Knowledge management and community-based enterprise: an initiative to preserve the shadow puppet traditional knowledge in Yogyakarta, Indonesia

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Abstract

Purpose – This study aims to examine the dynamics of traditional *wayang kulit* or shadow puppet knowledge management in a community-based enterprise (CBE) known as "Wisata Wayang" in Wukirsari Village, Yogyakarta, Indonesia.

Design/methodology/approach – A qualitative case study was adopted, which allows the author to explore the dynamics or uniqueness of an event or cultural phenomenon more deeply.

Findings – The shadow puppet is an artefact of Javanese culture with rich life philosophy and wisdom. It guides people the pursuit of harmony with themselves, others, the universe and God. The success of knowledge management of the shadow puppet at CBE was supported by the high entrepreneurial orientation of the administrators. This study showed that entrepreneurial orientation should be extended into sociopreneurial with additional aspects, including preservation mission and communality, promoting the emergence of grassroots innovations. The knowledge of shadow puppet craft in this village is passed through *nyantrik*, also known as apprenticeship.

Originality/value – No previous research has explored the dynamics of traditional knowledge management in the context of CBE in Indonesia. As Indonesia has rich traditional knowledge from hundreds of tribes and prominent communal cultures, this study of community-based knowledge management contributes new insights in the knowledge management literature.

Keywords Management of traditional knowledge, Shadow puppet, Community-based enterprise, Sociopreneurial orientation, *Nyantrik*

Paper type Research paper

1. Introduction

International level policymakers have strong commitment to achieve 17 sustainable development goals (SDGs) by 2030 based on the pillars of holistic people welfare, saving the planet from ecocide, and profitability (Dasgupta *et al.*, 2021). Some countries joined this initiative by promoting and facilitating social entrepreneurship ecosystems, community-based learning systems, traditional knowledge management and protection and biodiversity preservation (Izurieta *et al.*, 2021; Magni, 2017; Rogers, 2019; Sterling *et al.*, 2020). While many philanthropists use a caricative approach, social entrepreneurs solve problems through innovative solutions, which use market mechanisms (Pathak and Mukherjee, 2020). An economic logic focusing on markets, profitability and creating customer value is combined with a social welfare logic to create value for society, specifically the poor or the oppressed (Gupta *et al.*, 2003; Pathak and Mukherjee, 2020; Singh *et al.*, 2020). According to Gupta (2012), creating value for local communities using local knowledge leads to local innovations.

SDGs are based on the philosophy of fulfilling holistic welfare, specifically spiritual, social and economic aspects, and prioritising business with environmental and humanitarian perspectives. However, it would be challenging to implement these goals in developing countries because of economic disparities (Gupta *et al.*, 2003; Gupta, 2012; Gupta, 2020; Widjojo and Gunawan, 2020). The inequality of economies has also made the discussion of innovation a class bias because it closely relates to the discourse of corporate elites (Gupta *et al.*, 2003; Singh *et al.*, 2020). In some instances, the term "grassroots innovation" has been coined to describe the local innovations focusing on empowering marginalised communities in India (Abrol and Gupta, 2014; Gupta, 2013; Gupta *et al.*, 2003; Gupta, 2012). According to Singh *et al.* (2020), these innovations were initiated and actualised at the bottom of the economic pyramid and the top of the traditional knowledge pyramid.

Traditional knowledge is culturally passed from one generation to another in indigenous communities. It is also known as tacit knowledge because it is difficult to codify and includes intuition, spirituality and local skills (Mearns *et al.*, 2006). The opposite of tacit knowledge is explicit knowledge, which is easier to codify and documented or stored in the information systems (Nonaka and Takeuchi, 1995). Traditional knowledge is passed through storytelling, cultural demonstrations and ancient manuscripts (Fernández-Llamazares and Cabeza, 2018; Mearns and Toit, 2008). In the discourse of the hegemony of knowledge, the approach of Western science and technology is reductionist and universalist in problem-solving using technology and knowledge system one fits all. Grenier (1998) stated that traditional knowledge systems are highly contextual and offer different approaches to problem-solving.

Although Indonesia has an issue of inequality similar to India, these two countries are endowed with a wealth of local wisdom showcased in various tangible and intangible cultural heritage. It ranges from traditional clothings, local languages, traditional houses, traditional musics, herbal medicine, local crafts, customary law and many more (Caneva *et al.*, 2017; Silalahi *et al.*, 2015; Sujarwo *et al.*, 2016; Suwardi *et al.*, 2019; Torri, 2012; Widjojo and Gunawan, 2020). These traditions or heritage are used in the educational process, local organisations and laws, cultural activities, agriculture, environment and creative economy, hence, must be preserved and passed on to the next generations (Grenier, 1998). According to Mearns and Toit (2008), knowledge management is the best approach to achieve the traditional knowledge conservation mission. Study on the application of knowledge management in traditional knowledge-intensive creative industries still has to be explored in various contexts, including Indonesia (Mayasari and Chandra, 2020; Shafi *et al.*, 2020;

Widjojo and Gunawan, 2020). Mayasari and Chandra (2020) emphasised the need for further study on managing the traditional knowledge in Indonesia, specifically on community social capital. This study translates community social capital empirically through the concept of a community-based enterprise (CBE) as developed by some scholars (Peredo and Chrisman, 2006; Teerakul *et al.*, 2013; Valchovska and Watts, 2016).

CBE is a community that acts entrepreneurially to achieve the common good (Peredo and Chrisman, 2006; Valchovska and Watts, 2016). The CBE concept is mainly based on social capital theory because human behaviour patterns cannot be analysed solely based on profit and loss relationships (Aldrich and Zimmer, 1986; Granovetter, 1985; Peredo and Chrisman, 2006). Many underlying sociological-anthropological ties, such as kinship, family and ethnicity, build communities such as enterprising communities in various contexts with the principle of "sharing without reckoning" (Verver and Koning, 2018).

The case study used the *paguyuban* (community) of "Wisata Wayang" located in Wukirsari Village, Bantul Regency, Yogyakarta Special Region. It was chosen for being one of the centres of shadow puppet crafts in the special region of Yogyakarta and a core artefact in Javanese culture (Torri, 2012). The pre-survey of this community showed that they had developed the village entrepreneurially using shadow puppet as the main icon for tourism, therefore, can be defined as a CBE (Peredo and Chrisman, 2006).

To address the empirical gap mentioned, this study focused on how the dynamics of traditional knowledge management conducted at the "Wisata Wayang" CBE? The paper is structured as follows: Section 1 describes the background of the study, whereas the literature review is discussed in Section 2. Sections 3 and 4 discuss the study design and findings, respectively. The conclusions, implication, limitation and agenda for future study are outlined in Section 5.

2. Literature review
Management of traditional knowledge
The period from the 1990s to date is referred to as the knowledge economy era by some scholars (Edwards *et al.*, 2009). The knowledge economy principles are different from the industrial economy based on mass production, prioritising efficiency, uniformity and relying on physical assets (Industrial Revolution 1.0 and 2.0) (Schwab, 2016). The knowledge economy era focuses on flexibility, collaboration, creativity, innovation, team networking and open innovation (Chesbrough, 2003; North and Kumta, 2018). Drucker and Maciariello (2008) stated that productivity mainly relies on muscles and not the brain. The invention of the internet marked this era's technological developments, which triggered the Industrial Revolution 3.0, and digital technology, which gave birth to the Industrial Revolution 4.0. The two industrial revolutions have made the information and knowledge sharing process efficient, easy and inexpensive. Many knowledge-intensive firms have sprung up from consulting to start-up platforms (Edwards *et al.*, 2009; North and Kumta, 2018).

The leading management studies that significantly contributed to the body development of knowledge management include Senge (1990), which formulated the learning organisation concept, and Drucker (1999) that coined the term "knowledge worker." Nonaka and Takeuchi (1995) formulated and developed the knowledge spiral concept in the interaction of tacit-explicit knowledge as socialisation-externalisation-combination-internalisation. Grant (1996) and Davenport and Prusak (1998) described more operational and technical governance related to knowledge management.

The industrial change dynamics and the scholars' contributions formed the knowledge management concept as a more comprehensive version of the information system concept because it combines human, process and technology approaches integratively

(Jasimuddin *et al.*, 2005; Pee and Kankanhalli, 2009). This concept shifting can be traced from the DIKW pyramid, a hierarchical stage of data, information, knowledge and wisdom (Rowley, 2007; Zeleny, 2006).

Knowledge management is the process where individuals, teams, communities and organisations collectively and systematically create, share and apply knowledge to achieve their strategic and operational goals (North and Kumta, 2018). There is explicit and tacit knowledge, where explicit knowledge is easily codified and disseminated through information technology. In contrast, tacit is difficult to codify because it is intuitive and is shared through social learning (Nonaka and Takeuchi, 1995). A popular adage on tacit knowledge is that people know more than they can tell (Polanyi, 1969). For instance, one may be well trained to ride a bicycle but cannot tell how to obtain balance when riding.

Traditional knowledge is tacit knowledge because it is generally not recorded or written and is in the form of unique skills passed across generations, embedded in the indigenous communities (Dweba and Mearns, 2011; Kaniki and Kutu Mphahlele, 2013). Elders of indigenous communities play a major role in traditional knowledge management by leading the process consciously or unconsciously (Kaniki and Kutu Mphahlele, 2013). Traditional knowledge is in customary law, traditional music, crafts, herbal medicine, houses, languages, weaving, farming methods, marine and biodiversity (Widjojo and Gunawan, 2020). According to the literature on knowledge management, traditional knowledge is focused on personalisation strategy rather than codification by information technology (Kaniki and Kutu Mphahlele, 2013; Nonaka and Takeuchi, 1995).

Traditional knowledge management audit can be positioned as an exit to preservation strategy because it identifies the first owned traditional knowledge by a community or organisation (Mearns and Toit, 2008). Therefore, the audit process begins by checking the knowledge holder, the source and the pattern of creating, sharing and storing that knowledge in a traditional community. The process also identifies the community influential individuals acting as custodians and their network patterns. It evaluates implementing knowledge management strategies reflected in the vision and mission of a cultural village (Kaniki and Kutu Mphahlele, 2013).

Community-based enterprise

Peredo and Chrisman (2006, p. 310) stated that a CBE is one whose members act corporately for the common good. The CBEs are grassroots initiatives based on communal power and cooperation to survive in many developing countries (Akter *et al.*, 2020). In general, the communal power is crucial to being independent and not having a "beggar mentality" (Peredo and Chrisman, 2006; Torri, 2010). CBE administrators can also be categorised as social entrepreneurs because they solve social problems by using market mechanisms that combine economic and social welfare logic (Pathak and Mukherjee, 2020).

A CBE depends on other resources apart from social capital, including ancestral knowledge and traditional ways of life, harmonising environmental sustainability with market-oriented processes. According to Elkington (1998), CBE runs the 3Ps simultaneously, specifically people, planet and profit. The ideal nature of CBE is to have a socioecopreneurial orientation (Shafi *et al.*, 2020; Valchovska and Watts, 2016). The development of sociopreneurial construct is an extension of the entrepreneurial orientation construct, which focuses only on maximising profit and beating competitors (Alarifi *et al.*, 2019; Melé, 2010).

Yeo *et al.* (2013) stated that CBE also contains members who are grassroots innovators. These individuals develop and implement appropriate practices or technologies using available local resources (Singh *et al.*, 2020). This principle is also known as entrepreneurial

bricolage (Baker and Nelson, 2005). The literature on CBE and grassroots innovation is growing rapidly in developing countries with strong cultural and social capital such as India, Bangladesh and Latin America (Hackett, 2016; Peredo and Chrisman, 2006; Singh *et al.*, 2020). Because Indonesia shows similarities regarding the context of developing economy, preservation of traditional knowledge, CBE and grassroots innovation studies are essential to discuss (von Jacobi *et al.*, 2017; Widjojo and Gunawan, 2020).

3. Research design
Study approach, data collection techniques and data analysis method
The study design is based on the philosophy of interpretivism, inductive approach, qualitative methodology, case study strategy and cross-sectional data collection (Eisenhardt, 1989; Saunders *et al.*, 2019). Dana and Dana (2005) suggested qualitative methodology for community-based entrepreneurship study to explore cultural, social and economic situations comprehensively manifested in programs, activities and processes. A CBE in Wukirsari Village, Yogyakarta, Indonesia was chosen after conducting a pre-survey or observation to ensure that the CBE had various significant activities in preserving traditional knowledge. Wukirsari Village is well known as one of the puppet shadow craft centre in Indonesia.

The study occurred in April 2021 and implemented strict health protocols to avoid COVID-19. Triangulation-based data collection techniques were used to reduce bias and strengthen the validity and reliability of the data made through field observations, in-depth interviews, reviews and confirmations from relevant secondary sources (Denzin, 1978; Pathak and Mukherjee, 2020; Stanica and Peydro, 2016). The selection of informants was based on their position as representatives of central sources of information, which we need to explore according to the purpose of this research. The interviewees included two core CBE administrators, two village elders and a local elementary school principal, each interviewed for 1–2 h. Every information obtained from one respondent is also reconfirmed to other informants to ensure the truth or consistency of the information. The interview data were recorded, transcribed and shown to the informants again to re-verify the data or to gain data congruity. The data were then analysed using the protocols advocated by Miles *et al.* (2014), namely, data reduction, data display and conclusion building. All the steps were conducted by the support of NVivo software and the process of the repeated iterations or moving dynamically from data to theory and vice versa (Miles *et al.*, 2014).

4. Findings and discussion
Shadow puppet and the "Wisata Wayang" community-based enterprise
The shadow puppet or *wayang kulit/wayang purwa* is a unique art made of animal skin (from cows or buffalos) and depicts the characterisations of Javanese folklore. The shadow puppet is commonly preserved in the Special Region of Yogyakarta and several areas in Central Java, Indonesia (Long, 1979). The show is led by a *dalang* (mastermind) who alternately plays the shadow puppet while telling the *wayang* characters' storyline.

The iconographic features of each shadow puppet, including body size, eye shape, mouth shape and head tilt, are used to build the characters. The variations of those features are called *pakem* or the standards determined from hereditary ancestors (Long, 1979; Scherner, 1990). The *pakem* of shadow puppet can identify and reflect the character's character, including depths of philosophy that reflect the nature of human thought. The depth of this characteristic was deliberately created because *wayang* performance tell stories of fictional war myths and teach moral values to the future generations. The character's depth written in the literature was also confirmed by one of the senior shadow puppet arrangers in the village:

First-order concepts	Second-order themes	Aggregate dimensions
• The CBE administrators are aware of their limited internal resources and welcome offers of external support to develop a *wayang kulit* tourism village	Proactiveness	Sociopreneurial orientation
• The CBE administrators are persistent and agile in liaising with various relevant parties to gain access to new knowledge and social networks		
• The CBE administrators are open to digital ideas or solutions to promote their businesses and villages	Innovativeness	
• The CBE administrators have produced various social innovations by involving many youths to preserve *wayang* through creative events such as contemporary *wayang* performances		
• The CBE administrators always discuss find new ways to solve problems, including when facing a decrease in tourists visitations due to the COVID-19 pandemic		
• The CBE administrators were determined to welcome their first guests to the village, even though at that time they did not have in-depth knowledge of hospitality and *wayang kulit* and did not have sufficient facilities	Risk-taking	
• Despite the COVID-19 pandemic, CBE administrators are still trying to create an online *wayang* learning method and offer it to some national and international primary schools in Jakarta despite the high level of uncertainty of this innovation success		
• The CBE administrators are strongly committed to preserve their ancestral knowledge heritage of *wayang* with the noble philosophy of life embodied in it through organising various cultural performances	Preservation mission	
• The CBE administrators and community elders in collaboration with local primary schools organise special courses for students to learn to make *wayang kulit*		
• When more and more guests came, CBE mobilised various senior craftsmen and youths who had previously did not join the movement to get involved in *wayang kulit* exhibitions. They managed to do it in a persuasive and harmonious way	Communality	
• CBE administrators also encourage local residents to provide their houses as guest houses and assist in standardising them to make them liveable		
• The CBE administrators treat all guests who come in a respectful, equal and non-discriminatory manner despite differences in ethnicity, religion and socio-economic backgrounds		
• The CBE administrators actively promote learning and continuous improvement in hospitality and business management within the CBE organisation and more broadly in village communities by actively conducting door-to-door campaigns and formal village meetings	Growth, learning, and grassroots innovation	Extended balanced score-card for CBE
• Various grassroots innovations (innovations from, by and for the people) were successfully born such as new services for tourism villages and the establishment of new theatres		

(continued)

Table 1.
Model of data
structure

First-order concepts	Second-order themes	Aggregate dimensions
• The CBE management has successfully designed and implemented a personalisation knowledge management strategy by promoting the *nyantrik* or apprenticeship method for the production and standardisation of *wayang kulit* and intensive knowledge sharing in the preparation of cultural performances • The CBE administrators have also successfully planned and implemented a codification knowledge management strategy by documenting all traditional knowledge on computers, websites and online platforms such as social media and YouTube (for instance, like a video in this link: www.youtube.com/watch?v=lr2UsyoApjg)	Internal Process perspective	
• The decision-making process in the management of CBE and tourist villages is carried out in consultation with various parties, ranging from the CBE administrators to community elders • The CBE administrators are also active in networking with various external stakeholders such as the government, the private sector, NGOs and various other parties who have a vision of cultural preservation	Stakeholders perspective	
• The income of the CBE administrators, craftsmen and all parties involved in the cultural events that are held also increases • The CBE's business growth is promising with the increased guest arrivals before the pandemic and resilience in the new normal era	Financial perspective	

Table 1.   **Note:** The themes are developed using the works of Zaman *et al*. (2011) and Wales *et al*. (2020)

Because wayang has the same meaning as the journey of human life [. . .]. For example, Srikandi [one of the shadow puppet figures], people who wake up must have dreams. Darmo Kesuma [one of the shadow puppet figures] does something with an action, patient, honest and willing to walk like Wijasena, Wijasena has an honest character. Wijasena [one of the shadow puppet figures] is a picture of not wanting to lie, if he doesn't achieve something he wants, he does not give up [. . .]. Werkudara [one of the shadow puppet figures] is not affected or tempted, and faithfully respectful, parents-in-law, priestesses, priests, and God (Village Elders/Senior Craftsmen 1) (Plates 1–3).

Plate 1.
Process of making the shadow puppet

Source: Authors' Own

The Wisata Wayang CBE is located in Pucung, Wukirsari Village, Imogiri District, Bantul Regency, Special Region of Yogyakarta. The history of this village as a centre for shadow puppet crafts began with the tradition of leather puppet artists who studied the art of *tatah sungging* (the process of crafting the shadow puppets) in Yogyakarta palace. The shadow puppet craftsmen are common professions from the early days of Yogyakarta Hadiningrat Sultanate and provided the main livelihood for prosperity. In the current Xth Sultanate monarchy, the shadow puppet craft remains the main characteristic of the culture of the Special Region of Yogyakarta and some areas in Central Java. The shadow puppet is a characteristic of folklore or traditional fairy tales passed down from one generation to another and often became the benchmark for developing social norms in local communities. The developments in internet technology and social media have internationalised shadow puppet art:

Source: Authors' Own

Plate 2.
Process of coloring
the shadow puppet

Source: Authors' Own

Plate 3.
One of a shadow
puppet

The history of wayang in Pucung, so I, I will sort it out. The history of wayang in Pucung itself, that's the name of my grandfather, Darmo Sejati's great-grandfather alias Kimpul. It was a chisel (puppet maker) from the palace when there was a war during the Diponegoro era, ran to Pucung and married the Pucung people. Then, Ms Kimpul has a child, my grandfather's name is Wongsoikromo. Mbah Wongsoikromo has two children, yes, Mbah Karto is still a brother, then Mbah Wongso, yes, this is Ms Kimpul, Ms Wongso, then my father Mbah Cermo Karyo, Mbah Cermo has my son and my brothers. I already have children, how many have gone down, this is five, yes, my grandson is already the sixth descendant. So from Mbah Kimpul, Mbah Wongso, Pak Cermo, Pak Darto, Pak Mujiyono, yes, then my grandson, Mas Pendi. The history of Pucung is that there was a carver. It was during the war that the Kraton carvers ran to be safe. (Village Elder/Senior Craftsman 1)

The Wisata Wayang CBE was founded in 2014 village youth concerned about the stalled regeneration of artisans with the risk of losing traditional shadow puppet knowledge. The Wisata Wayang CBE obtained the support of several senior community members such as the village chief and the company's corporate social responsibility (CSR) funds and is committed to improving community empowerment and developments in information and communication technology for the preservation initiative:

[. . .] don't let this place become the history of shadow puppet craft, but it should really become a place for crafting the shadow puppet now and in the future. (CBE Administrator 2)

Based on the quote above, the CBE administrators realised that this tradition must be preserved and avoid extinction. There is no standardised codification or documentation method of sharing the shadow puppet traditional knowledge; therefore, the *nyantrik* tradition or apprenticeship process is the most effective method discussed in the next section.

Sociopreneurial orientation
The findings indicate that CBE administrators' high entrepreneurial orientation is the key to developing knowledge management initiatives to preserve traditional knowledge about *wayang kulit*. Entrepreneurial orientation consists of three main dimensions, proactiveness, innovativeness and risk-taking (Manik and Kusuma, 2021; Wales *et al.*, 2020).

Proactiveness is taking initiatives to seek and seize business opportunities, including welcoming various external support opportunities that arise to develop the CBE. It allows one to "pick up the ball first" and be agile in negotiating with various parties. External opportunities to assist this CBE development include training assistance, market access and development funding from CSR of one of Indonesia's largest banks and local governments:

In mid-2014, Pak Sapto, a representative from Bank Central Asia, discussed with the former village head and told the residents that this village should be turned into a tourist village. The community was then formed to manage it. When first founded, we didn't have any facilities because we were really from scratch. Puppet craftsmen have existed for a long time but we don't have the experience to manage tourist villages. However, we were brave at that time to start the promotion. We are also actively building networks with local governments to obtain funding for the construction of homestay facilities and certification to manage tourist villages. (CBE Administrator 1)

Innovativeness is the ability to develop and implement new ideas consistently. New ideas can be inspired by intensive discussions with the elders, customer comments, social media and even meditation, specifically for the development of traditional knowledge-intensive craft products. CBE chairman recognised the need to adopt digital technology to help to promote or brand this cultural village to the wider public:

We develop promotions and branding this village through social media and websites. Finally, our first guests arrived, around 100 people from Yogyakarta State University who wanted to learn

wayang in our Joglo [traditional Javanese house] which was built with the help of Bank Central Asia. (CBE Administrator 1)

Risk-taking is being adventurous despite high uncertainty remains in the environment. The CBE administrators did not have well-prepared facilities at the beginning to develop tourism villages. However, they had a strong passion and continued learning and networking. They termed it *modal nekad* or venturing into the unknown:

We were very happy when the first guest came because we had absolutely no experience. We are just desperate, actually. We were desperate to learn how to handle guests. We then brainstormed with friends on how to prepare everything needed to provide the best travel experience to guests. (CBE Administrator 2)

In addition to the three dimensions of entrepreneurial orientation, this study found a new dimension defined as a high proclivity to preserve traditional *wayang* knowledge. The CBE administrators initiated a shadow puppet show called the Kalajaya performance, about the love story of Gatot Kaca, one of the puppet characters. They trained hard for this performance and involved children from the local elementary school in the village to be the exhibitors. The CBE management's purpose of this initiative was solely to preserve the culture of their ancestors by passing on the traditional knowledge to the next generation:

We organised a wayang show, a combination of shadow and human puppet, which we call eddthe Kalajaya Performance and told the love story of Gatot Kaca. We hope that people who join this community are not just looking for a living. If the orientation is only money, we will disband later. Our vision is to preserve culture. (CBE Administrator 1)

The CBE administrators, through the preservation, learned a lot about the shadow puppet philosophy, which provided much advice on Javanese ethical guidelines in life. Following these guidelines made their lives more harmonious with each other and living environment:

The philosophies of life contained in the shadow puppet characters are very rich and lead to the path of goodness. Javanese proverbs contained in wayang stories can also bring harmony in everyday social life if they are applied. (CBE Administrator 2)

The last additional dimension is the strong desire of the CBE administrators to empower the craftsmen who had not previously joined their movement. This empowerment process is closely related to the spirit of Javanese culture, which prioritises harmony and togetherness. As earlier explained, theoretically, CBE was formed for the pursuit of the common good:

We held a Kalajaya puppet show involving around 60 village youths to become the committee. We also involve the craftsmen by providing space for them to display the results of their shadow puppet crafts, provide wayang education to visitors, and provide various tools that we need. We have a vision to preserve culture and we share our work and mutual cooperation because we are family. (CBE Administrator 1)

This study expands the dimensions of entrepreneurial orientation in the CBE context in addition to two dimensions, preservation and communality. Preservation protects traditional knowledge by initiating various grassroots innovations. Communality is about inclusiveness or empowering the grassroots people as subjects, not objects. This study then terms this "extended entrepreneurial orientation" as a sociopreneurial orientation.

Management of "wayang" traditional knowledge by the Wisata Wayang CBE
Based on our data interpretation, this study develops the balanced scorecard approach proposed by Zaman *et al.* (2011) to explore the knowledge management activities undertaken by the Wisata Wayang CBE. It uses four perspectives, growth, learning and

grassroots innovation, internal process, stakeholders' participation and financial perspective.

Growth, learning and grassroots innovation perspective. The growth and learning perspective promote team building and group activities for shared learning. The CBE administrators went through a hard time trying to convince village youths and artisans to get involved. The administrators also motivated each other and committed to maintaining team solidity:

> There are many challenges that we face in managing this community, including resistance and suspicion from some residents. However, we continue to keep the team solid by ensuring that each manager does not just make a living. Livelihood is important, but not primary. The vision of preserving the shadow puppet is our main goal and we share the burdens or challenges that arise and solve them together. (CBE Administrator 1)

The second part of this perspective is grassroots innovation. The CBE administrators become grassroots innovators by successfully mobilising local youth, artisans and village residents to work together to develop various tourist travelling experiences menus about the shadow puppet. The vision of preserving traditional knowledge is the main goal, not to make profits. These findings are similar to Singh *et al.*'s (2020) insight that grassroots innovation can be generated when social entrepreneurs adopt new learning practices and improve innovation performance without losing their traditional roots. The grassroots innovators also solve local problems by *gotong royong* or working together harmoniously and using available resources (bricolage), such as the traditional knowledge (Baker and Nelson, 2005; Sarkar, 2018), and develop relationships with various partners on the open innovation principle (Chesbrough, 2003). Therefore, the praxis of grassroots innovation should be mainstreamed in Indonesia. This CBE can be one of the best practices because it carries out social innovations to preserve traditional knowledge.

Internal process perspective. This perspective focuses on investigating the mechanisms for gathering, storing and updating knowledge. The Wisata Wayang CBE has forums to share information, a strategy of sharing knowledge through codification (website, social media) and personalisation (*nyantrik* or apprenticeship between old and young artisans and incorporation of shadow puppet making materials in the local elementary school curriculum), using external knowledge with training organised by partners and adopting new technologies such as video conferencing while adapting to the COVID-19 pandemic. One of the village elders, CBE administrator and school principal stated it as follows, respectively:

> Craft groups are usually nyantrik to me because I am the builder of these groups. Apart from making wayang, I often also provide input on their marketing strategies. (Village Elder/Senior Craftsman 2)

> We learn from senior craftsmen about the Javanese philosophies inherent in the shadow puppet. We learned to sculpt and studied wayang characters. We have regular forums discussing various things including making standard operating procedures and budget planning. We also use the website, social media, and YouTube for the introduction and promotion of the shadow puppet. The documents we have developed regarding community management are stored on the computer. (CBE Administrator 2)

> With full support from village elders, we are taking steps to preserve the shadow puppet by including the material for making wayang kulit in our curriculum. The teachers are two senior craftsmen. The children are very enthusiastic, specifically when there were some television journalists broadcasting their learning activities. (Local Primary School Principal)

"Nyantrik is a Javanese" traditional knowledge sharing method. The term *nyantrik* or apprenticeship is sharing knowledge from the senior shadow puppet artists to their descendants or potential students in Javanese culture. This process is a cultural application of the observational learning model described in social learning theory (Bandura, 1977). The observational learning model starts from the process of attention, retention, motor reproduction to motivation. The attention process in *nyantrik* occurs when students concentrate on the way the teacher/parent/community elders inlay the shadow puppet. The attentive process is by observation over a long period. Bandura (1977) outlined that direct attendance is required as a first step. The initial transfer of knowledge occurs in the attention phase carried out repeatedly, intensely and continuously:

> So, the term is nyantrik. So, for example, I want to make puppets, so let's study, learn. That's also if until later you can master it because if it's only for one year or two, you can't do it. I ordered people who want to study to stay here for a long time. (Village Elder/Senior Craftsman 2)

Observation must be followed by memory retention. The learning gained in the first stage has to be retained in memory. The retention process can be by imagination retention and verbal retention. Generally, verbal sentences expressed by the teacher will settle in memory faster than visual objects. However, in the *nyantrik* process, the sculptors must be more intensive in capturing visual memories than verbal sentences. When the observation results have been retained in the memory of the craftsman, the cognitive process will continue and be used as the basis for the creative process at the next stage. The visual dimension aims to reduce the memories of the shape and appearance of each *wayang* character. The verbal dimension guide how each *wayang* character is interpreted in their character and context of the story being played.

Based on the narrative of an elder shadow puppet crafter in a village below, it shows that he still has a memory of the verbal sentences expressed by his parents during the learning process. The visual aspect is important in the *nyantrik* process because the craft produced requires the development of detailed imagination:

> Baladewa is tall like a pole and fat. I have Maospati, the puppet looks old, you know, because if you are a descendant of masters, you can make 3 kinds of puppets. Janoko Pasowanan, then Janoko comes out from Pasewakan, continue Janoko war. So Janoko, who looks like Yudhasmara, during the war, and when she came home, so her face when she made it was different, because this is a young face, a half face, this is an old face, but I will only say this to the best of my knowledge. (Village Elder/Senior Craftsman 1)

The next process is motor reproduction or converting memories into symbolic actions. Observable events and experiences and visual and verbal information are retained as the basis for practicing and training personal skills. The combination of observation, memory and talent can be a competitive advantage for different sculptors. Different experiences determine different skill specifications for each *wayang* crafter in Wukirsari Village:

> I make all the wayang characters, what they want to be like, what they want to draw. The name is a master who is good at crafting, right, I have that kind of descent. (Village Elder/Senior Craftsman 1)

> [. . .] there is a group of Srikandi craftsmen, there is Sembodro, there is Kunthi [. . .] so there are those whose skills are only mahat, there are those whose skills are only what is coloring, there are those whose skills are making raw materials. So later it will be accommodated from those groups. (Village Elder/Senior Craftsman 2)

During the *nyantrik* process, the motor reproduction process is characterised by trial and error. It involves a lot of self-evaluation or input from others. The trial-and-error process is related to various rituals that must be performed before creating certain types of puppets, such as fasting or meditation. This process requires complex motor reproduction skills and cannot be directly imitated by novice craftsmen from their seniors. It must be experienced and studied firsthand, with various consequences that follow. Perfection of the work is not only the only goal but also their inner quality, which unites the quality of their work.

The last process is finding the noble values of life resulting from reflection from years of practical experience. For *wayang* crafters, the cognitive and inner processes become a strong basis for determining their pursued position and expertise and passing on the values of the *wayang* figures to the next generations:

> So if you look at the wayang, it's a piece of advice, sir, for example the Anoman Knight, Werkudara, the Kumbakarna Giant, both great and honest and powerful, but they can be distinguished. It's honest yet monkey, it's honest yet giant, it's honest yet knight. Dasamuka is also a representation of wrath. So, like an heirloom, it asks for wisdom from God. So, don't follow your lust, but the revelation must be guarded by inheritance so you don't get dragged into it with bad people. (Village Elder/Senior Craftsman 1)

Stakeholders perspective. This perspective discusses how a traditional knowledge-intensive enterprise involves internal and external stakeholders in decision-making. The CBE management involves local community leaders and external parties when holding various cultural events or welcoming tourists. They also routinely conduct comparative studies with other successful enterprising communities in Yogyakarta in building tourism villages:

> We learned from the tourist village of Mintasari, which was initiated in 2010. They have great human resources and are easy to work with. We really want to be like them. Then, in managing this tourist village, we involve the residents so that their homes are used as homestays for guests who want to travel. We standardise and all welcome. (CBE Administrator 2)

Financial perspective. The financial perspective aims to explore the financial outcome obtained after the beneficiaries' successful traditional knowledge management process. The Wisata Wayang tourism finally flourished and improved the livelihood for the CBE administrators and the village craftsmen. The income of the village puppet craftsmen decreased drastically because of COVID-19. It led to CBE exploring new sources of income by packaging virtual *wayang* tours:

> We are really happy when we get guests who stay for a few days in this village, namely from Yogyakarta Montessori School. Various other guests also arrived, including from Jakarta and campuses. We have guests also from an international school. However, because of the pandemic, we changed the concept to an online workshop. So, a package of puppet coloring equipment was sent to Jakarta. The tutorial on how to make it is guided through the Zoom application. (CBE Administrator 2)

Sociopreneurial orientation and management of traditional knowledge
In summary, after analysing how the Wisata Wayang CBE management manages traditional knowledge, their sociopreneurial orientation has been proven to initiate grassroots innovation in solving the threat of extinction of puppet masters' generation. Proactiveness, innovativeness, risk-taking, preservation and communality are the key dimensions they have that enable the CBE to have superior performance assessed from the balanced scorecard framework. The CBE administrators were all young, have noble dreams

of preserving the heritage and moved to solve the local problems by carrying out social innovations and achieving the common good for *wayang* artisans:

> I was raised by parents who make a living by wayang, but I don't have any contribution to wayang. I used to chat with the former village elders about joining the community. But with us having this wayang tour, I inevitably have to learn wayang kulit because I have to teach my guests. Finally, now I have memorised the characters and the wayang stories. We love the culture (CBE Administrator 2) (Figure 1).

5. Conclusion, implication, limitation and further study

This study filled the niche gaps as called by some scholars in the knowledge management and entreperenuership literatures, especially for business organisations that promote cultural nuances (Mayasari and Chandra, 2020; Widjojo and Gunawan, 2020). Previous studies discussed social entrepreneurship orientation focusing on large companies (Gali *et al.*, 2020; Kraus *et al.*, 2017) and successfully formulated several aspects, such as social risk-taking, proactiveness, innovation and sociability. However, the other types of enterprise are underresearched. The CBE Wisata Wayang in Yogyakarta, Indonesia is then selected as the case because it has been profoundly implement knowledge management to preserve their unique skill in crafting the shadow puppet as well as growing their business process with the strong sociopreneurial orientation. The performance of this CBE is described by using extended balanced scorecard approach.

Furthermore, this study contributes to contextualise entrepreneurial orientation in the context of CBE. Although this study was limited to one CBE, two additional dimensions are raised, preservation mission and communality. Preservation is a tendency to identify, map and pass on traditional knowledge to the next generation either through personalisation or codification strategies. Communality is a proclivity to always be inclusive and prioritise togetherness or involvement of the grassroots community in developing a business to empower each other together. These two dimensions can be explored further in the future in various CBEs or other business organisations and Singh *et al.*'s (2021) work as a starting point.

In addition, the heart of a business lies on its tacit knowledge that cannot be simply expressed in a written manual book. Derived from the data interpretation, it can be implied
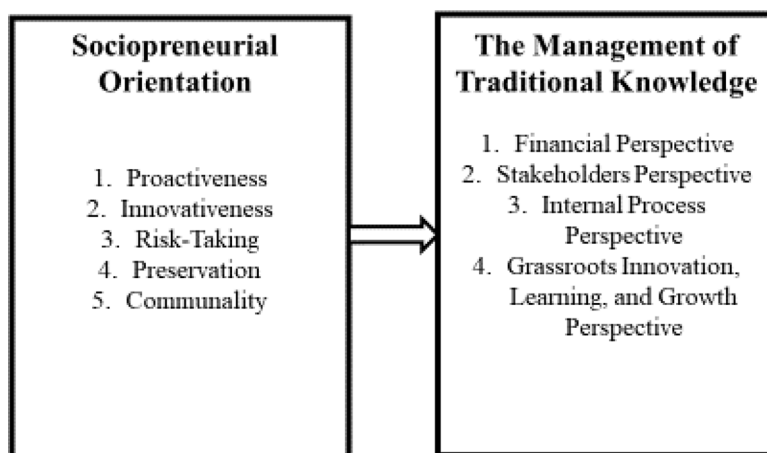

Figure 1.
Conceptual framework at the Wisata Wayang CBE

that *nyantrik* plays as a key role in the development of the CBE Wisata Wayang. *Nyantrik* as an interpersonal knowledge sharing method is unique to this community, but it is possible to be applied in other business organisations, which relies on unique creativity or idiosyncratic knowledge when developing their product (i.e. art and craftsmanship, music, architecture and so on). The spirit of *nyantrik* is tacit knowledge sharing, in which the holder of this type of knowledge provides physical and non-physical learning environment or facilities for free to the students or subordinate who wants to study with him/her. By doing this, the holder of the tacit knowledge can be called as wise man, as he/she accentuates a noble act of selflessness. This is in line with Nonaka and Takeuchi's (2021) insight, which suggested that wise humans should be the centre of life in the future rather than intelligent machines.

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