh & Teo (2006) explained that e-business produces integrated systems in every part of the organization for customers or suppliers that later become social capital. Thus, e-business development is the primary foundation for connecting networks. It actively improves the company's ability to maintain relationships with customers or suppliers and accelerates the distribution process of the company's internal and external supply chains (Pouloudi et al., 2003). The benefits will be felt when social capital can bring important information to be appropriately channeled, increase sources of information, and provide good quality information within the group (Li, Clark, & Wheeler, 2013). This circumstance concludes that social capital directly or indirectly influences developments within the company to build e-business proactiveness models based on the social capabilities of the workforce (Pouloudi et al., 2003).

H<sub>1</sub>: Social capital positively impacts the development of e-business proactiveness.

### **Collaborative Knowledge Creation**

Knowledge creation is a process in which knowledge continues to develop and creates innovations (Sukmawati, Mudikdjo, Hardjomidjojo, & Indrasti, 2008). Nonaka et al. (1995) explained that knowledge is divided into tacit knowledge and explicit knowledge. Tacit knowledge is the knowledge in individuals' minds while explicit knowledge is the knowledge that has been recorded so that it is easier for others to learn. Literature has stated that tacit and explicit knowledge formation has a cycle through the socialization, externalization, combination, and internalization (SECI) model, the stage where individual knowledge is converted so that others can have the same knowledge (Nonaka et al., 1995). Moreover, Indriartiningtias et al. (2017) defined collaborative knowledge as a process in which knowledge emerges as an idea and is shared within the group. Developing knowledge management can be carried out with collaborative innovation activities (Indradewa & Iqbal, 2021). Further, the knowledge of individuals can be managed and stored as archives to be studied by other individuals continuously, which is known as knowledge retention ability (Arif et al., 2009).

Knowledge obtained through social capital is inseparable from collaborative knowledge creation, which is formed through individual group relationships. Social interaction among business partners, which becomes social capital, actively develops organizational knowledge management (Chen, Jiao, Zeng, & Wu, 2016). Strong relationships between several parties increase the formation of collaborative knowledge that is interrelated in every network built by the organization (Tu, 2020).

Activities of exchanging knowledge and cooperation in social networks will increase the formation of collaborative knowledge so that each individual has the same understanding and opinion within the group (Zhao et al., 2019). Zhao et al. (2019) also explained how social networking activities encourage collaborative knowledge formation in high-stress environments. The high-pressure felt within the organization can be overcome by the ability of social capital with a good level of knowledge to make decisions according to the capabilities needed in the uncertainties that occur.

Social network interactions involve knowledge exchange, coordination, and social integration (Faccin & Balestrin, 2018). Communication that exists between every party involved will develop understanding and knowledge, as well as increase insight regarding the use of technology and changes in the business environment. These aspects will be socialized and embedded in the mind of other people who establish relationships and interactions (Bharati, Zhang, & Chaudhury, 2015). In addition, good social capital and support from the networks will strengthen the motivation and enthusiasm of each individual to carry out the learning process to increase their new knowledge (Suciani & Rozali, 2014).

Collaboration in organizations with good knowledge management is able to increase innovation and the intensity of technology use (Grimsdottir & Edvardsson, 2018). Several companies have developed the application of collaborative knowledge creation to benefit them, one of which is the development of information technology to create e-business proactiveness (Warkentin, Sugumaran, & Bapna, 2001). Grimsdottir & Edvardsson (2018) discovered significant differences between technology-based and non-technology-based companies in forming innovations. In comparison, technological innovation is created from collective knowledge developed collaboratively within the group. The source of e-business proactiveness occurs due to the sharing and applying of the knowledge of each individual and organization, which is managed by innovation management (Faccin & Balestrin, 2018). At the same time, e-business proactiveness occurs when pressure on the business environment requires knowledge, learning processes, and organizational adaptability (Muukkonen et al., 2020). Al-Omouh (2020) argued that e-business proactiveness will be obtained from the organization's capabilities, initiatives, and knowledge. Companies that do brainstorming and collect all the knowledge possessed by all employees will get ideas and innovations faster to increase e-business proactiveness in the company. Wu (2008) explained that knowledge creation could create new knowledge in the form of e-business proactiveness, where the participation of each party to express opinions and knowledge will always be required.

H<sub>2</sub>: Social capital positively impacts collaborative knowledge creation.

H<sub>3</sub>: Collaborative knowledge creation positively impacts e-business proactiveness.

### **Organizational Agility**

Organizational agility is an organization's ability to analyze opportunities in market dynamics, so the organization can responsively implement proactive steps to manage these opportunities (Lee et al., 2008). Nissen & Rennekampff (2017) defined organizational agility as the ability of an organization to see opportunities or problems so it can quickly fulfill the resources to meet these opportunities before others realize it. An agile organization can deal with dynamic business environments and exciting happening markets (Al-Omouh et al., 2020). Madhok & Marques (2014) also explained that an agile organization would have an advantage in the speed of time to compete and manage opportunities in a market with a dynamic environment that is challenging to predict.

Organizational agility is supported by e-business proactiveness (Altschuller et al., 2010). Piccoli & Ives (2014) maintained that utilizing e-business proactiveness positively impacts many corporate

advantages and increases organizational agility. E-business proactiveness creates integrated relationships within the organization, such as integrated promotion, information access, product, and customer service, thereby increasing organizational agility (Oh & Teo, 2006). Further, e-business architecture is designed to help organizations to be able to analyze and cope with changes that constantly occur in business processes (Van Oosterhout, Waarts, & Van Hilleberg, 2006). The speed of market dynamics and competition analysis allows the company to survive every obstacle that a growing organization faces. E-business proactiveness will lead to a rapid response to changes so that organizational agility capabilities will increase (Nissen & Rennekampff, 2017). Organizational agility is not only supported by e-business infrastructure, such as adequate hardware and software, but it also requires a well-integrated system that an organization can use optimally and proactively (Nissen & Rennekampff, 2017). Seethamraju & Krishna Sundar (2013) discovered that proper e-business proactiveness and synchronizing business processes can improve organizational agility capabilities.

In addition to e-business proactiveness, collaborative knowledge creation also increase organizational agility by effectively responding to unexpected and dynamic events within the organization's business cycle (Nissen & Rennekampff, 2017). Organizational agility will be built with the knowledge to transform the company in market changes and can process any knowledge collaboratively to obtain the framework needed to cope with a dynamic environment (Ashrafi et al., 2005). Collaborative knowledge creation expands the dissemination of existing knowledge within the organization and increases organizational agility, where information is processed accurately and quickly (Altschuller et al., 2010). Knowledge collaboration must be carried out through acquisition, conversion, and implementation so that knowledge becomes meaningful, can be used in organizational agility, and improves company performance (Cegarra-Navarro, Soto-Acosta, & Wensley, 2016). Moreover, Madhok & Marques (2014) argued that organizations will continuously show their agility to overcome obstacles by presenting the best products and technology produced by the collaborative knowledge creation of their organizational structure.

H<sub>4</sub>: E-business proactiveness positively impacts organizational agility.

H<sub>5</sub>: Collaborative knowledge creation positively impacts organizational agility.

## **Business Sustainability**

Previous research has demonstrated the definition of business sustainability as an effort to meet current needs without ignoring the needs of future generations (Braccini & Margherita, 2018). Organizational performance fundamentals are measured based on organizational sustainability (López-Santamaría, Amaya, Grueso Hinestroza, & Cuero, 2021). Braccini & Margherita (2018) maintained that there are several dimensions in the concept of business sustainability, including environmental, social, and economic, which are known as the three bottom lines. Nonetheless, dynamic economic developments encourage organizations to continue to innovate, make complex decisions, provide creative solutions to the environment, and be able to adapt quickly (Al-Omouh et al., 2018). Seeing this perspective, Al Omouh et al. (2018) suggested three business sustainability measures: survival, growth, and excellence. Baldassarre et al. (2020) argued that a sustainable business model in an organization is not only related to the products and services offered but also covers the overall business strategy. Lee et al. (2008) explained that business sustainability describes an organization's success in continuously improving performance and defending itself from the competition.



According to Al Omoush et al. (2018), using e-business proactiveness will increase competitive advantage and business sustainability in the long term. E-business proactiveness is believed to develop sustainability with three critical themes in e-business: resource efficiency and dematerialization, corporate responsibility, and regional development (Yi & Thomas, 2007). Innovations in e-business carried out by organizations will also increase business sustainability. Companies must develop mechanisms for monitoring and evaluating venture performance based on metrics that flow from the venture's founding purpose (Kuratko, 2007). Previous research has found that using information and communication technology in business processes can improve the sustainability of the business in the future (Lin, 2014). Yanti et al. (2018) assured that the ability and use of e-business while responding to changes in rapid technological innovation, focusing on long-term interests, producing environmentally friendly products, and seeking natural resource preservation as well as efficient use of technology are the advantages to compete in maintaining the organization's sustainability. Moreover, e-business proactiveness is essential to develop and maintain business sustainability (Pouloudi et al., 2003).

Like e-business proactiveness, organizational agility also creates opportunities to become a business wheel and increase competitive advantage as well as business sustainability (Lee et al., 2008). Lee et al. (2008) explained that there are two types of agility, namely entrepreneurial agility and adaptive agility, both encourage and increase competitive advantage and sustainable business. The basic capabilities of organizational agility have complimented the powers of integration, collaboration, and information processing to create a sustainable business (Nath & Agrawal, 2020). Besides, the speed and agility of the organization in responding quickly to consumer demands will significantly increase business sustainability (Yuan, Qin, & Zhao, 2017). Every consumer demand that can be fulfilled continuously will raise trust in every sustained business. Organizational agility capabilities will protect the organization from obstacles resulting from imitation and competition (Piccoli & Ives, 2014). Therefore, an agile organization can positively impact the organization to increase business sustainability in the trading market by detecting opportunities and threats and launching the proper response through risk analysis of every action (Lee et al., 2008).

H<sub>6</sub>: E-Business proactiveness positively impacts business sustainability.

H<sub>7</sub>: Organizational agility positively impacts business sustainability.

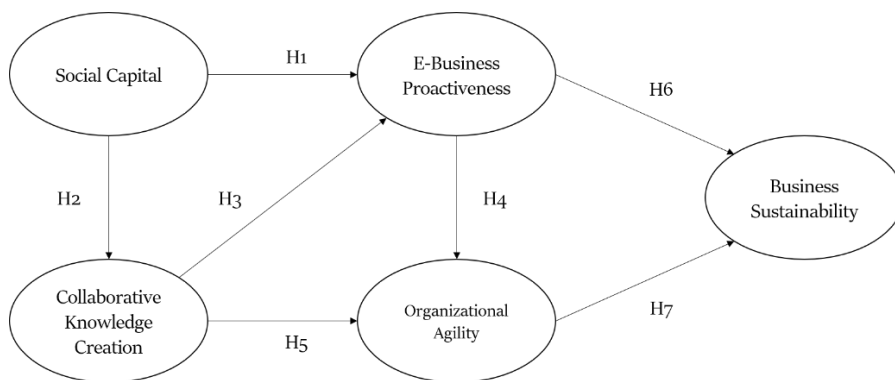


Figure 1. Conceptual model

## RESEARCH METHOD

### Measures and Instruments

The measurements used to operationalize the study model's variables were adapted from earlier studies (Table 1). This research employed a survey method by distributing questionnaires online, and the measurements were conducted using a Likert interval scale of 1-6, ranging from 1 = strongly disagree to 6 = strongly agree.

Table 1. Sources of measures

No.	Construct	Number of Items	Sources
1.	Social capital	5	(Al-Omouh et al., 2020)
2.	E-business proactiveness	5	(Oh & Teo, 2006)
3.	Collaborative knowledge creation	8	(Al-Omouh et al., 2020)
4.	Organizational agility	5	(Nafei, 2016)
5.	Business sustainability	7	(Al-Omouh et al., 2018)

In conducting the measurements, the operationalization of this study was carried out by adjusting the questions to the intended respondents. The questionnaire included 30 questions that collected information on the constructs in the research model (Table 2).

This study is a quantitative research using SEM-PLS. SmartPLS was used because the application can test exploratory research (Al-Omouh et al., 2020). This research's convergent validity test was estimated using the composite reliability (CR) and average variance extracted (AVE). The factor analysis is acceptable if all constructs' composite reliability (CR) exceeds the threshold of 0.70. Furthermore, convergent validity needs to exceed the threshold of 0.5 (Joseph Hair, Anderson, Babin, & Black, 2010).

Table 2. Sources of measures

Construct	Measurement items
Social capital	<p>Links to social networks or business partners increase our opportunities for innovative ideas and insights</p> <p>We and our business partners maintain close relationships and collaborate</p> <p>Our business partners actively participate in decisions that affect us</p> <p>We pay great attention to suggestions and recommendations from social networks or our partners</p> <p>The company's business partners have a significant impact on the development of company processes, products, and services</p>
E-business proactiveness	<p>The business environment in which we operate is constantly evolving as circumstances occur</p> <p>The business information in the company is distributed smoothly wherever employees are</p> <p>The web-based system at our company is well integrated with existing physical/hardware computer systems</p> <p>We are usually the first to launch various products and services</p> <p>We adopt innovation early on</p>



Table 2. Sources of measures (continued)

Construct	Measurement items
Collaborative knowledge creation	Interacting with suppliers, customers, associations, and other stakeholders can lead to new ideas and technological innovations in our business environment
	We collaborate with partners in gaining new knowledge using outside and inside thinking
	We exchange ideas or dialogues ambitiously and creatively with partners
	Our partners and I exchange ideas, knowledge, and good work practices
	Our partners and I often take time to organize, integrate, and categorize new knowledge
	We engage in activities to share new ideas with internal departments and external partners
	We take the time to carry out the learning process together and share the results with all departments and external partners
	We strengthen the method of transferring knowledge and experience through face-to-face and virtual meetings
Organizational agility	The company recognizes opportunities and risks in rapidly changing customers, competitors, and technology
	The company is quick to recognize changes in customer preferences or perceptions of the products we offer
	The company plans to respond quickly to every strategic move by competitors
	The company quickly adopts the use of new technology
	The company can quickly readjust their operational activities
Business sustainability	The company improves the company image in the eyes of the public
	The company increases customer satisfaction and loyalty
	The company allows for long-term working relationships with corporate partners
	The company increases competitive advantage against competitors
	The company increases productivity
	The company creates new business models, products, and services
	The company increases the number of profits

## Population and Sample

This study requires a population of companies located in Indonesia. The sample was selected by nonprobability sampling, in which not every element in the population can be chosen as a research sample (Joe Hair, Page, & Brunsveld, 2019). This research sample was companies in the Financial Services Industry (FSI) sector in Greater Jakarta, Indonesia. The data was collected in three months. Large companies at the Indonesian FSI have implemented comprehensive e-business applications in their business processes (Wati, 2011). The FSI sub-sector, supervised by the Financial Services Authority (FSA), comprises banking, capital markets, insurance, financing, pension funds, and other financial services industries (Soetiono, 2014). The criterion for respondents in this study was managerial employees at all levels, starting from first-line management, middle-level management, and top-level management in the sections or departments of the companies that were the subject of the study. In addition, this research required at least 150 respondents to meet the minimum number of respondents, which is five times the number of indicators measured (Joseph Hair et al., 2010).

## RESULTS

### Data Analysis and Results

Table 3. The distribution of participating companies and respondents

No.	Characteristics	Category	Frequency	%
1.	Industry	Bank	14	58%
		Capital market	1	4%
		Financing	4	17%
		Insurance	5	21%
2.	Department	General	16	10%
		Finance	31	20%
		Sales & Marketing	61	39%
		Information & technology	7	5%
		Human resource	3	2%
		Risk management	12	8%
		Internal audit	5	3%
		Others	20	13%
3.	Managerial level	Top-level manager	8	5%
		Middle-level manager	34	22%
		First-line manager	113	73%

This study obtained 155 usable respondents consisting of managerial employees of 24 Financial Services Industry (FSI) companies in Indonesia. The distribution of respondents is shown in Table 3.

Table 4. Validity and reliability constructs

Constructs	Cronbach's $\alpha$	rho_A	AVE	CR
Social capital	0.873	0.878	0.902	0.569
E-business proactiveness	0.891	0.895	0.913	0.567
Collaborative knowledge creation	0.789	0.793	0.855	0.543
Organizational agility	0.834	0.838	0.883	0.603
Business sustainability	0.831	0.832	0.880	0.595

Tests on construct validity have been described by Hair et al. (2010) by explaining that construct validity measurements would be declared valid and acceptable when all variables have an average variance extracted (AVE) value of more than 0.50. Calculating the value of composite reliability (CR) is a requirement for construct reliability, in which the CR value must be above 0.70 to be qualified as acceptable (Hair et al., 2010). Table 4 shows Cronbach's  $\alpha$ , rho A, CR, and AVE values for all constructs. The results of this study stated that all variables have an AVE calculation value above 0.50 and a CR value above 0.70, which suggests convergent validity. This study also conducted a structural test analysis to determine the value of  $R^2$  in each equation. It functions to show the strength of the independent variable that can explain the affected dependent variable (Table 5).

Table 5. R Square structural test

Constructs	R Square	R Square Adjusted
Business sustainability	0.570	0.565
Collaborative knowledge creation	0.189	0.183
E-business proactiveness	0.435	0.427
Organizational agility	0.514	0.508

This study can be judged to have a good model fit by looking at the standardized root mean square residual (SRMR) value in the model test results. According to Hu & Bentler (1999), the value of SRMR is categorized as a good fit when it is below 0.1. This study has a standardized root mean square residual SRMR value of 0.088, classified as a good fit.

### Research Hypotheses Testing

Table 6 shows the results of the hypothesis testing, which contains seven hypotheses from five constructs: social capital, e-business proactiveness, collaborative knowledge creation, organizational agility, and business sustainability. The research results processed using SEM-PLS are described in Table 6, containing path coefficient ( $\beta$ ), t-value, and p-values.

Table 6 shows that the six hypotheses have a t-value higher than 1.96, indicating that the data supports the six hypotheses of this study. The results show that social capital has a significant impact on e-business proactiveness and collaborative knowledge creation. The results also support the hypotheses that e-business proactiveness and collaborative knowledge creation positively impact organizational agility. The positive impact of organizational agility on business sustainability is also justified in this study. However, the relationship between e-business proactiveness and business sustainability has a t-value below 1.96, so the data does not support the hypothesis that e-business proactiveness positively impacts business sustainability.

Table 6. Result of testing the research hypotheses

H	$\beta$	t-value	Sig.	Result
1	0.310	4.221	0.000	Supported
2	0.434	6.582	0.000	Supported
3	0.462	6.663	0.000	Supported
4	0.566	7.724	0.000	Supported
5	0.217	2.624	0.010	Supported
6	0.053	0.615	0.544	Not Supported
7	0.717	10.065	0.000	Supported

## DISCUSSION

This study conducts an empirical test of an interrelated event between social capital and collaborative knowledge creation on e-business proactiveness and organizational agility in creating business sustainability in the Financial Services Industry (FSI) sector in Indonesia. This study shows that social capital has a role in increasing the level of e-business proactiveness in FSI. This finding reinforces previous research, which states that social capital increases the attitude of e-business proactiveness of organizations (Grimsdottir & Edvardsson, 2018; Petti & Zhang, 2011; Vannoy &

Medlin, 2012). The combination of external solid social capital and knowledge within the organization significantly impacts on increasing e-business proactiveness in this industrial sector (Pérez-Luño, Cabello Medina, Carmona Lavado, & Cuevas Rodríguez, 2011). Communication between business partners in developing insights, ideas, and innovations creates organizational e-business proactiveness. Companies can maximize good social relations by using information technology to create e-business proactiveness. Recommendations and suggestions from all parties, both internal and external, which are well received and processed by the FSI organization, will create a maximum level of e-business proactiveness. Besides, the optimal use of e-business makes the organization continue to grow according to the environment's needs.

The next thing discussed in this study is the positive influence exerted by social capital within a group to create collaborative knowledge in the FSI sector. Good cohesiveness and integration within the organization increase the quality and quantity of work produced based on qualified knowledge possessed by the organization (Nugrahati et al., 2019). The network that is formed in an organization encourages organizational groups to develop more extensive knowledge. This finding strengthens the previous studies that there are two elements mutually bound in a social network so collaborative knowledge is created (Tu, 2020). Organizations with high levels of social capital will, directly and indirectly, acquire and exploit personal knowledge within them and form group knowledge collaboratively (Yli-Renko et al., 2001). The influence of social capital certainly benefits FSI companies so that individual knowledge advantages can turn into group knowledge advantages. Organizations that collaborate well with business partners create knowledge through well-informed external and internal thinking. FSI's social capital is proven to be able to contribute to knowledge that is not visible within a group (Pérez-Luño et al., 2011). Thus, corporate internal and external relations are essential for creating collaborative knowledge. Every interaction carried out offline and online can influence the knowledge formed in the FSI company. This knowledge will also be increasingly practical if the valuable organization can manage it optimally.

The results show that collaborative knowledge can create innovation and develop e-business proactiveness, thereby increasing market opportunities for FSI companies in Indonesia. This research reinforces previous studies describing how collaborative knowledge creation influences e-business proactiveness capabilities in an organization (Al-Omouh et al., 2020; Lin, 2014; Pouloudi et al., 2003). Organizational capacity to retain knowledge and experience through information technology resources will enhance e-business proactiveness (Al-Omouh, 2022). Interactions between suppliers, customers, associations, and other stakeholders involving knowledge will stimulate a proactive attitude towards using e-business. On the other hand, the role of organizational leaders is also needed to encourage functions and disciplines for each managerial section to carry out all experiments and knowledge using e-business (Fahey, Srivastava, Sharon, & Smith, 2001). The learning process in groups is carried out through dialogue with the team, open discussions, or in the form of assignments by leaders who are carried out in an irrational ambitious, and creative organization about the importance of IT strengthening the value of e-business proactiveness (Anindita & Hasyim, 2016). Therefore, management and utilization of knowledge, as well as openness to innovation, are essential keys in the successful development of e-business proactiveness (Yan, Tran-Danh, & Hong, 2019)

This study explains how e-business proactiveness positively impacts the organizational agility of the FSI sector in Indonesia. This research is in line with previous research, which demonstrated that a proactive attitude and technological innovation increase organizational agility in market conditions that move dynamically and change over time (Altschuller et al., 2010; Lee et al., 2008; Piccoli & Ives, 2014; Seethamraju & Krishna Sundar, 2013). The results of this study prove that with e-business proactiveness, FSI organizations will be agile in reading market conditions so that quick decision-making can be made at the right time (Oh & Teo, 2006). Knowledge and e-business together

positively impact the speed and quality of reading business situations and making decisions (Al-Omouh, 2022). The digitization in the FSI business process organizes every activity carried out by the organization, especially in the increasingly high dynamism of the business environment. Digitalization will certainly increase organizational agility because technology accelerates every process to become more flexible, efficient, and effective (Miceli, Hagen, Riccardi, Sotti, & Settembre-Blundo, 2021). The attitude of e-business proactiveness and its utilization of information technology greatly assist the FSI in processing data and information quickly. The most important result of technology development is how technology can help companies to increase organizational agility.

The finding reveals that collaborative knowledge creation positively impacts organizational agility in the FSI sector. The abundant knowledge possessed by the FSI working group accelerates the emergence of solutions needed when the organization has to make quick decisions. Collaborative knowledge can recognize opportunities and risks in changing conditions of customers, competitors, and technology quickly and precisely. It also forms creativity and group ideas so that the organization becomes more agile in dealing with unexpected situations and still can make the right decisions (Al-Omouh, 2020; Al-Omouh et al., 2020). Proper knowledge management will also improve an organization's competence and work performance, speeding up the analysis time required by the organization (Budi, Anindita, & Aida, 2022). The knowledge and experience already in the minds of every working individual allow creativity to emerge quickly when the organization needs a solution. Collaborative knowledge creation is expected to be one of the solid supports for FSI to develop its dynamic capabilities (Arsawan, Hariyanti, Atmaja, Suhartanto, & Koval, 2022). Stakeholders in FSI organizations collaborate to explore knowledge so that they can plan quickly to respond to every strategic movement of competitors. Thus, the FSI organization can continuously boost its knowledge capabilities and flexibility to face every obstacle.

Another relationship examined in this study is how e-business proactiveness can improve business sustainability capabilities. Unfortunately, this research does not see that e-business proactiveness can significantly affect business sustainability in FSI organizations. In this study, the FSI organization is not proven to be a pioneer in launching new products and is an organization that adopts innovation from an early age. Meanwhile, to align e-business proactiveness and business sustainability, speed of innovation is needed to gain a competitive advantage (Soliman & Youssef, 2001). In addition, in developing countries, FSI also develops more physical activities compared to the development of e-business, where e-banking services still need to be more accepted by consumers (Kimiagari & Baei, 2022).

As for organizational needs for e-business proactiveness, this aspect cannot stand alone to encourage business sustainability. E-business proactiveness helps company performance, and it is just that e-business proactiveness can improve business sustainability with other supporting factors. Many aspects can affect business sustainability, but not all systems connected in a circular principle can directly create sustainability (Pieroni, McAloone, & Pigosso, 2019). The development and refinement of e-business are still being carried out to support all organizational needs, so many updates affect business sustainability. The concept of sustainable value can be fulfilled if the triple bottom line has supported the entire organization's ecosystem. These environmental, social, and economic values have been fulfilled and developed according to current conditions (Braccini & Margherita, 2018).

The findings emphasize that organizational agility in the FSI sector can be significant for creating business sustainability. An agile organization can overcome all challenges in business sustainability, in which organizational agility provides fast solutions and the proper decision-making. Moreover, an agile organization can adapt and develop following the occasionally evolving needs. The speed with which the FSI organization makes decisions to open up opportunities and dispel challenges in

business competition is essential in maintaining business sustainability. Continuous agility is vital for companies and organizations to survive every condition (Piccoli & Ives, 2014). Organizational agility can assist the FSI organization in solving problems efficiently, enabling flexible and responsive decision-making in facing every business obstacle and building business sustainability (Miceli et al., 2021). Organizational agility will undoubtedly assist the organization in finding creative ways to overcome everything to maintain its business sustainability in ups and downs, uncertain and ambiguous situations, and continue to increase productivity, customer satisfaction, and the amount of profit (Munteanu, Bibu, Nastase, Cristache, & Matis, 2020).

## CONCLUSION

This study proves that the majority of the hypotheses have a positive impact on each other, in which there is a positive relationship between social capital and collaborative knowledge creation on e-business proactiveness and organizational agility, and they are expected to create business sustainability in organizations engaged in the Financial Services Industry (FSI) sector in Greater Jakarta, Indonesia. This study demonstrates that social capital is an essential key for the FSI organization to maintain business sustainability for the long term. Social capital management is a factor that will influence the level of e-business proactiveness and create collaborative knowledge in the FSI sector. Establishing good relationships in organizational groups can build a spirit of learning and developing each individual. The growing group will participate in developing technology to keep up with the business environment's needs by prioritizing the company's goals.

Another thing that deserves attention is how e-business proactiveness and collaborative knowledge creation can increase organizational agility, which is very important for the sustainability of every organization's business. The use of information technology is essential for organizations to improve competitiveness in today's internet era. E-business proactiveness capabilities enable FSI companies to identify problems and make the right business decisions. Decision-making is also more appropriate if the FSI organization has qualified collaborative knowledge and can analyze the market needs. However, in this study, e-business proactiveness is not proven to affect business sustainability in this sector directly. This is because the FSI sector has not been a pioneer in launching new products and services and has yet to be found to adopt innovations early on. On the other hand, business sustainability can be affected by the organizational agility of the FSI organization. This situation shows that organizational agility can analyze the three bottom lines required by business sustainability: environmental, social, and economic values.

## MANAGERIAL IMPLICATION

This research provides several managerial implications that can be applied to business practices. First, a good level of social capital will increase a proactive attitude in e-business practices and develop collaborative knowledge creation. Current conditions encourage organizations to innovate information and communication technology to access external parties, suppliers, and consumers in every functional activity. Top-level management from the FSI organization can provide groups with the right approach and training to collaborate and actively develop e-business proactiveness. E-business utilization in social capital can certainly be increased through social networks that interact to get innovative ideas and insights from FSI external partners. Getting used to using technology in interactions can also improve good engagement between all parties without being limited by distance

and time. If business partners and other parties can participate actively in decisions that affect the organization, this social capital can be utilized to have implications for management within the organization.

In addition, e-business proactiveness in an organization can accelerate all business processes without worrying about the location and distance of the business processes. As for e-business proactiveness, it can be vital if the FSI organization has capable collaborative knowledge creation capabilities and is well managed by the organization. Knowledge owned by each individual can be collected and grouped using e-business, so companies can use it to carry out their business needs. These ideas, knowledge, and innovations are obtained through interactions with suppliers, customers, associations, and other stakeholders within the organization. Collaboration between business partners using outside and inside thinking can create new knowledge that is useful for the organization. Management of knowledge will play an essential role within organizational groups to increase innovation and group capabilities toward e-business proactiveness.

Another managerial implication is how e-business proactiveness and collaborative knowledge creation can improve organizational agility. The combination of these two aspects allows the organization to practice the coordination and communication of each party which will solve every incident experienced by the organization in a short time. The level of organizational agility determines how the organization can quickly respond to every market condition to business competition. Organizational agility can be seen in how the organization can promptly recognize changes in the behavior of customers, competitors, and technology. Every business environment needs to respond to changes quickly by readjusting operational activities and implementing new technology. Organizations with good organizational agility can also promptly provide business solutions and make decisions at the right time. Good analytical skills, accurate decision-making, and precise execution of actual market needs can help companies achieve their main goals sustainably. This is directly proportional to business sustainability which is the goal of every organization.

## **LIMITATIONS AND FUTURE RESEARCH**

This study certainly has limitations that can be developed for future research. First, this study only researched the FSI sector in the Greater Jakarta area. Analysis can be carried out in other industries and regions to strengthen the research that has been done. Broader insights can be found in sectors and areas with different business environment conditions in treating social capital owned by organizations. Second, social capital can also affect other aspects of creating business sustainability in an organization. Further research is expected to study other influences created by social capital and conduct research on factors that affect business sustainability. As an example, leadership and programs prepared by management can also influence all variables examined in this study, so that they can become aspects that strengthen future research. The use of e-business and technology will also vary in each sector and region depending on market needs. Furthermore, business sustainability can also be studied further because sustainability is an aspect with very diverse supporting factors. Many things can affect an organization's ability to create business sustainability which can fulfill the triple bottom lines.



## REFERENCES

- Al-Omoush, K. S. (2020). The role of top management support and organizational capabilities in achieving e-business entrepreneurship. *Kybernetes*. doi: 10.1108/K-12-2019-0851
- Al-Omoush, K. S. (2022). Understanding the Impact of Intellectual Capital on E-Business Entrepreneurial Orientation and Competitive Agility: An Empirical Study. *Information Systems Frontiers*, 24(2), 549–562. doi: 10.1007/s10796-020-10092-7
- Al-Omoush, K. S., Al-Qirem, R. M., & Al Hawatmah, Z. M. (2018). The degree of e-business entrepreneurship and long-term sustainability: an institutional perspective. *Information Systems and E-Business Management*, 16(1), 29–56. doi: 10.1007/s10257-017-0340-4
- Al-Omoush, K. S., Simón-Moya, V., & Sendra-García, J. (2020). The impact of social capital and collaborative knowledge creation on e-business proactiveness and organizational agility in responding to the COVID-19 crisis. *Journal of Innovation and Knowledge*, 5(4), 279–288. doi: 10.1016/j.jik.2020.10.002
- Altschuller, S., Gelb, D. S., & Henry, T. F. (2010). IT as a Resource for Competitive Agility: an Analysis of Firm Performance during Industry Turbulence. *Journal of International Technology and Information Management*, 19(1), 39–59. doi: /10.58729/1941-6679.1056
- Anindita, R., & Hasyim. (2016). Building A Knowledge Sharing Culture In Private Universities Through Learning Organization. *Esa Unggul University*. Retrieved from <https://medium.com/@arifwicaksanaa/pengertian-use-case-a7e576e1b6bf>
- Arif, M., Egbu, C., Alom, O., & Khalfan, M. M. A. (2009). Measuring knowledge retention: A case study of a construction consultancy in the UAE. *Engineering, Construction and Architectural Management*, 16(1), 92–108. doi: 10.1108/09699980910927912
- Arsawan, I. W. E., Hariyanti, N. K. D., Atmaja, I. M. A. D. S., Suhartanto, D., & Koval, V. (2022). Developing Organizational Agility in SMEs: An Investigation of Innovation's Roles and Strategic Flexibility. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(3). doi: 10.3390/joitmc8030149
- Ashrafi, N., Xu, P., Sathasivam, M., Kuilboer, J. P., Koelher, W., Heimann, D., & Waage, F. (2005). A framework for implementing business agility through knowledge management systems. *Proceedings - Seventh IEEE International Conference on E-Commerce Technology Workshops, CEC 2005 Workshops, 2005*, 116–121. doi: 10.1109/CECW.2005.2
- Baldassarre, B., Keskin, D., Diehl, J. C., Bocken, N., & Calabretta, G. (2020). Implementing sustainable design theory in business practice: A call to action. *Journal of Cleaner Production*, 273, 123113. doi: 10.1016/j.jclepro.2020.123113
- Beynon-Davies, P. (2012). *EBusiness*. Macmillan International Higher Education.
- Bharati, P., Zhang, W., & Chaudhury, A. (2015). Better knowledge with social media? Exploring the roles of social capital and organizational knowledge management. *Journal of Knowledge Management*, 19(3), 456–475. doi: 10.1108/JKM-11-2014-0467
- Boons, F., Montalvo, C., Quist, J., & Wagner, M. (2013). Sustainable innovation, business models and economic performance: An overview. *Journal of Cleaner Production*, 45, 1–8. doi: 10.1016/j.jclepro.2012.08.013
- Bourdieu, P., & Biggart, N. W. (1986). The Forms of Capital. *Readings in Economic Sociology*, 280–291.
- Boyes, G., & Stone, M. (2003). E-business opportunities in financial services. *Journal of Financial Services Marketing*, 8(2), 176–189. doi: 10.1057/palgrave.fsm.4770117
- Braccini, A. M., & Margherita, E. G. (2018). Exploring organizational sustainability of Industry 4.0 under the triple bottom line: The case of a manufacturing company. *Sustainability (Switzerland)*, 11(1). doi: 10.3390/su11010036
- Budi, Anindita, R., & Aida, M. (2022). Does Knowledge Management Affect Competence And Workload In Nurses' Work Performance At Mitra Medika Pontianak Hospital. *Journal Health Sains*, 3(8), 2003–2005. doi: 10.46799/jhs.v3i8.563

- Cegarra-Navarro, J. G., Soto-Acosta, P., & Wensley, A. K. P. (2016). Structured knowledge processes and firm performance: The role of organizational agility. *Journal of Business Research*, 69(5), 1544-1549. doi: 10.1016/j.jbusres.2015.10.014
- Chen, W., Jiao, H., Zeng, Q., & Wu, J. (2016). *Ios-enabled collaborative knowledge creation and supply chain flexibility: The moderate role of market uncertainty*.
- Faccin, K., & Balestrin, A. (2018). The dynamics of collaborative practices for knowledge creation in joint R&D projects. *Journal of Engineering and Technology Management - JET-M*, 48(February), 28-43. doi: 10.1016/j.jengtecman.2018.04.001
- Fahey, L., Srivastava, R., Sharon, J. S., & Smith, D. E. (2001). Linking e-business and operating process: The role of knowledge management. *IBM System Journal*, 40(4), 889-907. doi: 10.1147/sj.404.0889
- Granovetter, M., & Swedberg, R. (2018). The sociology of economic life, Third edition. *The Sociology of Economic Life, Third Edition*, 1-543. doi: 10.4324/9780429494338
- Grimsdottir, E., & Edvardsson, I. R. (2018). Knowledge Management, Knowledge Creation, and Open Innovation in Icelandic SMEs. *SAGE Open*, 8(4). doi: 10.1177/2158244018807320
- Hair, Joe, Page, M., & Brunsveld, N. (2019). Essentials of business research methods. In *Essentials of Business Research Methods*. Routledge. doi: 10.4324/9780429203374
- Hair, Joseph, Anderson, R., Babin, B., & Black, W. (2010). *Multivariate Data Analysis* (p. 758). p. 758.
- Hanifan, L. J. (1916). The Rural School Community Center. *Annals of the American Academy of Political and Social Science*, 67(New Possibilities in Education), 130-138. diakses dari <http://www.jstor.org/stable/1013498>
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(July 2012), 1-55. doi: 10.1080/10705519909540118
- Inradewa, R., & Iqbal, M. A. (2021). Knowledge Shifting Process in Energy Sector Company ( Case Study PERTAMINA an Indonesian Energy Company ). *American International Journal of Business Management*, 4(06), 8-17.
- Indriartiningtias, R., Subagyo, S., & Hartono, B. (2017). Knowledge Creation pada Industri Kecil dan Menengah : Dalam Tinjauan Kajian Pustaka secara Sistematis. *Jurnal Ilmiah Teknik Industri*, 16(2), 142. doi: 10.23917/jiti.v16i2.4882
- Karim, N. K. (2022). *Peranan literasi digital dalam keberlanjutan usaha pedagang pakaian di Pasar diakses dari Butung Kota Makassar/Nurfadilah Karim*. Universitas Negeri Malang.
- Kimiagari, S., & Baei, F. (2022). Promoting e-banking actual usage: mix of technology acceptance model and technology-organisation-environment framework. *Enterprise Information Systems*, 16(8-9), 1-57. doi: 10.1080/17517575.2021.1894356
- Kuratko, D. F. (2007). Corporate entrepreneurship. *Foundations and Trends in Entrepreneurship*, 3(2), 151-203. doi: 10.1561/0300000015
- Lee, O.-K. (Daniel), Sambamurthy, V., Lim, K., & Wei, K. K. (2008). IT-Enabled Organizational Agility and Sustainable Competitive Advantage. *SSRN Electronic Journal*, 1-36. doi: 10.2139/ssrn.1249301
- Leyton, D., Pino, J. A., & Ochoa, S. F. (2015). EBTAM: technology acceptance in e-Business environments. *Information Systems and E-Business Management*, 13(2), 211-234. doi: 10.1007/s10257-014-0255-2
- Li, S., Clark, L., & Wheeler, C. (2013). Unlocking the marketing potential of social capital: A study to identify the dimensions of social capital considered represented within online brand communities. *Proceedings - 2013 IEEE 10th International Conference on e-Business Engineering, ICEBE 2013*, 138-141. doi: 10.1109/ICEBE.2013.21
- Lin, H. F. (2014). The impact of socialization mechanisms and technological innovation capabilities on partnership quality and supply chain integration. *Information Systems and E-Business Management*, 12(2), 285-306. doi: 10.1007/s10257-013-0226-z
- Liu, H., Ke, W., Wei, K. K., & Lu, Y. (2016). The effects of social capital on firm substantive and symbolic performance: In the context of E-business. *Journal of Global Information Management*, 24(1), 61-85.

- doi: 10.4018/JGIM.2016010104
- López-Santamaría, M., Amaya, N., Grueso Hinestroza, M. P., & Cuero, Y. A. (2021). Sustainability disclosure practices as seen through the lens of the signaling theory: A study of companies listed on the Colombian Stock Exchange. *Journal of Cleaner Production*, 317(August 2020). doi: 10.1016/j.jclepro.2021.128416
- Madhok, A., & Marques, R. (2014). Towards an action-based perspective on firm competitiveness. *BRQ Business Research Quarterly*, 17(2), 77–81. doi: 10.1016/j.brq.2014.03.002
- Miceli, A., Hagen, B., Riccardi, M. P., Sotti, F., & Settembre-Blundo, D. (2021). Thriving, not just surviving in changing times: How sustainability, agility and digitalization intertwine with organizational resilience. *Sustainability (Switzerland)*, 13(4), 1–17. doi: 10.3390/su13042052
- Munteanu, A. I., Bibu, N., Nastase, M., Cristache, N., & Matis, C. (2020). Analysis of practices to increase the workforce agility and to develop a sustainable and competitive business. *Sustainability (Switzerland)*, 12(9). doi: 10.3390/SU12093545
- Muukkonen, H., Lakkala, M., Lahti-Nuutila, P., Ilomäki, L., Karlgren, K., & Toom, A. (2020). Assessing the Development of Collaborative Knowledge Work Competence: Scales for Higher Education Course Contexts. *Scandinavian Journal of Educational Research*, 64(7), 1071–1089. doi: 10.1080/00313831.2019.1647284
- Nafei, W. A. (2016). The Role of Organizational Agility in Reinforcing Job Engagement: A Study on Industrial Companies in Egypt. *International Business Research*, 9(2), 153. doi: 10.5539/ibr.v9n2p153
- Nath, V., & Agrawal, R. (2020). Agility and lean practices as antecedents of supply chain social sustainability. *International Journal of Operations and Production Management*, 40(10), 1589–1611. doi: 10.1108/IJOPM-09-2019-0642
- Nissen, V., & Rennenkampff, A. Von. (2017). Measuring the Agility of the IT Application Systems Landscape Related Work – Literature Review. *WI 2017 Proceedings*, 425–438.
- Nonaka, I., o Nonaka, I., Ikujiro, N., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation* (Vol. 105). OUP USA.
- Nugrahati, T., Soelton, M., Ramli, Y., Syah, T. Y. R., Saratian, E. T. P., Arief, H., & Fauzi, F. N. (2019). Building Framework of Work Engagement Social Welfare Institution in Gayo Lues Atjeh. *INOBI: Jurnal Inovasi Bisnis Dan Manajemen Indonesia*, 3(1), 65–81. doi: 10.31842/jurnal-inobis.v3i1.121
- Oh, L., & Teo, H. (2006). The Impacts Of Information Technology And Managerial Proactiveness In Building Net-Enabled Organizational Resilience. *International Federation for Information Processing*, 206, 33–50.
- Pérez-Luño, A., Cabello Medina, C., Carmona Lavado, A., & Cuevas Rodríguez, G. (2011). How social capital and knowledge affect innovation. *Journal of Business Research*, 64(12), 1369–1376. doi: 10.1016/j.jbusres.2011.01.014
- Petti, C., & Zhang, S. (2011). Factors influencing technological entrepreneurship capabilities. *Journal of Technology Management in China*, 6(1), 7–25. doi: 10.1108/17468771111105631
- Piccoli, G., & Ives, B. (2014). Sustaining competitive advantage-it-dependent strategic initiatives and sustained competitive advantage: A review and synthesis of the literature. *Strategic Information Management: Challenges and Strategies in Managing Information Systems*, 29(4), 34–68. doi: 10.4324/9781315880884-10
- Pironi, M. P. P., McAlloone, T. C., & Pigosso, D. C. A. (2019). Business model innovation for circular economy and sustainability: A review of approaches. *Journal of Cleaner Production*, 215, 198–216. doi: 10.1016/j.jclepro.2019.01.036
- Poell, R., & Van der Krogt, F. (2003). Learning strategies of workers in the knowledge-creating company. *Human Resource Development International*, 6(3), 387–403. doi: 10.1080/13678860210136080
- Pouloudi, A., Ziouvelou, X., & Vassilopoulou, K. (2003). A Societal perspective on e-business adoption. *Journal of Information, Communication and Ethics in Society*, 1(3), 149–166. doi:

- 10.1108/14779960380000233
- Seethamraju, R., & Krishna Sundar, D. (2013). Influence of ERP systems on business process agility. *IIMB Management Review*, 25(3), 137-149. doi: 10.1016/j.iimb.2013.05.001
- Septyanto, D., & Dewanto, I. D. (2018). Pengukuran Kinerja Intelektual Kapital Pada Dosen Tetap di Universitas Esa Unggul Jakarta. *Jurnal Ekonomi*, 9, 1.
- Setiawan, R. C., Susanti, E., & Syah, T. Y. R. (2019). The Effect of Organizational Culture on Technology Transfers and Company Performance. *Journal of Multidisciplinary Academic*, 3(3), 32-37.
- Soetiono, K. (2014). *Mengenal Otoritas Jasa Keuangan Dan Industri Jasa Keuangan Tingkat Smp*. 61. Retrieved from [https://sikapiuangmu.ojk.go.id/FrontEnd/images/FileDownload/.6\\_Mengenal\\_OJK\\_dan\\_IJK\\_Tingkat\\_SMP.pdf](https://sikapiuangmu.ojk.go.id/FrontEnd/images/FileDownload/.6_Mengenal_OJK_dan_IJK_Tingkat_SMP.pdf)
- Soliman, F., & Youssef, M. (2001). The impact of some recent developments in e-business on the management of next-generation manufacturing. *International Journal of Operations and Production Management*, 21(5-6), 538-564. doi: 10.1108/01443570110390327
- Subandi, A., Ramdhani, D., Syah, T. Y. R., & Negoro, D. A. (2020). The Contribution Of Information Technology Utilization, Internal Control, And Organizational Commitment With Subjective Norms As A Moderating Variable In Indonesia. *Eurasia: Economics & Business*, 7(37), 66-74.
- Suciani, D., & Rozali, Y. (2014). Hubungan Dukungan Sosial Dengan Motivasi Belajar Pada Mahasiswa Universitas Esa Unggul. *Jurnal Psikologi*, 12(2), 43-47.
- Sukmawati, A., Mudikdjo, K., Hardjomidjojo, H., & Indrasti, N. S. (2008). Pembentukan Model Penciptaan Pengetahuan (Knowledge Creation) dalam Mendorong Inovasi pada Koperasi Susu di Indonesia Suatu Studi Konfirmatori. *Media Peternakan*, 31(3), 212-224.
- Swanson, E., Kim, S., Lee, S. M., Yang, J. J., & Lee, Y. K. (2020). The effect of leader competencies on knowledge sharing and job performance: Social capital theory. *Journal of Hospitality and Tourism Management*, 42(December 2018), 88-96. doi: 10.1016/j.jhtm.2019.11.004
- Syahra, R. (2003). Modal sosial: Konsep dan aplikasi. *Jurnal Masyarakat Dan Budaya*, 5(1), 1-22. Retrieved from <http://www.jurnalmasarakatdanbudaya.com/index.php/jmb/article/view/256>
- Tu, J. (2020). The role of dyadic social capital in enhancing collaborative knowledge creation. *Journal of Informetrics*, 14(2), 101034. doi: 10.1016/j.joi.2020.101034
- Van Oosterhout, M., Waarts, E., & Van Hillegersberg, J. (2006). Change factors requiring agility and implications for IT. *European Journal of Information Systems*, 15(2), 132-145. doi: 10.1057/palgrave.ejis.3000601
- Vannoy, S. A., & Medlin, B. D. (2012). Investigating social computing in competitive dynamics. *Proceedings of the Annual Hawaii International Conference on System Sciences*, 45, 5112-5121. doi: 10.1109/HICSS.2012.383
- Warkentin, M., Sugumaran, V., & Bapna, R. (2001). E-knowledge networks for inter-organizational collaborative e-business. *Logistic Information Management*, 14(1/2), 149-163. doi: <http://dx.doi.org/10.1108/09576050110363040>
- Wati, Y. M. (2011). *Penerapan e-business di indonesia*.
- Wu, C. (2008). Knowledge creation in a supply chain. *Supply Chain Management*, 13(3), 241-250. doi: 10.1108/13598540810871280
- Yan, M. R., Tran-Danh, N., & Hong, L. Y. (2019). Knowledge-based decision support system for improving e-business innovations and dynamic capability of IT project management. *Knowledge Management Research and Practice*, 17(2), 125-136. doi: 10.1080/14778238.2019.1601507
- Yanti, V. A., Amanah, S., Muldiono, P., & Asngari, P. (2018). Faktor yang Mempengaruhi Keberlanjutan Usaha Mikro Kecil Menengah di Bandung dan Bogor. *Pengkajian Dan Pengembangan Teknologi Pertanian*, 20(18), 137-148.
- Yi, L., & Thomas, H. R. (2007). A review of research on the environmental impact of e-business and ICT. *Environment International*, 33(6), 841-849. doi: 10.1016/j.envint.2007.03.015
- Yli-Renko, H., Autio, E., & Sapienza, H. J. (2001). Social capital, knowledge acquisition, and knowledge

exploitation in young technology-based firms. *Strategic Management Journal*, 22(6-7), 587-613. doi: 10.1002/smj.183

Yuan, Z., Qin, W., & Zhao, J. (2017). Smart Manufacturing for the Oil Refining and Petrochemical Industry. *Engineering*, 3(2), 179-182. doi: 10.1016/J.ENG.2017.02.012

Zhao, L., Zhang, H., & Wu, W. (2019). Cooperative knowledge creation in an uncertain network environment based on a dynamic knowledge supernetwork. *Scientometrics*, 119(2), 657-685. doi: 10.1007/s11192-019-03049-4