

Developing Organisational Agility to Overcome the Challenges of the COVID-19 Pandemic (Empirical studies on SME Tourism Industries in Jakarta, Indonesia)

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ABSTRACT

COVID-19 pandemic has compelled organisation to act swiftly using innovative measures. Due to the fluid nature of the pandemic, organisational agility is critical and offers a basis for business survival. Therefore, this study aims to predict factors affecting organisational agility by conducting empirical analyses on small and medium-sized enterprises (SMEs) using quantitative and associative design. The sampling method used is convenience sampling, where 195 respondents are owners and managers of SMEs in tourism industry in Jakarta. The results show that social capital positively and substantially affects e-business proactiveness and collaborative knowledge creation. In this context, collaborative knowledge creation impacts e-business proactiveness and organisational agility. Additionally, e-business proactiveness has a positive and significant effect on organisational agility. The mediating role of collaborative knowledge creation and e-business proactiveness is also reported. Regarding the novelty of the study, the empirical role of mediation is proven.

Keywords: entrepreneurship; social capital; collaborative knowledge creation; initiative-taking; organisational agility

1. INTRODUCTION

The impact of COVID-19 pandemic is requiring businesses to become more resilient to a crisis and the effects. In this context, crisis conditions create new survival difficulties for business environment. The obstacles compel businesses to act swiftly

and uniquely in striving to operate and manage supply chain effectively and efficiently. Every industry must adapt to the changing business environment and thrive in the new landscape, where organisational agility is essential for survival [1].

During the pandemic, the situation became highly unpredictable, causing significant disruptions across various industries, particularly tourism sector. Consequently, the conventional competitive strategies used previously failed [1]. The pandemic has promoted businesses to continue innovating by maintaining strong customer relationships [2], maximising the use of available resources [3], and concentrating on product development [4]. Businesses use innovation to identify opportunities but valuable resources must be adopted for strategic competitiveness [5]. In this context, industry must develop resistance capabilities by imposing various scenarios in uncertain contexts.

Organisational agility is the capacity to prosper in uncertain and volatile environments [6]. The concept also describes the ability to recognise environmental transitions and respond quickly by reshaping resource sets, business processes, and strategies [7]. The adaptation to changes is important for small and medium-sized enterprises (SMEs) to reduce future resource problems and increase business development, specifically during pandemic [3]. Therefore, this study examined deeply related factors influencing organisational agility by conducting empirical analyses on players in tourism industry.

The pandemic has directly affected the conditions of tourism industry, with the most significant impact on the sustainability of business operations. According to Statistics Indonesia (BPS) data, there is a substantial decline in domestic and international tourism. In 2020, the total number of visits to Indonesia was 4,02 million. The number of foreign nations visiting decreased by 75.03% compared to 2019 [8]. Comparatively, the local tourists decreased by 61% from the previous year. Social distancing policy factors caused a significant decline in tourist numbers.

E-business proactiveness is crucial for organisation to tap into external knowledge resources, and improve the capacity for IT-based innovations. This is essential for organisational success in today's modern world, where e-business solutions, information, and knowledge societies are widespread. Social capital directly impacts collaborative knowledge creation and e-business proactiveness. Meanwhile, collaborative knowledge creation mediates the impact of social capital on e-business proactiveness. The study also shows that collaborative knowledge creation and e-business proactiveness are significant factors in achieving organisational agility in responding to crises.

The impact of social capital on e-business initiatives and collaborative knowledge production is evaluated. In addition, the study shows the mediating effect of collaborative knowledge creation on the relationship between social capital and e-business proactiveness. The facilitating effect of e-business proactiveness on the relationship between collaborative knowledge creation and organisational agility is also reported.

Theoretical benefits are shown by proving the mediating role of the model formed and practical uses for SMEs by paying attention to the factors driving organisational agility, which is important in crisis conditions. A study conducted by [8] is adopted as the primary reference. The novelty is visible from empirical evidence related to the current analysis on the impact of collective knowledge creation on e-business proactiveness and organisational agility. This study assesses the effect of social capital on e-business initiatives and collaborative knowledge production. The results show the mediating impact of collaborative knowledge creation on the relationship between social capital and e-business proactiveness.

This research fills the void by showcasing how collaborating to create knowledge is a pivotal mechanism that boosts proactive e-business strategies' efficacy. By fusing perceptions from knowledge management and e-business literature, this study presents an innovative theoretical model that not only enhances our comprehension of optimizing proactive digital business behaviors but also offers practical applications for enterprises seeking to exploit information-sharing practices in online settings.

2. LITERATURE REVIEW

Social capital is the total value of relationships driven by social networks and connections between organisation and society [9]. This variable is the interaction process between an organisation and stakeholders influencing knowledge, ideas, and resources [10]. According to previous studies, social capital enhances the capacity of individuals and communities to anticipate, manage, and rebound from emergencies effectively. Good social capital improves the ability and effectiveness of dealing with crises [11].

Social capital is a new method that explains the success of innovation [12]. The existence of internal and external business networks conducive to innovation lead to proactive strategic behaviour [13]. Social capital and networks provide valuable opportunities for e-businesses to create complex products, diversify operations, and increase market share by leveraging capabilities [14]. E-commerce proactiveness refers to a capacity to identify and capitalise on IT-enabled opportunities in volatile environments. Collaborative knowledge creation is developed spontaneously through the interaction and cooperation of networks of individuals, work groups, and organisations [1]. The results show a positive correlation between social capital and e-business proactiveness in response to the explanation and the hypotheses formulated include:

H1: social capital positively and significantly affects e-business proactiveness.

Collaborative knowledge creation generates and expands knowledge between partners to enhance insights into change [15]. These interconnected business partners are social networks where diverse expertise, through social interaction and resources, are shared, exchanged, and combined [16]. Social capital facilitates knowledge acquisition and

recombination, enabling organisation to generate new information [17]. In addition, empirical evidence supports a positive association between social capital and collaborative knowledge creation [16], [1].

H2: social capital positively and significantly affects collaborative knowledge creation.

Knowledge is essential to the competitiveness and success of business. Every individual possesses knowledge and the generation of new concepts is a fundamental aspect of interaction [18]. Organisation is not isolated [19] but remains in a social context constantly using social networks to obtain ideas, gather information, and learn to recognise and detect innovations proactively. In this context, the upgradeability and flexibility of industry operating e-businesses depend on the generation of new knowledge [9]. Empirical results prove a positive relationship between collaborative knowledge production and proactive e-business [1].

H3: collaborative knowledge creation positively and significantly affects e-business proactiveness.

Acquiring and incorporating new knowledge into industry functions and processes is essential for enhancing agility and capitalising on market trends [20]. Market conditions are fast and unpredictable, and industry dynamic capabilities depend mainly on the readiness to work with other members [21]. Collaboration with external actors leads to combinations, complementarity, and the creation of new knowledge and organisational boundaries [22]. Organisational agility is a high-level dynamic capability enabling industry to recognise and review opportunities, and assess the benefits and risks of initiating actions [23].

The effect of collaborative knowledge management on industry responsiveness to fluctuations and changes in business environment is a crucial aspect of supply chain agility [24]. Empirical study proves a positive association between collaborative knowledge creation and organisational flexibility [1], [20].

H4: collaborative knowledge creation positively and significantly affects organisational agility.

Proactivity is an aspect of entrepreneurial orientation relevant to industry in times of crisis and is connected to the evolution of e-business technology. The phenomenon introduces new products, services, and operations based on anticipating future demand [25]. High IT capabilities and initiative-taking behaviour are significant determinants for enhancing the crisis resilience of organisation. Innovation has contributed significantly to business success, particularly in competitive and complex environments [26].

H5: e-business proactiveness positively and significantly affects organisational agility.

Proactive behaviour is essential to promoting organisational agility [27], specifically in conditions of high market volatility and an environment with unpredictable demands

[1]. E-business proactiveness reflects the ability to sense environmental changes and respond quickly using web-based systems and electronic networks, increasing corporate agility in a volatile environment [27]. According to empirical evidence, the variable positively relates to organisational agility [1], [25].

E-business proactiveness mediates the relationship between collaborative knowledge creation and organisational agility. This is because e-business proactiveness is the ability to sense environmental changes and respond swiftly using web-based systems and electronic networks. The literature suggests that organisational agility covers the management and application of knowledge effectively to develop an early response and adjustment to industry turbulence and market dynamics [1]. Collaborative knowledge creation directly impacts organisational agility since the concept allows rapid deployment of new knowledge, which is essential for strategic learning and competitive agility. The impact of knowledge creation on organizational proactiveness is moderated by both the tacitness and institutionalization of that knowledge, while being mediated through organizational agility [28]. Therefore, e-business proactiveness plays a mediating role in enhancing organisational agility by enabling industry to respond effectively to changes.

H6: e-business proactiveness positively and significantly mediates the impact of collaborative knowledge creation on organisational agility.

Collaborative knowledge creation mediates the relationship between social capital and e-business proactiveness in the model. This is because social capital is a strategic corporate asset that provides sustainable superior performance by facilitating the sharing of knowledge and ideas [1]. Collaborative knowledge creation is considered to be the foundation of both proactive behavior and effective management of knowledge. This process utilizes various methods and techniques for generating, acquiring, disseminating, and utilizing valuable information while offering valuable resources that facilitate innovative breakthroughs [1]. During crises such as COVID-19, collaborative knowledge creation on social media can boost business resilience for MSMEs [29]. Additionally, small online businesses benefit from improved e-business sustainability and market performance through supplier knowledge collaboration [30]. The networks are used for exchanging knowledge and detecting information in a network. This supports collective and collaborative cognition among members, creating novel and renewable knowledge. Collaborative knowledge creation is essential in accessing resources from external sources, enhancing behaviors, and improving the capacity for IT-based innovations. Therefore, social capital indirectly influences e-business proactiveness through collaborative knowledge creation.

H7: collaborative knowledge creation positively and significantly mediates the impact of social capital on e-business proactiveness.

Figure 1 depicts the five hypotheses evaluated in this empirical investigation.

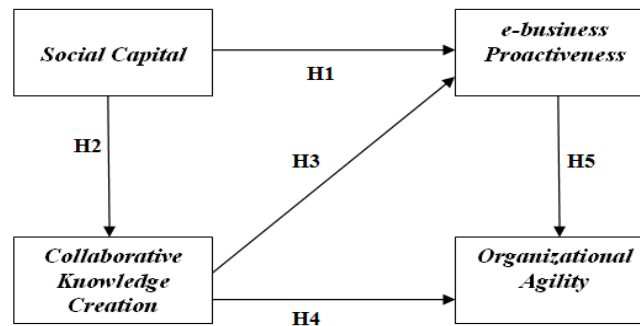


Figure 1. Conceptual Framework

3. METHODOLOGY

The associative method used aims to analyse the relationship between independent and dependent variables [31]. Additionally, Explanatory Survey is used to explain the position and influence of the variables [32]. The time horizon used is cross-sectional, hence, information is collected only once, but when carried out over time, the process is often referred to as a one-shot study [33].

A nonprobability sampling method is where the elements in the population do not have the same probability as the sample subjects. The convenience sampling method includes selecting samples from specific groups of individuals who can provide the desired information [33]. The online questionnaire is distributed with question filters to ensure the eligible respondents filling the form are owners and managers.

The sample is owners and managers of SMEs engaged in tourism industry of Jakarta. SMEs participate in the health and beauty care industry, including spa, salon, barber services, as well as food and beverage businesses, such as restaurants, food trucks, food stalls, cafes, bars, coffee shops, hotels, tours, and travel agent business, handicrafts, souvenirs, and event planners.

A convenience sampling method obtained 195 respondents' results. The data analysis adopted Structural Equation Modelling-Partial Least Square (SEM-PLS) method using SMART PLS application. In PLS-based SEM, the value of the latent variable was estimated based on the linear combination of the manifest variable associated with the latent variable. Substitution for the manifest variable was treated [33], where the sample was determined in DKI Jakarta administrative region (Central Jakarta, South Jakarta, North Jakarta, East Jakarta, West Jakarta, and Thousand Islands).

4. RESULTS

In order to efficiently collect responses, Google Forms is employed for distributing online questionnaires. Screening questions were integrated at the start of the survey with an aim to eliminate respondents who are not managers by inquiring about criteria such as their job title, years spent performing managerial tasks and responsibilities and size of their team or department managed.

The total sample for this study amounted to 195 respondents, as presented in Table 1. A total of 117 (60%), 75 (38%), and 3 (2%) respondents were business owners, supervisors or managers, and business owners and Management, respectively. The characteristics of respondents are gender balanced, with 91 males (47%) and 104 females (53%). Most respondents were between 31-50 and 25-30 years old with 85 (44%) and (41%), respectively. These were followed by those under 25 and over 50 with (13%) and (3%), respectively.

A total of 103 (53%) and 60 (31%) have undergraduate-level and diploma-level educations, respectively. The remaining comprised individuals with an elementary to high school level (20 respondents, 10%) and those with postgraduate education (S2 - S3, 6%). The characteristics based on location indicate an even distribution in Jakarta area, including those with business unit locations in North, South, East, West, and Central Jakarta and Thousand Island with 34 (17%), 51 (26%), 32 (16%), 39 (20%), 30 (15%), and 9 (5%) respondents. Most respondents have a total number of employees in business between 5-19 (94 or 48%), 1-4 (63 or 32%), 20-39 (21 or 11%), and > 40 (17 or 9%).

Respondents with Spa, Salon, and Barber business units were 29 (15%). Business units in the form of Restaurants, Food trucks, Food stalls, Café, Bar, and Coffee Shop were 87 (45%) respondents. Meanwhile, business units surveyed included Hotels (Motel, Inn, Kost, Capsule), Tour and Travel Agents, Handicrafts and Souvenirs, as well as Event Planners represented by 32 (16%), 29 (15%), 11 (6%), and 7 (4%) respondents, respectively. Businesses also operate through e-marketplaces such as Tokopedia, and Traveloka. A comprehensive platform, Tokopedia tops the charts of A-list e-commerce platforms in Indonesia. It offers an extensive range of products and services encompassing electronic gadgets to fashion items as well as digital goods along with financial services. Traveloka is a pioneering online travel and lifestyle provider catering primarily to Southeast Asia's audience. Initially focused on airline reservations; Traveloka has now diversified its offerings by presenting options for hotel reservation booking, transit arrangements, side-attractions/tourist destinations complemented by lifestyle activities - meeting various consumer needs relevant in today's times while traveling or leisure-time-related engagements alike.

The majority of respondents with business units with a monthly income of 10 million - 99 million, 100 million - 199 million, fewer than 10 million, more than 300 million, and 199 million - 300 million rupiahs were 92 (47%), 44 (23%), 26 (13%), 17 (9%),

and 16 (8%) respondents, respectively. The respondents to the survey must hold a leadership position within a digitally-operating organization that falls under small or medium size category.

Table 1. Respondents Description

Respondent Characteristics	Total	%
Status of respondents within business units		
Management	75	38%
Business Owner	117	60%
Business Owner and Management	3	2%
Gender		
Male	91	47%
Female	104	53%
Age		
Under 25 Years Old	25	13%
25 - 30 Years Old	80	41%
31 - 50 Years Old	85	44%
Above 50 Years Old	5	3%
Education Background		
Elementary - High School	20	10%
Diploma	60	31%
Undergraduate	103	53%
Postgraduate	12	6%
Employee Numbers		
1 – 4	63	32%
5 – 19	94	48%
20 – 39	21	11%
> 40	17	9%
Business Location		
North Jakarta	34	17%
South Jakarta	51	26%
East Jakarta	32	16%
West Jakarta	39	20%
Central Jakarta	30	15%
Thousand Islands	9	5%
Business Type		
Spa / Salon / Barber	29	15%
Restaurant / Food truck / Food stall / Cafe / Bar / Coffee Shop	87	45%
Hotel (Motel, Inn, Kost, Capsule, Etc.)	32	16%
Tour and travel agent	29	15%
Handicrafts and souvenir	11	6%
Event planner	7	4%
Average Monthly Revenue		
< 10 million rupiah	26	13%
10 million - 99 million rupiah	92	47%
100 million - 199 million rupiah	44	23%
199 million - 300 million rupiah	16	8%
> 300 million rupiah	17	9%

The external evaluation of the model consists of convergent validity (loading factors and average variance extracted (AVE)), discriminant validity (cross-loading), and reliability tests (composite reliability and Cronbach's alpha). Tables 2, 3, 4, and 5 represent the evaluation of the outer model. Table 2 shows convergent validity by analysing the number of loading factors. In this context, an indicator is valid when the loading factor value is above 0.60 [34].

Table 2. Loading Factors

Variable	Indicator	Loading Factors	Description
Social Capital	SC1	0.850	Valid
	SC2	0.857	Valid
	SC3	0.816	Valid
	SC4	0.841	Valid
	SC5	0.803	Valid
Collaborative Knowledge Creation	CKC1	0.790	Valid
	CKC2	0.852	Valid
	CKC3	0.835	Valid
	CKC4	0.849	Valid
	CKC5	0.808	Valid
	CKC6	0.823	Valid
	CKC7	0.845	Valid
	CKC8	0.843	Valid
e-business Proactiveness	EPRO1	0.844	Valid
	EPRO2	0.861	Valid
	EPRO3	0.855	Valid
	EPRO4	0.843	Valid
	EPRO5	0.862	Valid
Organisational Agility	OA1	0.872	Valid
	OA2	0.788	Valid
	OA3	0.863	Valid
	OA4	0.860	Valid
	OA5	0.881	Valid
	OA6	0.826	Valid

Table 3 shows convergent validity by examining AVE value. An indicator is valid when AVE value is at least 0.5 [34].

Table 3. Average Variance Extracted

Variable	AVE	Result
Social Capital	0.695	Valid
Collaborative Knowledge Creation	0.690	Valid
e-business Proactiveness	0.727	Valid
Organisational Agility	0.720	Valid

Table 4 represents discriminant validity by examining the cross-loading value.

Table 4. Discriminant Validity

	Collaborative Knowledge Creation	e-business Proactiveness	Organisational Agility	Social Capital
CKC1	0.790	0.743	0.698	0.724
CKC2	0.852	0.765	0.689	0.755
CKC3	0.835	0.738	0.711	0.750
CKC4	0.849	0.756	0.728	0.736
CKC5	0.808	0.741	0.737	0.727
CKC6	0.823	0.697	0.706	0.752
CKC7	0.845	0.754	0.703	0.748
CKC8	0.843	0.716	0.727	0.737
EPRO1	0.756	0.844	0.682	0.736
EPRO2	0.752	0.861	0.722	0.723
EPRO3	0.762	0.855	0.760	0.775
EPRO4	0.765	0.843	0.740	0.763

	Collaborative Knowledge Creation	e-business Proactiveness	Organisational Agility	Social Capital
EPRO5	0.758	0.862	0.762	0.708
OA1	0.734	0.701	0.872	0.734
OA2	0.651	0.684	0.788	0.669
OA3	0.746	0.750	0.863	0.731
OA4	0.738	0.715	0.860	0.745
OA5	0.771	0.768	0.881	0.743
OA6	0.720	0.760	0.826	0.718
SC1	0.787	0.738	0.744	0.850
SC2	0.759	0.738	0.754	0.857
SC3	0.687	0.710	0.725	0.816
SC4	0.737	0.733	0.676	0.841
SC5	0.745	0.703	0.655	0.803

Table 5 shows the collaborative knowledge creation construct with the indicators is higher than the correlation of the variable with e-business proactiveness, social capital, and organisational agility. E-business proactiveness correlation with the indicator is higher than with other constructs. The conclusion drawn from the discriminant validity results by analysing the cross-loading is declared valid.

Table 6 represents the reliability test using composite reliability and Cronbach's alpha values. A measuring instrument is considered reliable when the latent variable values have a combined reliability value of ≥ 0.700 and Cronbach's alpha > 0.700 [34].

Table 5. Reliability Tests

Variable	Composite Reliability	Cronbach Alpha	Results
Social Capital	0.919	0.890	Reliable
Collaborative Knowledge Creation	0.947	0.936	Reliable
E-business Proactiveness	0.930	0.906	Reliable
Organisational Agility	0.939	0.922	Reliable

The inner evaluation of the model consists of a hypothesis and a mediation test to determine the mediating function of the study mode.

Table 6. Hypothesis Testing

Hypothesis	Path	Coeff.	T Value	P Values	Conclusion
H1	SC -> EPRO	0.370	3.832	0.000	Supported
H2	SC -> CKC	0.892	48.469	0.000	Supported
H3	CKC -> EPRO	0.559	6.072	0.000	Supported
H4	CKC -> OA	0.440	3.509	0.000	Supported
H5	EPRO -> OA	0.469	3.843	0.000	Supported

A total of two model equations show a mediating role from the collaborative knowledge creation construct on the relationship between social capital and e-business proactiveness. As shown in Table 7, the second model equation reports that e-business proactiveness mediates the relationship between collaborative knowledge creation and organisational agility.

Table 7. Mediation Testing

Path	Specific Indirect Effect		Direct Effect		Note
SC -> CKC -> EPRO	SC -> CKC -> EPRO		SC -> EPRO		Complementary (partial mediation)
	Original sample	P Value	Original sample	P Value	
	0.499	0.000	0.370	0.000	
CKC -> EPRO -> OA	CKC -> EPRO -> OA		CKC -> OA		Complementary (partial mediation)
	Original sample	P Value	Original sample	P Value	
	0.262	0.000	0.440	0.000	

Social capital has a significant and positive effect on e-business proactiveness to show that H1 is accepted. A dense variety of connections and interactions at the individual and organisational levels enables participants to obtain and exchange diverse and reliable resources and data [35]. Therefore, businesses are more vigilant and quickly detect potential disruptions [12], seize promising opportunities to capitalise on the capacity to develop distinctive products, diversify operations, and increase market share [14]. These results are consistent with previous empirical results where high levels of social capital increase proactive attitude of an organisation [1], [35], [14]. Social capital significantly and positively affects collaborative knowledge creation to show that H2 is accepted. These results explain the reason interactions formed by shared relationships are described as collaborative networks, giving members the social capital embedded in the web [1], [16], [36], [37]. High social capital further increases organisation attitude toward collaborative knowledge creation [37], [1].

Collaborative knowledge creation significantly and positively affects e-business proactiveness to show that H3 is accepted. These results are consistent with previous empirical results where high collaborative knowledge creation improves e-business proactiveness [37]. Therefore, perceptions of opportunities and use of resources are transformed into choices in making the best use of expertise dispersed among employees. Organisation concerned about producing knowledge can develop better information strategies. This knowledge process forms the basis of behaviour for building a long-term strategic posture [16]. Collaborative knowledge creation significantly and positively impacts organisational agility, hence, H4 was approved [37]. The circumstance can clarify the results that knowledge allows industry to detect relevant environmental changes more accurately and quickly. Dynamic capabilities argue that industry can acquire essential internal and external competencies and perform better due to an integration of new knowledge [37].

E-business proactiveness significantly and positively affects organisational agility to show that H5 is valid. This is in line with previous empirical results where high e-business proactiveness increases organisational agility attitude [38]. Therefore, proactive behaviour is essential to promoting agility in conditions of high market volatility and an environment with unpredictable demand [1]. In this context, advanced e-business proactive capabilities are intended to provide sufficient agility to businesses [39].

In the model formed, the collaborative knowledge creation construct mediates the relationship between social capital and e-business proactiveness. In the second equation, e-business proactiveness mediates between collaborative knowledge creation and organisational agility. E-business proactiveness can bridge the gap between strategy formulation and execution in organizations by ensuring effective implementation of strategic insights gained from collaborative efforts in the digital realm.

Collaborative knowledge creation mediates complementary social capital relations and e-business proactiveness categories. In this context, business units with high levels of social capital have superior knowledge management capabilities [40]. Social capital determines industry capacity for IT-based innovation due to the generation of new knowledge and transformation into new application products. Organizations must adjust promptly in a swiftly evolving business atmosphere. Collaborative knowledge creation enables swifter learning and distribution of information, enabling the organization to remain competitive by adeptly responding to market fluctuations and technological developments.

The second model shows that e-business proactiveness mediates the complementary category of relationship between collaborative knowledge creation and organisational agility. The knowledge exchange between social and individual cognitive systems is the foundation for developing new knowledge [41]. The creation facilitates the transformation and conversion of existing knowledge into new types. Socialisation precedes knowledge conversion, new product development, and marketing activities [42]. In this context, face-to-face interactions, brainstorming, and informal meetings facilitate the sharing and exchange of valuable information among employees [43].

5. CONCLUSIONS

In conclusion, collaborative knowledge creation and e-business proactiveness were empirically established to have a positive relationship with developing organisational agility in response to COVID-19 pandemic. SMEs high social capital could be a variable that improved collaborative knowledge creation and e-business initiatives. Additionally, collaborative knowledge creation could promote the development of increased e-business proactivity.

The empirical evidence showed the significance of mediation in the correlation between social capital, e-business proactiveness, and organisational agility. This contributed to the existing literature and offered a more in-depth understanding of the factors influencing organisational agility in a rapidly changing business environment. This study reported the importance of social capital, collaborative knowledge creation, and e-business proactiveness in achieving organisational agility, specifically in responding to crises. The theoretical implications could guide industry in developing strategies to enhance capabilities in the areas, leading to increased resilience and competitiveness in turbulent market conditions.

Increasing social capital attitudes, collaborative knowledge creation, and proactiveness contributed to the growth of business capabilities. Therefore, this study aimed to re-evaluate the effect of social capital on e-business initiatives and joint knowledge production. The impact of collective knowledge creation on e-business proactiveness, organisational agility, and the relationship was investigated. In addition, the role of collaborative knowledge creation was reported as a mediator in the relationship between social capital and e-business proactiveness.

The empirical results had practical implications for SMEs in increasing organisational agility in times of crisis. The focus was on improving social interaction with external parties, such as business partners, and exchanging information or knowledge extremely useful. The latest news or ability triggered industry to develop an initiative-taking attitude that could exploit opportunities for innovation in a dynamic business environment to achieve a competitive advantage. SMEs actor in tourism industry sector increased social capital, specifically by being actively part of the decision-making and building closer relationships by placing business partners as stakeholders to increase productivity. Meanwhile, views, input, or suggestions were provided to contribute positively to SMEs by placing business partners in a strategic position for industry management.

External parties produce strategic decisions positively impacting industry growth. SMEs actor in tourism industry, owners, and management could also increase collaborative knowledge creation by conducting learning experiments and sharing the results with functional departments and external partners. Management policies could also be produced in conducting learning experiments including internal and external stakeholders. This showed an initiative-taking attitude toward conducting each learning experiment.

SMEs actor in tourism industry sector improved e-business proactiveness to obtain opportunities in dealing with COVID-19 pandemic. This was possible by exploring the potential for large profits and realising the opportunities in real action. SMEs actor in tourism industry, owners, and management increased organisational agility by managing effective and efficient relationships with business partners to create high-value products and services. Building closer relationships with business partners and establishing effective communication related to developing high-value products and services, positively impacted industry and business partners.

Future study could develop a model by adding antecedents for organisational agility such as innovation, corporate culture, or variables including competitive advantage, and marketing performance. The results were based on a specific context and sample, limiting the generalisability to other industries or populations. Future study could also expand the population and sample with different organisations, such as manufacturing and technology industries.

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APPENDIX

Questionnaire

	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Social Capital [10]				
SC1	Social networks can increase opportunities, ideas, and insights				1 2 3 4 5
SC2	Social networks can influence business processes, products, and services				1 2 3 4 5
SC3	The company's social network can provide feedback and recommendations				1 2 3 4 5
SC4	Our company has close relationships and collective action with its business partners				1 2 3 4 5
SC5	The company's business partners are actively involved in decision-making				1 2 3 4 5
	Collaborative Knowledge Creation [15]				
CKC1	Companies derive new ideas and technologies from social networks and interactions with suppliers, customers, associations, and other actors in the business environment				1 2 3 4 5
CKC2	Companies collaborate with business partners to gain new knowledge				1 2 3 4 5
CKC3	The company seeks to formulate and exchange creative ideas and disruptive thoughts with business partners				1 2 3 4 5
CKC4	The company always exchanges knowledge and best practices with business partners				1 2 3 4 5
CKC5	Companies always reconfigure new information and knowledge with partners				1 2 3 4 5
CKC6	The company is always sharing new values and thinking with functional departments and external partners				1 2 3 4 5
CKC7	The company always runs collaborative learning experiments and shares the results with all functional departments and external partners				1 2 3 4 5
CKC8	The company always transfers knowledge and experience to all external partners				1 2 3 4 5
	E-Business Proactiveness [13]				
EPRO1	Management adopted new IT applications in the face of the COVID-19 pandemic				1 2 3 4 5
EPRO2	Management utilised innovative e-business solutions in dealing with the COVID-19 pandemic				1 2 3 4 5
EPRO3	Management adopted a new e-business application in the face of the COVID-19 pandemic				1 2 3 4 5
EPRO4	Management was trying to be a first mover in finding e-business opportunities in dealing with the COVID-19 pandemic				1 2 3 4 5
EPRO5	Management was seeking to pioneer the adoption of e-business solutions in dealing with the COVID-19 pandemic				1 2 3 4 5
	Organisational Agility [23]				
OA1	In the face of market/customer developments, management swiftly implements the proper decisions				1 2 3 4 5
OA2	Management can immediately boost or reduce our production/service levels in response to market demand variations				1 2 3 4 5
OA3	We can manage productive and efficient commercial connections to develop high-value goods and services				1 2 3 4 5
OA4	Management is constantly prepared to deal with various disasters, including the COVID-19 pandemic				1 2 3 4 5
OA5	Management can overcome all kinds of crises with minimum harm				1 2 3 4 5
OA6	Management understands what to do in each crisis that a business may experience				1 2 3 4 5