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Innovation capabilities and performance of small and medium-sized enterprises in Indonesia

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Orientation: Entrepreneurial orientation (EO), knowledge management (KM), human resource management (HRM) and knowledge sharing (KS) are important aspects in driving innovation capabilities (IC) to improve organisational performance (OP).

Research purpose: The purpose of this research was to analyse the mediating effect of IC on individual EO, KM, HRM and KS and small and medium-sized enterprises (SMEs) performance.

Motivation for the study: The fluctuation in batik business performance can be attributed to a lack of studies that examine the dynamic capability perspective in the context of batik SMEs in developing countries.

Research design, approach and method: A quantitative approach was used for this study. A structured self-administrative measuring instrument was employed to collect the data. A non-probability sample of 297 participants was obtained. The collected data were then analysed using SmartPLS3 software.

Main findings: Innovation capabilities have been verified to significantly mediate the relationship between HRM and KS on OP. Innovation capabilities mediated the relationship between KS and OP in a negative direction, whereas previous studies indicate a positive direction.

Practical/managerial implications: Entrepreneurial orientation has the most prominent role in OP in batik SMEs. An EO allows business actors to optimise their creativity and innovation to develop ideas, which helps maximise the growth of OP in SMEs.

Contribution/value-add: This study's results support the concept that EO develops various skills, from managing uncertainty to tolerating risk and forming strong entrepreneurial abilities to improve business performance.

Keywords: dynamic capabilities; entrepreneurial orientations; human resource management; innovation capabilities; knowledge management; performance; SMEs.

Introduction

The world economy in 2020–2021 experienced a shock because of the coronavirus disease 2019 (COVID-19) pandemic. In fact, small- and medium-sized enterprises (SMEs) have a vital role in supporting Indonesia's economic growth, with their number reaching 62.92 million units or approximately 99.99% of the total existing business actors (Rusliana et al. 2023). They also contributed about 57.08% to the GDP and provided around 117 million jobs for the community (Badan Pusat Statistika 2022). In addition, SMEs have been resistant to various macro-environmental disturbances, but they did not happen in 2020 and 2021 (Isa & Mardalis 2022). In Indonesia, SMEs are the main drivers of economic growth and play a crucial role in reducing unemployment and poverty (Goel 2022). However, these SMEs have been adversely affected by the COVID-19 pandemic (Sugiyarti et al. 2023).

Batik is a world cultural heritage from Indonesia recognised by the United Nations Educational, Scientific and Cultural Organization (UNESCO), and batik SMEs are one of the leading business sectors in Indonesia (Isa et al. 2023). Small- and medium-sized enterprises can stimulate entrepreneurial skills, are flexible and quickly adapt to changing market supply and demand situations, thus making a significant contribution to exports and trade (Gharakhani & Mousakhani 2012). The batik business in Indonesia has undergone a fluctuating trend, especially coupled with the COVID-19 pandemic. The pandemic affects SMEs in all aspects of production and trade, as well as the workers who lose their jobs (Karsana, Anggraini & Siswanto 2022).

Small- and medium-sized enterprises are also continually faced with various challenges and must improve their competitive capabilities and skills to survive and ensure long-term sustainable development. Various tools and strategies can help SMEs respond to changes and face threats while improving their performance and competitive advantage (Sawaean & Ali 2020).

Research on the competitive advantage and performance of SMEs has widely used the resources-based view (RBV) theory (Jeong, Jin & Jung 2019; Lestari et al. 2020; Ogunyomi & Bruning 2016; Yang, Xun & He 2015). However, this concept is weak if used for SMEs because the assumption is to be applied to large companies with a vast market share and does not consider the fundamental differences in how resources contribute to a company's competitive advantage (Che Mat 2017). For this reason, this current study used the dynamic capabilities theory (DCT), which appears as an alternative to overcome the gap in the RBV. In this regard, uncertain economic conditions, technological changes and market changes will cause the value of resources to drop drastically; therefore the application of the DCT is needed to improve company performance (Kraaijenbrink, Spender & Groen 2010). The DCT also refers to skills, routines, processes, organisational structures and disciplines that enable companies to use intangible resources that competitors cannot duplicate to achieve good company performance (Teece, Peteraf & Leih 2016; Wang, Senaratne & Rafiq 2015).

The increasingly competitive SMEs require them to have a high level of innovation to survive. The ability to implement innovation is part of the DCT, as the innovation process represents a change in how things are done in the company (Piening & Salge 2015). Innovation capabilities (ICs) can also shape and manage the resources and capabilities to generate innovative ideas, identify new market opportunities and implement innovations for the company's benefit (Breznik & Hisrich 2014; Lawson & Samson 2001). Saunila (2016) stated that ICs are conceptualised as processes and outcomes that affect the performance of SMEs.

On the other side, human resources (HRs) are the internal strength of SMEs in pursuing competitive advantage and must be appropriately managed. Human resource management (HRM) refers to the organising and issuing of professional abilities through personnel and organisational development, and training to increase performance. The HRs of an SME are then required to master technological developments that are fast and responsive to change. Qualified HRs are expected to produce maximum performance to achieve the set goals.

Specifically, batik SMEs are one of the creative industries that are developing in Indonesia. Creativity is required to utilise and manage HR in developing creative economic activities. Organisational creativity is often associated with the characteristics of the Chief Executive Officer (CEO). In SMEs comprising a small number of employees with low levels of the corporate hierarchy, the effect of the personal character of SME leaders on organisational performance (OP) will be much more influential than in large companies (Lubatkin et al. 2006).

Moreover, Jantunen et al. (2005) asserted that value creation through entrepreneurial orientation (EO) is essential in the DCT framework. The relationship between EO and OP has received significant attention in the literature (Bhatti, Rehman & Rumman 2020; Real, Roldán & Leal 2014). Nevertheless, from several existing research results, there is an inconsistency in the relationship between the dimensions of EO and OP and needs to be investigated further. Chienwattanasook and Jermsittiparsert (2019) and Gomes et al. (2022) found that EO positively affected OP. On the other hand, Kraus et al. (2012) showed that EO had a negative effect on OP.

Knowledge management (KM) is related to developing and utilising dynamic capabilities (DC) to create a sustainable competitive advantage (Alegre, Sengupta & Lapiedra 2013; Cepeda & Vera 2007). Dynamic capabilities refer to the collection of organisational routines, evolutionary processes and KM learning that enable individuals to gain a deeper understanding of routines and enhance their effectiveness (Argote 2011). Knowledge management according to the DCT has specific practices and is difficult to imitate, thereby increasing innovation performance (Alegre et al. 2013). Knowledge management itself has been shown to influence OP (Balasubramanian, Al-Ahbabi & Sreejith 2020; Gharakhani & Mousakhani 2012; Ha et al. 2021; Ha, Lo & Wang 2016).

Human resource management research has used RBV (Nolan & Garavan 2016; Ogunyomi & Bruning 2016; Sheehan 2014), although from the perspective of DC, HRM also has a significant impact on OP (Garavan et al. 2016). Human resource management directly or indirectly influences the performance of SMEs (Ogunyomi & Bruning 2016; Teo, Le Clerc & Galang 2011). The behaviour of human resources in SMEs is characterised by good communication, flexibility and positive relationships with both employees and others. This will result in improved overall performance (Wang, Li & You 2020).

Allameh, Khozani and Baniasadi (2020) also affirmed that organisations need to increase knowledge through external and internal sources to increase DC. According to Ngah and Jusoff (2009), knowledge sharing (KS) leads to the accumulation, dissemination and acquisition of knowledge to improve company performance. Knowledge sharing is also a shared understanding related to providing access to information for employees by using knowledge networks with new techniques within the organisation considered capable of encouraging innovation (Waheed et al. 2013). Besides, knowledge understood as a strategic resource plays a crucial role in a company's ability to innovate and compete (Wang et al. 2020). In previous studies, KS has also been

proven to affect OP (Abdelwhab Ali et al. 2019; Ngah & Jusoff 2009; Waheed et al. 2013).

In addition, the current information technology revolution has challenged SME entrepreneurs, most of whom still use traditional methods. Thus, developing IC is vital to maintain the organisation's sustainability and growth for it to compete with larger companies (Saunila 2020). Entrepreneurial orientation, KM, HRM and KS have been shown to impact IC, thereby increasing OP (Aryanto, Fontana & Afiff 2015; Konsti-Laakso, Pihkala & Kraus 2012; Omar, Md Aris & Nazri 2016; Valaei, Rezaei & Emami 2016).

Therefore, the primary objective of this study was to analyse the mediating effect of IC on individual EO, KM, HRM and KS and SME performance in Indonesia. In addition, we conducted this research because of the lack of empirical studies focusing on dynamic capabilities and their impact on the variables used in this study, specifically in the context of batik SMEs in developing countries during the COVID-19 pandemic.

Literature review

Many researchers have used the RBV in measuring OP (Konsti-Laakso et al. 2012; Kraus et al. 2022; Ruivo et al. 2016; Yang et al. 2015). However, this view has several drawbacks, that is, it does not have managerial implications, mainly applies to large companies with significant market power and does not address the fundamental differences in how various existing resources will contribute to strategic advantage (Che Mat 2017). As a result, a company's core capabilities become useless if it cannot adjust to environmental changes; thus, the current researchers focussed on the DCT. Dynamic capabilities emerged to fill the gaps and limitations of RBV (Che Mat 2017). In addition, currently, economic conditions are rapidly changing and uncertain, which motivates the use of the DCT to explain the ability of organisations to develop competitive advantage under these conditions (Teece et al. 2009).

Dynamic capabilities are essential in maintaining a sustainable firm's competitive advantage and guide managers to avoid losses when homogeneous firms compete in the market (Che Mat 2017; Teece, Pisano & Shuen 2009). Dynamic capabilities are also a company's process of integrating, reconfiguring, acquiring and releasing resources to match market changes to achieve new resource configurations. Eisenhardt and Martin (2000) stated that the DC concept refers to skills, routines, processes, organisational structures and disciplines that enable companies to build intangible resources with characteristics that competitors do not easily imitate to satisfy their customers.

Being an entrepreneur is not easy and requires the courage to take risks. Entrepreneurial orientation refers to the tendency of SMEs to actively seek out market opportunities, embrace risk and be open to innovation (Ferreira, Coelho & Moutinho 2020; Jantunen et al. 2005). Entrepreneurial orientation is also a trait, characteristic and personality of a business actor with the will to bring creative, innovative ideas into the real world. Hence, SME owners must strengthen social networks by increasing strategic psychological mindsets. It can be done through training, improving social skills and creating relevant social perceptions (Fatima & Bilal 2020). An EO allows business actors to optimise their creativity and innovation to develop ideas that help maximise the growth of SME OP.

Organisational performance is the product of interactions between parts or units within an organisation (Martinez, Martinez & Montoya 2020). The organisational performance also reflects the organisation's ability to achieve its goals to survive in the market and meet stakeholders' requirements (Ha et al. 2016). In addition, OP is seen as a multidimensional construct as it integrates systems, operations, people, customers, partners and management (Jyoti & Sharma 2012). Previously, OP was primarily assessed through financial-based performance measures using return on assets (ROA), return on equity (ROE), return on investment (ROI), market share, sales growth and profitability (Khan 2021; Khan, Zhang & Salik 2020; Nasrallah & El Khoury 2022; Özer & Tınaztepe 2014). However, organisations need to include non-financial performance measures, such as client satisfaction, employee satisfaction, IC, internal business process efficiency and improved performance of intangible assets (Kaplan & Norton 1992). Organisational performance is crucial because it provides feedback from managerial calculations to be used as evaluation material for managers' organisational development (Drucker 1990).

One way to improve SME performance is through organisational innovation developed through KM, thereby maximising its competitive advantage (Albassami et al. 2019; Fidel, Schlesinger & Emilio 2018). Knowledge management is the formalisation of an organisation's experience, knowledge and expertise in creating new capabilities, thereby creating superior performance, increasing innovation and enhancing customer value (Gharakhani & Mousakhani 2012). Companies with good KM skills will use their various resources efficiently and more innovatively, resulting in better performance than other companies.

Furthermore, the application of KM to SMEs tends to be informal, and they create their knowledge compared to larger companies (Alegre et al. 2013; Gharakhani & Mousakhani 2012). It happens because SMEs tend to be more enthusiastic about finding information from knowledge sources than large companies. The characteristics of the management strategy, system and culture of SMEs that are different from large companies then affect the knowledge life cycle, which starts from the knowledge capture process to the application of knowledge (Gharakhani & Mousakhani 2012). Having assets and resources alone is not enough. Good KM skills are needed to develop and encourage innovation and improve OP (Valdez-Juárez et al. 2016). In addition,

business actors who successfully adopt KM programmes and strategies can improve the skills of their employees and make better decisions (Edvardsson & Oskarsson 2013).

For that reason, the development of the DCT derived from the RBV focusses on the ability of SMEs to build and re-integrate internal and external competitiveness in the face of a rapidly changing environment (Ogunyomi & Bruning 2016). From a DCT perspective, HR management and development help generate human and social capital to increase competitive advantage and firm performance (Garavan et al. 2016; Messersmith & Guthrie 2006). Organisations increase the effectiveness of the innovation process by conducting training related to innovation activities for employees (Piening & Salge 2015). Thus, the management of HR is a substantial capital owned by the organisation as it has intellectual competence. The quality and capability of HR also play a leading role in an organisation's progress.

Further, organisations develop and perform better if they can manage their knowledge as knowledge capital, which is rare and cannot be duplicated, especially in the digital economy era (Keszey 2018). With KM, KS is one of the most important things in improving the performance of SMEs in facing the uncertainty of business competition. For organisations, KS is capturing, organising, reusing and transferring experience-based knowledge and making that knowledge available to others in the business (Ngah & Jusoff 2009). Sharing knowledge among organisational members can generate the latest ideas and thoughts in creating and developing organisational innovation. Sharing knowledge, both tactical and explicit, will then have a positive impact and increase the speed and quality of innovation. In addition, initiating innovation depends on employees' work experience, expertise and knowledge in creating value for the company. Consequently, relatively innovative organisations will be able to produce maximum OP.

Knowledge sharing also occurs in several ways, including communicating, building networks, documenting, organising, capturing knowledge, dealing with and solving existing problems, learning new skills and helping colleagues. Related to that, Singh et al. (2021) described KS as an important instrument as it contributes to individual learning, which is essential for undertaking new practices. Organisational skills and competencies are also developed through KS. Thus, companies that inhibit KS will reduce their innovation ability because they ignore external knowledge (Wang et al. 2020).

Meanwhile, IC are the ability to change ideas and knowledge into a new process, system or product to develop innovation in response to market fluctuations reflected in strategies, systems and structures to create an improved performance for the benefit of the organisation and stakeholders (Fang et al. 2021; Omar et al. 2016). Innovation is also in the form of something tangible or intangible; therefore the dimensions and scope of innovation are extensive. Innovation capabilities have a significant impact on the performance of SMEs. Managers who develop the ability to innovate become more effective and efficient, ultimately increasing the competitiveness of their businesses (Maldonado-Guzmán et al., 2019). This has been proven in the performance of SMEs in developing countries (Bahta et al. 2020). Innovation capabilities consist of two aspects of innovation: the development of ideas and knowledge and the implementation of these ideas (Omar et al. 2016). Innovation capabilities are also an essential asset as they facilitate companies to introduce and adopt new products quickly, thereby maintaining a competitive advantage (Rajapathirana & Hui 2018).

The relationship between IC and performance has aroused the interest of academics, who have understood that innovation is a factor that creates a competitive advantage for companies (Migdadi et al. 2017; Tutar, Nart & Bingöl 2015). A company innovates to be the first to bring up a product so that the company's performance increases. Based on the reasons stated in this section, the researchers proposed the following hypotheses:

- H_{01} : Entrepreneurial orientation has no significant effect on SME organisational performance.
- H_{a1} : Entrepreneurial orientation has a positive and significant effect on SME organisational performance.
- H_{02} : Knowledge management has no significant effect on SME organisational performance.
- H_{a2} : Knowledge management has a positive and significant effect on SME organisational performance.
- H_{03} : Human resources management has no significant effect on SME organisational performance.
- H_{a3} : Human resources management has a positive and significant effect on SME organisational performance.
- H_{04} : Knowledge sharing has no significant effect on SME organisational performance.
- H_{a4} : Knowledge sharing has a positive and significant effect on SME organisational performance.
- H_{05} : Innovation capabilities have no significant effect on SME organisational performance.
- H_{a5} : Innovation capabilities have a positive and significant effect on organisational performance.
- H_{06} : Entrepreneurial orientation has no significant effect on SME organisational performance.
- H_{a6} : Entrepreneurial orientation has a positive and significant effect on innovation capabilities.
- H_{07} : Knowledge management has no significant effect on innovation capabilities.
- H_{a7} : Knowledge management has a positive and significant effect on innovation capabilities.
- H_{08} : Human resources management has no significant effect on innovation capabilities.
- H_{a8} : Human resources management has a positive and significant effect on innovation capabilities.
- H_{09} : Knowledge sharing has no significant effect on innovation capabilities.

H_{a9} : Knowledge sharing has a positive and significant effect on innovation capabilities.

H_{010} : Innovation capabilities do not mediate the relationship between entrepreneurial orientation and SME organisational performance.

H_{a10} : Innovation capabilities mediate the relationship between entrepreneurial orientation and SME organisational performance.

H_{011} : Innovation capabilities do not mediate the relationship between knowledge management and SME organisational performance.

H_{a11} : Innovation capabilities mediate the relationship between knowledge management and SME organisational performance.

H_{012} : Innovation capabilities do not mediate the relationship between human resources management and SME organisational performance.

H_{a12} : Innovation capabilities mediate the relationship between human resources management and SME organisational performance.

H_{013} : Innovation capabilities do not mediate the relationship between knowledge sharing and SME organisational performance.

H_{a13} : Innovation capabilities mediate the relationship between knowledge sharing and SME organisational performance.

Research method

Data collection and analysis

Primary data were collected using a self-administered structured questionnaire. Questionnaires were distributed to managers or owners of SME batik businesses located in Surakarta City, Indonesia. Of the $N = 350$ questionnaires distributed, only $n = 297$ were filled out completely, resulting in a response rate of 84.9%.

SmartPLS3 is a software that utilises a graphical user interface for conducting variant-based structural equation modelling using the partial least squares (PLS) path modelling method. The PLS method is specifically designed for addressing various data problems, such as small sample sizes, missing data and multicollinearity, that often arise in multiple regression analysis (Balasubramanian et al. 2020).

Measures

The scale used in this study was adapted from previous research. To measure organisational performance, four items were employed (Albuhisi & Abdallah, 2018). Innovation capabilities were assessed using a measurement consisting of four items (Rajapathirana & Hui, 2018). As for the independent variables, measures from Dess and Lumpkin (2005) were used for EO, KM was adapted from Balasubramanian et al. (2020) and HR management and KS utilised measurements from Kurniawan et al. (2020).

Validity and reliability of the scales

SmartPLS3 was employed to measure the study model. The convergent validity test with reflective indicators was based on the loading factor of each indicator with the outer loading value > 0.7 (Hair et al. 2014). Furthermore, the discriminant validity test aimed to measure the validity of the indicators with an average variance extracted (AVE) value > 0.5 so that it has been valid. The results from Table 1 show that both the outer loading and AVE values exceeded the minimum limit, and it can be concluded that the indicators of this study were valid. The Cronbach alpha measurement was used to measure reliability, and it can be seen from Table 1 that the results were > 0.7, indicating acceptable reliability.

Ethical considerations

Ethical clearance to conduct this study was obtained from the Muhammadiyah University of Surakarta Research Ethics Committee (reference no.: ETH/MI177/R/352023).

TABLE 1: Scale items and loading.

Questionnaire items	Indicators	Loading	CR	AVE	Cronbach alpha
Organisational performance	-	-	0.873	0.633	0.842
Financial perspective	OP1	0.800	-	-	-
Customer perspective	OP2	0.840	-	-	-
Internal business and process perspective	OP3	0.704	-	-	-
Learning and process perspective	OP4	0.831	-	-	-
Innovation capabilities	-	-	0.881	0.649	0.926
Understanding of management and organisational culture	IC1	0.807	-	-	-
Knowledge	IC2	0.803	-	-	-
Employee role	IC3	0.770	-	-	-
Evaluation of innovation ideas	IC4	0.840	-	-	-
Entrepreneurial orientation	-	-	0.894	0.630	0.901
Autonomy and independence	EO1	0.886	-	-	-
Innovative attitude	EO2	0.818	-	-	-
Proactive attitude	EO3	0.739	-	-	-
Dare to take risks	EO4	0.719	-	-	-
Courageous attitude and aggressive competition	EO5	0.796	-	-	-
Knowledge management	-	-	0.866	0.618	0.863
Knowledge identification	KM1	0.795	-	-	-
Knowledge creation	KM2	0.817	-	-	-
Knowledge sharing	KM3	0.734	-	-	-
Use of knowledge	KM4	0.796	-	-	-
Human resource management	-	-	0.886	0.609	0.876
Work performance	HRM1	0.818	-	-	-
Discipline	HRM2	0.829	-	-	-
Attendance	HRM3	0.789	-	-	-
Damage rate of production, tools and machines	HRM4	0.704	-	-	-
Incentive wage rate	HRM5	0.756	-	-	-
Knowledge sharing	-	-	0.897	0.685	0.842
Sharing new job skills	KS1	0.885	-	-	-
Share current information	KS2	0.840	-	-	-
Get new work skills from co-workers	KS3	0.758	-	-	-
Sharing knowledge with colleagues is considered normal in the company	KS4	0.822	-	-	-

AVE, average variance extracted; OP, organisational performance; IC, innovation capabilities; EO, entrepreneurial orientation; KM, knowledge management; HRM, human resource management; KS, knowledge sharing.

Results and analysis

The structural model measurement used SmartPLS bootstrapping. The first step was to measure the direct relationship seen from the results of the path coefficient, *t*-statistics and *p*-values. The results of evaluating this direct relationship can be seen in Table 2. From Table 2, EO, KM, KS and IC affected OP (β = 0.267; *t* = 3.277; *p* < 0.05, β = 0.277; *t* = 5.433; *p* < 0.05, β = 0.148; *t* = 2.379; *p* < 0.05, β = 0.263; *t* = 4.750; *p* < 0.05) so that Ha1, Ha2, Ha4 and Ha5 were accepted hypothesis.. These results agree with previous studies (conducted by Aryanto et al. 2015; Balasubramanian et al. 2020; Chienwattanasook & Jermsittiparsert 2019; Gharakhani & Mousakhani 2012; Gomes et al. 2022; Omar et al. 2016; Valaei et al. 2016).

Meanwhile, HR management had no effect on OP (β = -0.045; *t* = 0.076; *p* > 0.05). From these results, it can be concluded that Ha3 were rejected hypotheses. These results are consistent with other findings (Ogunyomi & Bruning 2016; Omolo, Oginda & Otengah 2013; Tamsah et al. 2020; Wang & Wang 2012).

Furthermore, the relationship between independent variables, that is, EO, and KM proved to affect IC (β = 0.715; *t* = 11.999; *p* > 0.05; β = 0.188; *t* = 3.785; *p* > 0.05). It aligns with the result of previous studies (Ferreira et al. 2020; Omar et al. 2016). However, HR management and KS have no significant effect on IC (β = -0.061; *t* = 0.826; *p* > 0.05; β = -0.035; *t* = 0.478; *p* > 0.05), which is consistent with the result of previous studies (Imron et al. 2021; Lo & Tian 2020); therefore Ha6 and Ha7 were supported, while Ha7 and Ha8 were rejected.

After direct testing, the mediation effect was continued. SmartPLS bootstrapping was used to measure the indirect effects of EO, KM, HRM and KS on OP. From the bootstrapping results, it can be seen in Table 3 that HRM had a full mediating effect on OP through IC because of a significant indirect effect (β = 0.257; *p* < 0.05). There was a partial mediation effect through EO because both the direct relationship (β = 0.267; *p* < 0.05) and the indirect relationship (β = 0.188; *p* < 0.05) were significant. Meanwhile, KM and KS were not proven to mediate between IC and OP. From these results, it can be concluded that H10 and H12 were supported, while H10 and H13 were rejected.

This study contributes to the body of knowledge by empirically testing the relationship between EO, KM, HRM, KS, IC and OP jointly in one model. The mediating effect was tested to achieve this, aside from the direct impact between research variables. Innovation capabilities were utilised to mediate the relationship between the four independent variables, that is, EO, KM, HRM and KS, and their effect on OP. In addition, this study is one of the few studies using EO, KM, HRM and KS to investigate their influence on IS and OP, especially non-financial OP.

TABLE 2: The direct path coefficient.

Direct effect	Path coefficient	*T*-statistics	*P*	Result
Entrepreneurial orientation → Organisational performance	0.267	3.277	0.001	Significant
Knowledge management → Organisational performance	0.277	5.433	0.000	Significant
Human resource management → Organisational performance	-0.045	0.076	0.554	Not significant
Knowledge sharing → Organisational performance	0.148	2.379	0.018	significant
Innovation capabilities → Organisational performance	0.263	4.750	0.000	Significant
Entrepreneurial orientation → Innovation capabilities	0.715	11.999	0.000	Significant
Knowledge management → Innovation capabilities	0.188	3.785	0.000	significant
Human resource management → Innovation capabilities	-0.061	0.826	0.409	Not significant
Knowledge sharing→ Innovation capabilities	-0.035	0.478	0.633	Not significant

Discussion and conclusion

This study provides several theoretical contributions by using the DC approach in measuring the OP of SMEs. There have been many studies measuring the effect of RBV theory on OP (Konsti-Laakso et al. 2012; Kraus et al. 2022; Ruivo et al. 2016; Yang et al. 2015), but still, few use the DC approach on the performance of SMEs. Therefore, this study was conducted to understand further how OP, especially in batik SMEs, is achieved through a DC approach. This notion is consistent with previous research in this area (e.g. Albassami et al. 2019; Alegre et al. 2013; Valdez-Juárez et al. 2016; Yeşil, Koska & Büyükbeşe 2013).

This study is also an empirical test that analyses the relationship between EO, KM, HRM, KS, IC and OP together in one model, especially the use of non-financial OP. Innovation capabilities have been verified to fully mediate the relationship between HRM on OP. Management control of HRM in SMEs through employee incentives and salaries can encourage employees' ability to innovate so that they can improve company performance. This is also supported by research by Kuo (2011), which found the importance of HRM in improving employee performance through the ability to innovate.

The results of this study indicate that KM has the most prominent role in OP in batik SMEs. The OP of batik SMEs can be increased through innovation and sharing with other entrepreneurs so that new knowledge will increase. Knowledge management can be applied by entrepreneurs in solving problems and developing businesses. Gharakhani and Mousakhani (2012) stated that it is important for SMEs to

TABLE 3: The indirect path coefficient.

Indirect effect (mediation)			Path coefficient	*P*	Mediation level
Exogenous	Mediation	Endogenous			
EO	→IC	→OP	0.188	0.000	Partial
KM	→IC	→OP	0.052	0.131	Not mediate
HRM	→IC	→OP	0.257	0.003	Full
KS	→IC	→OP	-0.399	0.641	Not mediate

EO, entrepreneurial orientation; KM, knowledge management; HRM, human resource management; KS, knowledge sharing; IC, innovation capabilities; OP, organisational performance.

implement KM so that learning and KS can be implemented successfully.

Apart from providing academic contributions, this research has significant managerial implications for owners of SMEs. The study shows batik SME owners how they can enhance their OP. It emphasises the importance of fostering innovation in the face of market uncertainty and should serve as a guiding principle for SME players who wish to remain competitive. Additionally, each SME owner must understand the concept of DC to prevent other SMEs from easily imitating their organisational character and product (Che Mat 2017).

Limitations and future research

The study has a number of limitations. Firstly, there was a lack of participation and response from some prospective respondents, as indicated by the 84.9% response rate. Additionally, the study only involved batik business actors in Surakarta City, Indonesia. As a result, the conclusions drawn from the research may have limited generalisability. It is worth noting that many other cities in Indonesia also produce batik products, not just Surakarta.

The results of this research also provide guidance for future research. Firstly, it was observed that most of the empirical studies reviewed relied on quantitative and survey designs. Therefore, incorporating qualitative research designs or case studies would be beneficial in gaining a deeper understanding of how IC is actually perceived and implemented among small businesses. Additionally, case studies can help clarify the role of various contextual factors in the development of IC within small businesses. As a result, future research should aim to use mixed methods in order to investigate the factors that contribute to the improvement of batik entrepreneurs' OP. Secondly, this study utilised the perspective of DC in measuring OP. In future studies, it is recommended to combine DC with the RBV in order to create a comprehensive model for measuring the performance of SMEs. Thirdly, the IC variable, which currently serves as a mediating variable, could be modified to function as a moderator variable. This adjustment is necessary as not all of the study's findings support IC as a mediating variable.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

M.I., Y.A.N. and R.S.Q. contributed to the various aspects of this article, including conceptualisation, methodology, analysis, investigation, validation, data curation, visualisation, supervision, writing of the manuscript and funding acquisition.

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Data availability

The data that support the findings of this study are available on request from the corresponding author, M.I.

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