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# Technosociopreneurship as a productivity—Increasing strategy based on community potential

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**Abstract:** Madura Island, with more than half of its population, are women encountering socio-economic problems, which eventually create high poverty and unemployment rates. However, the Madurese are also well-known for their resiliency and entrepreneurial characteristics. The effort to solve the issues by empowering the community, women in particular, has been taken seriously primarily by entrepreneurs who were born and raised in the community. Therefore, this research aims to gain insight into the current Madurese entrepreneur's business pattern and their social concerns in order to propose a strategy to increase productivity as an effort to empower women's communities. The methodology is qualitative research, which collects data using semi-structured interviews with representatives of the Madurese entrepreneurs in four areas of Madura Island. Their responses are then transcribed and coded for content analysis based on the designed themes. The result shows that they recognise and practise the social entrepreneurship (SE) pattern, although they do not understand the term. Subsequently, the technological application for business operations in general is still limited to the usage of digital technology (DT) for marketing and transaction activities, which helps increase business performance or productivity. Hence, the initiation of technosociopreneurship as a strategy to further develop SE activities with the hope of increasing productivity in empowering women's communities is proposed. Further research development is advised using quantitative methods for generalisable findings.

**Keywords:** technosociopreneurship; women's community; community empowerment; community potential; productivity

## 1. Introduction

As part of East Java province, Indonesia, Madura Island has four areas, namely Bangkalan, Sampang, Pamekasan and Sumenep. The dry and barren geographical environment means that Madurese people cannot grow crops optimally (Habibih et al., 2019). In fact, of the total productive land in Madura, only around 9% can be used for rice fields, while the rest is mainly used for settlements, salting and fishing (Faraby, 2016). That condition is blamed as the cause of poverty and unemployment on the Island (Dharmawan et al., 2017). Madura is recorded as the poorest region in the province. According to BPSP Jatim (2024c), Sampang has the highest poverty rate, which is 21.61%, followed by Bangkalan, Sumenep and Pamekasan, respectively (**Table 1**). Thus, every single region in the Island exceeded East Java's average poverty rate of 10.49% (Mahdi and Sulistiyono, 2023). Meanwhile,

Bangkalan has the highest unemployment rate at 8.05%, while Pamekasan and Sumenep have a similar rate of 1.40% and 1.36% (**Table 1**).

**Table 1.** Unemployment and poverty rate in the Madura Island.

Region	Unemployment rate (%)	Poverty rate (%)
Bangkalan	8.05	19.44
Sampang	3.45	21.61
Pamekasan	1.40	13.93
Sumenep	1.36	18.76

Source: (BPSP Jatim, 2024b, 2024c).

In the meantime, despite the harsh conditions and high poverty rate, Madurese people are associated with hardworking and resilient characteristics (Adi et al., 2020). Some of them like to migrate to other regions in Indonesia, even to other countries such as Malaysia and Saudi Arabia, for better job and business opportunities (Wispondono et al., 2017), and this applies to both Men and Women (Rahayu, 2009). For most of them, business is a chance they should not let go, even with a greater risk (Tandelilin et al., 2021). This entrepreneurial attitude comes with the upbringing that solidifies the business network among Madurese entrepreneurs (Sugito and Kamaludin, 2019). According to the BPSP Jatim (2024a), Madura Island has a little more than 50% women population by the end of 2023. Madurese women have multiple roles as daughters, mothers or wives while helping their parents or husbands to make a living (Sarmini et al., 2018). In other words, they perform socio-economics tasks in their community (Tambrin, 2019).

On the other hand, although the Madurese women play an essential role in their community, they are not free from gender inequality issues, such as less authority in the decision-making process (Supraptiningsih et al., 2023) and demand to compel early marriage and arrange marriage (Roifah and Mufidah, 2022). Therefore, from those two sides of the coin realities, this research focuses on women's community empowerment (CEM). The burden of empowering the marginalised women's community is not limited to women but to everyone who is concerned and has resources, such as government agencies, non-profit organisations, and entrepreneurs (Jabbouri et al., 2024). Hence, attention and systematic attempts to enable women's potential are required to improve their productivity and well-being in this industrial revolution 4.0 era where technology is inseparable from human life (Ivaldi et al., 2021).

Subsequently, social entrepreneurship (SE) is recognised as an effective unconventional method for reducing poverty and unemployment because it involves empowerment and knowledge transfer as an effort to create tangible benefits that should be concerned and supported by all parties (Haryono et al., 2021; Jabbouri et al., 2024). Meanwhile, technopreneurship (TPS) is a dependable source of sustainable competitive advantage (Soomro and Shah, 2021). TPS is widely acknowledged that it can provide a broad range of advantages, embraces the ability to produce income, reduce poverty and create chances for employment (Maziriri et al., 2024). Technopreneurs are not always technological inventors; however, those with creativity who develop ideas to improve the business process involving

technology can also be categorised as one (Luthra, 2019). Thus, the term technosociopreneurship is justified as a sociopreneurship pattern that utilises technology to create social innovation and solve societal problems such as poverty and unemployment.

The relationship between TPS and business performance is spotlighted in contemporary economic ecosystems (Olusegun et al., 2019). Several prior studies argue that productivity is assessing broader issues of business performance composed of financial and non-financial factors involving most of any competition purpose and manufacturing superiority that can be related to expenses, versatility, pace, reliability and quality (Han et al., 2012; Prakash et al., 2017). To this date, the attempts to help disadvantaged women's communities are mostly unsystematic and traditional (Masduki, 2024; Solehen, 2024). That is because they need more references for innovative SE. Besides, Madura Island is considered at the early stage of gaining the advantage of technological advancement in the business process (Surokim and Gunawan, 2017).

Therefore, developing a technosociopreneurship culture appears as a holistic strategy to increase the productivity within women's community based on their potential despite being marginalised and facing gender inequality issues. Hence, this research aims to gain insight into the current Madurese entrepreneur's business pattern and their social concerns in order to propose a strategy to increase productivity as an effort to empower women's communities, which eventually helps in poverty alleviation and unemployment rate reduction. Thus, this study engages the related parties, which are Madurese SME entrepreneurs, social activists, cooperatives management, and the local government social affairs officers, to participate in in-depth interviews to extract their experience-based knowledge in SE, technological business applications, and women's empowerment. That way, this research contributes significantly to the literature since prior studies on technosociopreneurship are limited. Besides, it provides an early insight for all related parties in formulating the strategy and policy to solve the socio-economic problems in Madura Island. Finally, the present study provides a foundation for further research using quantitative methods involving much larger participants to make the results sufficient to be generalised.

## **2. Review of theory**

### **2.1. Community empowerment**

In general, empowerment is defined as a design plan to transform an individual or community from marginalised conditions to having the power to help themselves (Malta, 2023). Empowerment demands participation to reach the development goals (Purworini et al., 2023). CEM commonly entails a double method of empowerment that composes the development of skills, confidence and capability to communities and community engagement, which is the process of creating empowerment opportunities involving related parties with resources (Adamson and Bromiley, 2013). CEM raises the affinity between the development agenda and domestic reality (Drasopolino et al., 2023). From a technological perspective, digital technology

influences direct and indirect community empowerment (Banerjee et al., 2022). Hence, CEM can be understood as a strategy and process to improve the disadvantaged conditions of a community.

The results of community empowerment can be felt by the target community in three aspects, namely: 1) The existence of a development process that is felt by the community; 2) Increased self-confidence, management abilities, and sense of being beneficial to society; and 3) There has been an increase in the social structure of society which is characterised by increasingly strong community bargaining power in the economic, social, cultural and political fields (Parsons et al., 1994). Subsequently, CEM can be obtained when the community members demonstrate social leadership, perceived self-reliance, political participation, collective institutional identity and gaining revenue (Ahmad and Talib, 2014; Lapuz, 2023). Therefore, CEM would lower the inequality gap and increase the welfare of communities, specifically those distressed by continuing inequity (SSG, 2019).

## **2.2. Community potential**

A community is a collection of individuals who interact for three reasons: being in the same geographical area, having the same interests and activities, and needing each other to fulfil functional needs (Betezz & Hytten, 2013; Capece and Costa, 2013). From the study of Cobigo et al. (2016) regarding the apprehending of community, it can be concluded that the concept of community has at least four constituent components: people, place, social interaction, and psychological identification. As part of a community, humans carry out every activity and set goals the community wants to achieve (Neal et al., 2019, p.72). Capece and Costa (2013) further explain that each community is formed by designating a specific place as the community environment, and location factors can also refer to the similarity of origin or place of residence of individuals in society (Cobigo et al., 2016). However, Theodori (2005) has differentiated communities into territorial-based and territorial-free communities, which are relevant to today's digital era in which internet-based communities are everywhere (Cobigo et al., 2016). Thus, community can be seen as an activity or communal existence as an action (Studdert and Walkerdine, 2016).

Community is a psychological language that rationalises people to be caring and sensible for each other (Traill, 2021). In the idea of empowerment, the community is not just an object to be developed but an actor in the key to successful development plan implementation (Nugraha et al., 2019). Therefore, an effort to empower the community's potential usually relies on their cultural values, such as their common characteristics and local wisdom (Rachman et al., 2022), merged with other available resources in the area, such as natural resources (Badaruddin et al., 2022). Hence, developing a local potential that becomes the empowerment aspect is related to social, cultural and economic issues in the community environment (Rachman et al., 2022). In this study, the local potential of the Madurese women is that they are hardworking and resilient (Adi et al., 2020), and they used to play multiple roles to earn a living for their families (Sarmini et al., 2018).

### **2.3. Productivity**

The term “productivity” has several viewpoints. Basically, productivity can be understood as how much a unit of input can produce output (Hanushek and Ettema, 2017). Several researchers argue that productivity is a result of person-hour head counts in the organisation (Hanley, 2014), and some define it further as both quality and quantity outcomes (Lekan et al., 2013). From a financial perspective, productivity is a reflection of financial performance related to profitability, growth, return on investment and other ratio indicators (Prakash et al., 2017). Constantly, productivity refers to the balance between the effectiveness and efficiency of the operation (Karlaftis, 2004). Productivity is perceived to be a useful, pertinent and effective measure of productive efficiency with the analogy that firms with higher productivity waste less time, effort, energy and materials than firms with lower productivity (Webber et al., 2018). Overall, productivity can be defined as the optimum utilisation of resources and effectiveness in achieving goals, objectives and performance levels (Heutel, 2012).

In general, productivity covers every aspect related to outcomes that are concerned by organisations, which makes it a multidimensional term (Prakash et al., 2017). Organisations determine to improve their productivity and business performance. Moreover, productivity should include the measurement of employee satisfaction, loyalty and customer satisfaction (Abraham, 2012). Based on the above terms, prior researchers argue that productivity is assessing broader issues of business performance composed of financial and non-financial factors involving most of any competition purpose and manufacturing superiority that can be related to expenses, versatility, pace, reliability and quality (Han et al., 2012; Prakash et al., 2017). Therefore, productivity must be measured because it is related to strategic, tactical, and planning purposes (Yadav and Marwah, 2015). This study is not designed to measure the productivity of business entities belonging to Madurese entrepreneurs’ communities. It is more to understand and suggest a pattern that might increase the productivity of women’s empowerment as a program to alleviate poverty and reduce the unemployment rate.

### **2.4. Gender equality concept**

According to the Unicef Regional Office for South Asia (UNROSA) glossary terms and concepts regarding gender equality, gender is defined as “a social and cultural construct, which distinguishes differences in the attributes of men and women, girls and boys, and accordingly refers to the roles and responsibilities of men and women” (UNROSA, 2017, p. 2). Therefore, gender-based roles and other attributes change over time and vary with different cultural contexts (Septiadi and Wigna, 2015). Gender has several essential elements, such as identity, legal and social distinction, and physiology, that predict behaviour according to expression and gender norms (Lindqvist et al., 2021). Gender norms can be defined as “Accepted attributes and characteristics of male and female gendered identity at a particular point in time for a specific society or community. They are the standards and expectations to which gender identity generally conforms, within a range that defines

a particular society, culture and community at that point in time” (UNROSA, 2017, p.4).

Subsequently, gender equality is “the concept that women and men, girls and boys have equal conditions, treatment and opportunities for realizing their full potential, human rights and dignity, and for contributing to (and benefitting from) economic, social, cultural and political development. Gender equality is, therefore, the equal valuing by society of the similarities and the differences of men and women, and the roles they play” (UNROSA, 2017, p.3). In the conception of gender equality, the different roles between men and women are not supposed to mean that one is superior since they share complementary roles (Probosiwi, 2015). Moreover, mainstreaming of gender equality, commonly known as gender mainstreaming, refers to a series of strategies to integrate gender perspectives in the development of institutions, policies and work programs, eventually leading to the concept of women empowerment (Siscawati et al., 2020). Although Madurese women play an essential role in the community, they are not free from gender inequality issues, such as less authority in the decision-making process (Supraptiningsih et al., 2023) and demand for compelling early marriage and arranged marriage (Roifah and Mufidah, 2022).

## **2.5. Technosociopreneurship**

SE is a subset in the entrepreneurship fields. Sociopreneurship is systematic social innovation activities that may take place in nonprofit organisations, commercial business entities, and government institutions (Permatasari et al., 2020). In recent years, governments worldwide scrutinised and taken into account the impact of SE on social and economic development (Gandhi and Raina, 2018). SE is a growing field in which individuals with a desire and aspiration to engage in serving society activities aiming for social advancement rather than profit-oriented (Amaliyah et al., 2024; Hassan, 2020). SE create a chance for innovative and implementable solutions to solve critical societal problems (Zaremohzzabieh et al., 2018). Subsequently, sociopreneurs can be defined as individuals who persistently strive for opportunities to improve well-being and create sustainable solutions to financial, organisational, environmental and societal problems faced by their communities (Sidek and Arrasyid, 2022; Zaremohzzabieh et al., 2018).

Meanwhile, technopreneurship (TPS) is a dependable source of sustainable competitive advantage (Soomro and Shah, 2021). TPS is widely acknowledged that it can provide a broad range of advantages, embraces the ability to produce income, reduce poverty and create chances for employment (Maziriri et al., 2024; Nikraftar et al., 2022). Although technopreneurs develop their businesses by emphasising technology as the basis of their business (Sumarno et al., 2017), they are not always technological inventors; those with creativity who develop ideas to improve the business process involving technology can also be categorised as one (Luthra, 2019). Based on the above conception of SE and TPS, the term technosociopreneurship (TSP) is justified as a sociopreneurship pattern that utilises technology to create social innovation and solve societal problems (Amaliyah et al., 2020) such as poverty and unemployment. Therefore, technosociopreneurs must be versatile in obtaining a variety of sets of expertise in an attempt to increase their capacity to

achieve their objectives. This study aims to gain insight into the possibility of introducing TSP as a strategic solution for incremental productivity in the Madurese entrepreneur's community since they are traditionally engaged in social activities and community empowerment.

### **3. Research methods**

A broad range of methods and procedures are utilised to investigate people's beliefs, feelings and experiences by implementing a qualitative research design that accentuates the linguistic data to pinpoint related issues from research participants' perspectives on specific topics (Alamri, 2019). Thus, the investigators should be able to understand the interpretation and substance of the respondents' responses regarding the research object (Bowling, 2014). Qualitative research helps attain open-ended information (Silverman, 2016). The data collection procedure in this method can be through qualitative interviews, observation, documents, and audiovisual and digital material (Creswell and Creswell, 2018).

The interview data collection technique is structured, semi-structured and unstructured (Alamri, 2019). In the structured interview, the interviewer uses the exact same questions for all participants, while the semi-structured allows the researcher to be more flexible in adding or deleting any elements from the arranged questions (Bryman and Bell, 2019). The interviewer usually has a composition of issues to be questioned in the semi-structured interview (Ruslin et al., 2022). Rubin and Rubin (2012) explain that a proper interview considers the balance between the key questions, follow-up and probes (Roberts, 2020). Thus, the present study applied a qualitative approach in which the first-hand data were collected through semi-structured interviews following the interview protocols (Creswell and Creswell, 2018). The verbatim audio recording is used to secure the data, which is later transcribed into text form. Subsequently, the content analysis technique is applied to interpret the data through a systematic process of coding categorisation and identifying patterns or themes (Hsieh and Shanon, 2005; Shava et al., 2021) based on the respondent's experience.

Informants in this research were selected using a purposive technique, namely selecting respondents based on appropriate characteristics judged by the investigators to fulfil the research objectives (Zikmund et al., 2012). In this study, the participants were selected based on their knowledge and experience in business or social business activities, women's communities, empowerment, and technological usage in business operations. It is understood that women's empowerment is not just a woman's job; the responsibility goes to all parties with the ability or resources (Jabbouri et al., 2024). Therefore, this research selected the following respondents: 1) Madurese SME entrepreneurs, 2) social activists, 3) cooperatives management, and 4) the local government social affairs officers to answer the semi-structured questions. The interview was done by a person to personal and face-to-face approach in each respondent's place in the Bangkalan, Sampang, Pamekasan and Sumenep regions of Madura Island.

## **4. Results analysis and discussion**

Following the qualitative interview protocols and procedures explained by Creswell and Creswell (2018), 11 respondents were interviewed. Seven are entrepreneurs, six are women, two are local government officers for social affairs, and two are social activists concerning women empowerment. Of seven entrepreneurs, four are in the food business, such as catering, snacks, and pastries, one is crafting souvenirs and flowers, one is in batik production, and one owns a third-star hotel and steel welding company. They have consented and permitted recorded interviews, which will be published for research purposes. They have provided full names, contact details and other demographic information. However, for their privacy, this research will only use their front name when presenting the information.

The question was designed to extract information regarding the current business pattern among Madurese entrepreneurs, their concern about societal problems and women empowerment in their community, what they have done to answer that matter, and the utilisation of technology in their business operations. Therefore, the themes for data analysis will follow. Subsequently, the data are coded according to the themes. The responses from the entrepreneurs are treated as primary sources of information, while those from local government officers and social activists are regarded as checks and balances. This technique is adopted to minimise bias.

### **4.1. Theme 1: Understanding the business patterns.**

The very first questions for them regarding their understanding of the terms entrepreneurship/entrepreneurs (EPS), social entrepreneurship/sociopreneurs (SE), technopreneurship/technopreneurs (TPS) and technosociopreneurship/technosociopreneurs (TSP). The questions were asked one by one following the above order. The responses are divided into two. The first response came from the entrepreneur's community. All seven of them understand the meaning of EPS, but they do not understand the other terms, as explained by Agus, male, 57 years old, the owner of a third-star hotel and steel welding company in Pamekasan Madura:

“An entrepreneur is a business person like me, and entrepreneurship is my personality such as, I don't prefer to work for other people, I feel like creating one.”

“No... sister, I just heard about sociopreneurship right now.”

“And the same with technopreneur, but I guess it might be something related to technology.”

“More over this one, technosociopreneurs, never heard of it, I'm sorry.”

The second response came from the government officers and social activists. They are apprehended the concept of EPS, SE, and TPS while they do not understand the term TSP, as shown in the responses from Rahmad, male, 44 years old, the officer from Pamekasan:

“Entrepreneurs refer to the business person who are looking for profit.”

“Social entrepreneurs refer to business person who are aiming for helping and developing their neighborhood while making profit.”



“Technopreneurs refer to someone who are advance in technology and implemented in their business to make profit.”

“I don’t know what technosociopreneur is mam, this is the first time I heard it.”

Similar responses are given by Umi, female, 59 years old, social activist concerning MSME and women empowerment from Bangkalan.

“Entrepreneurship is a characteristic belong to business person whose seek for the opportunity to make money.”

“Social entrepreneurship is more concern on fixing the social economic condition in the community by involving them in the business process.”

“Technopreneurs are entrepreneurs whose using technology in their business operation.”

“No... no, I don’t know it. I think this is my first time hearing it. Will you tell me?”

The six other entrepreneurs share a similar response to Agus. Therefore, the interviewer needs to explain the meaning of SE, TPS and TSP to them in the simplest way possible such as SE is like running a business to help people around you by involving them in the way you are making a profit that perhaps you might get less of a profit. However, you feel grateful because you are helping your community. There goes the same for other terms. Hence, from those three respondents’ criteria, it can be concluded that they do not know the word technosociopreneurship, which the researcher explained to them as the combination of sociopreneurship and technopreneurship. Of course, explaining to the entrepreneurs took more time.

The next questions for the entrepreneurs are regarding their business type and how they operate it. The interviewer asks them to be relaxed and tell a story about their business rather than just providing normative responses. These questions are designed to extract information for the researcher to identify the business pattern on this Island. From their responses and how they express themselves, the patterns are then categorised, which is explained after the interview snippet is presented below. Starting with Fadilla, female 65 years old, the owner of hand-writing Batik Madura production in Bangkalan:

“I’ve been in this business for more than 20 years and I’ve started trading since in the university back in 1977. Traditionally, many villagers in Madura are well verse in creating batik such as in Kotabumi, Bangkalan or in Candi Burung village, Pamekasan. However, if they are not trained on how to design and produce good quality batik they will stuck and cannot sustain their business. So, although I have my own production which employ the villagers, I have even more mutual partnership with the villagers who choose to produce batik at their houses either with my design or theirs. I train them and mentoring them to a certain quality level because our customers are not just the locals. I can say that without them my business is nothing. In the other way, they also need me.”

Meanwhile, Lailatul, female 33 years old, the owner of a food business (catering, cookies, chips) from Sampang, shares her business story as follows:

“I started this business since I study in the university to help my economy and mostly because I feel sad to see women in my neighborhood whose unfortunate, either they are house-wives or teenagers whose not able to continue their study. Besides, I also feel sad to see the banana farmers that having a hard-time

because the banana price is so low. So, I embrace them. I start employing them and partners with them in producing banana chips initially before my business develop to a catering company and producing other snacks and cookies.”

Another female, Fitriya, 27 years old, the owner of souvenirs, hampers, flowers and ready-to-serve meals from Sumenep, explains her business as follows:

“This business is actually my side job, but I’m doing it seriously with hope that this business will grow. I’m running this business from my house. Since this still considers as a micro business, I cannot engage many people in my community yet but I do employ them to help me. And since I’m a women, I do care about other women, mostly those in needs.”

The only male in this group, Agus, 57 years old from Pamekasan, tells about his business history as follows:

“I’m graduated from vocational high-school in machine construction major. I work as an employee for a while but then I quit and decided to open my own steel welding workshop at that time. I never thought that the small workshop will get this big so I can purchase more land and properties. Hence, in mid 2017 I open this third-star hotel because I believe that I can employ more people in the community. Steel welding is male domination while hotel is naturally needs both men and women, so I can help more people to get jobs. This hotel is a shariah hotel, that’s why I build Mosque in it, and this hotel usually fully booked.”

Different from the others, Anis, a 52-year-old female from Sampang, was the local government officer for social affairs before opening her bakery and cookies shop and is currently active in social activities for women’s empowerment. Thus, within herself lie three characters of respondents.

“I started this bakery and cookies shop around 15 years ago. Now it has legality and patten for the brand. Prior to that, I was a government officer for social affairs for 8 years also in Sampang. Besides running my own shop, I initiate and leading a community for women who want to open the culinary business. We held a routine training for product creation, management, and legalisation.”

The next one is Yolanda, a 23-year-old female from Pamekasan. She is a recent university graduate who prefers to open a business rather than become an employee.

“I just started this business around six months ago, so this is freshly established. I prefer culinary business because I love to cook. So, I open two stalls at once, Korean street food and Madurese food. It’s kind of heavy for novice entrepreneurs but I’m still young so I’m up to that challenge. I don’t think I have contributed so much for the community especially women but I’m eager to do it because I was born and raised here, so yes, I can feel them.”

The last one is Nia from Sumenep. She is 47 years old and owns a catering business.

“I’ve started this business around 5 years ago because I see that government offices, universities, companies are regular customers for catering. Cooking is something that I know and I can use the help from my neighbors to fulfill the orders”.

Hearing their response firsthand changed the researcher’s early prejudice regarding their knowledge, specifically about SE, because in the initial question, they

clearly stated that they had never heard the term, so they did not understand. However, the story from Fadilla on how her batik production business operates and how she empowers her community shows a full implementation of SE where individuals with entrepreneurial skills are eager to lead the serving society by creating innovation to solve the societal problem rather than just pursuing profit (Arrasyid et al., 2024; Hassan, 2020). Similarly, Lailatul from Sampang has partially applied the principle of SE because her business intention is driven by her empathy towards the community that suffers from social difficulties (Usman et al., 2021).

Therefore, they actually understand the meaning of sociopreneurship because they have practised it but are not just familiar with the term. Based on the above information, it can be defined that the Madurese entrepreneur's business patterns are mostly commercial entrepreneurship which focus on generating profit, although the motive behind their business course can be derived from social concern. However, they also recognise the SE pattern as implemented by Fadilla or in the form of cooperatives. This justification is strengthened by a statement from Syaiful, a male 40 years old, a government officer and Alwiyah, a female 50 years old social activist. Both of them are from Sumenep and share a similar response as below:

“We have been practising SE since a long time ago in the form of cooperative and in some of batik production business. But of course, if you ask what is SE to the entrepreneurs probably, they don't understand because it's an alien term for them. I'm not saying that they are not educated, some of them even graduated Master degree. It just a term that they are not familiar with.”

## **4.2. Theme 2: Concern for societal problems and women's empowerment**

A series of questions for this particular theme is designed to extract information regarding the social solicitude of Madurese entrepreneurs for their community, specifically women. Researchers were trying to find out whether these business people are able to identify the occurrence of societal problems around them and what is their views and attitudes as a response to those issues. As a result, all of them solidly recognised the problems faced by their community, which are poverty, unemployment, and insufficient job opportunities on the Island, which aligns with the previous studies concerning the socio-economics of Madura (Dharmawan et al., 2017; Mahdi and Sulistiyono, 2023). However, there was disapproval when the interviewer was trying to confirm whether they acknowledge that gender inequality is also a problem as brought up by prior research (Roifah and Mufidah, 2022; Supraptiningsih et al., 2023). Based on their response, it cannot be concluded that gender inequality is a problem. Below are the snippets of the interview:

“I'm very sad to see women condition in my neighborhood, they are poor and you don't have enough job field here unless you make one. That's why my employees are all women. What? Gender inequality? Well in depends on how you see it. The way I see that men and women have they own role to play, and we are more complementary with our men rather than competing with them. I don't say that there's no woman mistreated here, but in general I don't think gender is an issue.” (Lailatul, Sampang).

“I was poor, my family too, that’s why I took vocational high school so I can get a job right afterwards, and I did. Of course, you’d like to make profit, a lot of profit when you are doing business. But it’s not all that, we’ll be dead sister forsure, and we’ll carry nothing. So why don’t we help someone as much as we can cause we’ll carry the rewards to the afterlife. My business is not just employing women but I do understand their problems. I only employ people from this Pamekasan region cause people here need jobs and there are not enough for everyone at the moment. Gender inequality? what do you mean? Madurese women are free to go to school, work, owning properties, or sharing oppinions. Some women even speak lauder when sharing their thought ha..ha..ha.. Unless you are saying that obeying their parents or husband as a restrain” (Agus, Pamekasan).

“Not all my employees are women, I hire man too. My concern for my community is cross gender, I guess. I don’t like to see them unemploy, I don’t like to see them poor. It’s bother me. I’m a woman and I can do all of this, so do you think that I’m experiencing gender inequality? Of course, as a woman I have to know my position as a wife, I don’t want to overstep my husband authority in the family, and he has been very supportive to me. Is that your definition about gender inequality?” (Fadila, Bangkalan).

In the next sequence, the researcher intends to confirm the potential of the women community as suggested by prior studies that they are resilient, hardworking and do not like to sit tight and wait for things to happen (Adi et al., 2020). All of the respondents agreed with the statements; they added that sometimes Madurese women can be stubborn, too. They say that unlike in another region of Indonesia where working women’s culture is influenced by Western customs, while in Madura, women working outside their house is just usual from a long time ago. This information is aligned with previous research saying that women in Madura have multiple roles as wives or daughter while helping their family to earn some living (Sarmini et al., 2018; Tambrin, 2019). The below responses describe the above explanation.

“I don’t want to sound cocky mam, but Madurese women are though hehehe. Working to help the family is just normal for us. This is one reason why I’m excited to initiate and lead this community if they want to learn to have a culinary business” (Anis, Sampang).

“We just like to work, that’s in our blood. We are loud as well. ... sorry but it is what it is” (Nia, Sumenep).

“My mother is a tough one, my grandmother too ... and I’d like to think that I’m but I don’t really know yet mam, I’m still very young” (Yolanda, Pamekasan).

“What’s the English word for someone who can endure a lot of pain in a long time? ... resilience, is it? .... yes resilience, that’s what our women are. It’s a culture that formed by harsh condition in our place here. Sometimes, you know ... eee they could be stubborn too, but this is from a Man perspective hehe ... You can look around and what do you see?” (Rahmad, Pamekasan).

Subsequently, based on the socio-economic problems and the community potential, the interviewees were asked about the effort they have made or will make to solve the issues and empower the women’s community. They were also asked

which other parties they expect to support their actions and what kind of support they need most. Firstly, the responses are rather similar, basically, their business reflects their action to help their community by empowering their potential. As explained earlier that, their business motive is not only pursuing profit because they also have high social concern for their surroundings. Secondly, the government is the party that they are expected the most to facilitate their course in the form of supportive and applicable strategy, policy and regulation.

“I told you earlier that I was pushed by economic situation in my family and my neighborhood too, the women, the banana farmers, so I build this business to help myself and them. I don’t know if I could do some more, I would if I could but for now this is what I can do” (Lailatul, Sampang).

“I think I’ve explained my business motive in the earlier questions right. Well, I personally don’t like to rely on someone but of course it would be great if we get more support from the authority since they have the resources to do so. Please understand that I’m not saying that they haven’t but you know it could be more optimise” (Fadila, Bangkalan).

“I’ve been a social activist for long time, I work with the women community, entrepreneurs and government. I can say that this Island is built by the entrepreneurs. I’m trying to connect all parties for the beneficial of the society here. The biggest support from the government is when they built the Suramadu bridge so we are no longer isolated. It’s the most strategic infrastructure, it’s a breakthrough that benefits us the most” (Umi, Bangkalan).

“As the government representative, I don’t want to say that we’ve done a lot or we’ve done so much because the statistic won’t lie. The fact that we are still the poorest region in East Java with the highest unemployment rate proofing that we have not done enough. As you can see that we are trying to build better infrastructure such as more, bigger and better road for more accessibility so the economic could grow even faster. Digital infrastructure also good here, we can access internet properly. Again, there are so much need to be improved in our strategic, regulation perhaps, etc to build a better and prosper community as a whole, not only women” (Syaiful, Sumenep).

The above statements from Madurese entrepreneurs support the argument from prior studies, which explain that, in general, Madurese people have a profound social concern for their own kind (Masduki, 2024; Solehen, 2024). These businesspeople have put their best effort in the way they know to help solve their community’s problems and empower them using an entrepreneurial approach. Some of them have implemented the SE pattern in their business operation to provide a fundamental basis for further development of SE because it is proven to be an alternative solution for poverty alleviation and community empowerment (Haryono et al., 2021; Jabbouri et al., 2024). SE will only be performed by those who have empathy and moral obligation towards their surroundings (Hockerts, 2017; Tiwari et al., 2020) and possess self-confidence that they could do something to help (Chandra et al., 2020).

### **4.3. Theme 3: Utilisation of technology in business operations**

Several questions are prepared as a sequence to gain insight regarding the extent of technological usage by the Madurese entrepreneurs in their business operations. From the responses, it can be concluded that the Island businesses are still early adopters of technological implementation. Mr. Agus from Pamekasan is the only businessman who has applied technology for all of his business activities, such as production, administration, marketing, and human resources (Ali et al., 2023; Fayomi et al., 2019). All departments in his hotel are connected to a digital network, which allows them to communicate with each other for more efficient workflow (Mariam et al., 2023). His steel welding company uses proper production machines matching the market size and production capacity. He understands the significance of using and updating technology in business (Mariam et al., 2023), as expressed in his concern below.

“Both of my businesses require us to use technology, we have no choice. We make doors, windows, furnitures from steel, we need a proper machine for that but we can’t use the advance one like robotic or fully automated as they might be too expensive for our market. And for this hotel, we have equipped with digital network that link all divisions. We also use digital technology for marketing and promotion. I’m a dinosaur but I understand that we must stay update with the technological development. So, I give the order to my employees which dominated by youngsters to follow the update and explain to me the benefits or the deficiency” (Agus, Pamekasan).

Meanwhile, Fadila’s business is a considerable size, but naturally, the products are produced by hand and involve many villagers, which is understandable. However, the management system still does not involve advanced technological applications such as finance and accounting, which still use spreadsheets and manual ledgers. The other respondents who have culinary businesses actively utilise social media applications such as WhatsApp, TikTok, Instagram, and Facebook for their marketing, promotion, and selling (Balta and Papadopoulos, 2023; Venciute et al., 2023). They also use mobile banking applications for payment with a QR-code system (Nandru et al., 2023). Therefore, it can be said that Madurese entrepreneurs have embraced digital technology (DT) for limited use in their business operation (Ratten, 2018; Ribeiro-Navarrete et al., 2023). It is easy to understand because not many entrepreneurs on the Island have the operational complexity and size of the business that Agus does. Thus, they utilise technology that they can afford but has a significant impact on their business performance or productivity, which is DT (Quansah, 2023).

“Not yet mam ... not yet hehehe. Well, it’s a handwriting Batik, of course we are using hand when making them. My daughter help me in the accounting and stock opname and we are still doing it in traditional way, you know writing in the big book and excell. We are not using social media that much for promotion, because we have captive market. Of course, I use whatsapp to take orders. I’m old mam hehehe, I’m not really concern about technology” (Fadila, Bangkalan).

“All manually cooked and baked using conventional gas stove and oven mam hehe ... We use whatsapp to take orders, tik-tok, instagram and facebook for promotion. I assign an admin to run our social media account because I can't handle it myself. Customer can pay using QR-code too” (Lailatul, Sampang).

“The social media is really helping us in marketing and promotion which at the end increases our sales. But we need to expand our market to grow bigger which I'm not ready for it” (Anis, Sampang).

“I don't think so, if you expected like computer network interoperability, advance management information system and honestly, I can't really tell you when we will get there considering most businesses here are micro and small sizes. But for utilisation of social media and mobile banking is there already. Of course, a lot things still need to be improved” (Rachmad, Pamekasan).

“Yes ... most of them understand how to use social media for promotion but I believe we still need education for more comprehensive digital marketing” (Umi, Bangkalan).

## **5. Implication and research limitation**

From the information gained through interviews and content analysis, it can be summarised that Madurese entrepreneurs understand the pattern of SE, although they do not understand the term. SE has been applied in the form of cooperative and Batik Production. Secondly, despite the business pattern dominated by commercial entrepreneurship, business people in Madura have a profound social concern and have made serious efforts to empower their community, especially women. Thirdly, the application of technology for business activities is still in the early stages. Most Madurese entrepreneurs do not use technology in their management systems, such as production, finance, and human resources. Having said that, they are active users of DT for marketing purposes and transactions by utilising social media and mobile banking applications. Some of them admit that utilising DT increases their productivity in terms of sales and marketing. As suggested by Quansah (2023), DT implementation is helpful in solving societal problems such as poverty and unemployment. Because in today's era, DT is affordable and user-friendly thanks to the advancement of smartphone technology (Nandru et al., 2023).

Therefore, it can be concluded that Madurese is ready for further development and implementation of SE since they have the capacity to perform. Besides, they are not reluctant to use technology, although it is still limited to DT and for limited use in business activities. Of course, it is still not enough to fulfil the TSP technological aspect (Amaliyah et al., 2020), but it is not harmful to introduce the technosociopreneurship pattern for more productive SE and women empowerment activities on the Island. From previous studies, both SE and TPS are proven to be a valuable method for empowerment, reducing poverty and increasing productivity (Haryono et al., 2021; Jabbouri et al., 2024; Olusegun et al., 2019). The local government should be actively involved in the process since they have the authority and resources to support the course to expand the potential of the community, women in particular. Social activists have their own role to educate the community and connect them to any party with the resources to support the common goals of

poverty alleviation and reducing the unemployment rate in Madura. Hence, this research contributes significantly to the literature and provides early empirical insight for managers.

Although selecting respondents represents Madura Island's business conditions and activities, this research was not designed to generalise the result (Creswell and Creswell, 2018). Therefore, further research using the quantitative methods with a rigorous conception of research variables and hypotheses development equipped with appropriate measurement items that involve many Madurese entrepreneurs as participants is required. Thus, the findings will be generalisable (Creswell and Creswell, 2018), which will eventually provide better empirical evidence for strategic recommendation as a contribution to the effort of related parties in empowering women's communities to reduce the poverty and unemployment rate on the Island.

## **6. Conclusion**

From the qualitative interview and content analysis, it can be concluded that the Madurese entrepreneurs have a deep social concern and have tried their best to empower their community, women, more specifically. They will continue to do so as their business grows. Their business pattern is mixed between social entrepreneurship and commercial entrepreneurship. Some have adopted a mutual partnership relationship with their community in terms of production and operation in order for them to generate profit, such as in Batik production and cooperatives. Some others empower their communities as employees, such as hotels, steel welding companies and food business categories. Hence, they can be categorised as business persons who understand the SE patterns, which have the potential for further development in social business innovation.

As for the technological application in business operations, most Madurese entrepreneurs only use DT in the form of social media and mobile banking for marketing and transaction purposes. This condition can be understood because most businesses on the Island are micro and small sizes. Only those who have higher business complexity, such as hotels and steel welding, apply technology in other business areas, such as production, finance, and human resources. They admitted that the usage of technology, even for limited ones, is increasing their business performance or production. Therefore, although Madura Island is still in the early stages of implementing technology for business purposes, introducing the technosociopreneurship pattern as a strategy to increase productivity and empower women's communities is worth serious attention.

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## References

- Abraham, S. (2012). Development of employee engagement programme on the basis of employee satisfaction survey. *Journal of Economic Development, Management, IT, Finance and Marketing*, 4(1), 27–37.
- Adamson, D., & Bromiley, R. (2013). Community empowerment: learning from practice in community regeneration. *International Journal of Public Sector Management*, 26(3), 190–202. <https://doi.org/10.1108/ijpsm-08-2011-0105>
- Adi, K. R., Idris., & Rosyida, F. (2020). Internalisasi nilai-nilai kewirausahaan Etnis Madura. *Jurnal Teori dan Praksis Pembelajaran IPS*, 5(1), 1–9. <http://dx.doi.org/10.17977/um022v5i12020p001>
- Ahmad, M. S., & Abu Talib, N. Bt. (2014). Empowering local communities: decentralization, empowerment and community driven development. *Quality & Quantity*, 49(2), 827–838. <https://doi.org/10.1007/s11135-014-0025-8>
- Alamri, W. A. (2019). Effectiveness of Qualitative Research Methods: Interviews and Diaries. *International Journal of English and Cultural Studies*, 2(1), 65. <https://doi.org/10.11114/ijecs.v2i1.4302>
- Ali, O., Krsteska, K., Said, D., et al. (2023). Advanced technologies enabled human resources functions: Benefits, challenges, and functionalities: A systematic review. *Cogent Business & Management*, 10(2). <https://doi.org/10.1080/23311975.2023.2216430>
- Arrasyid, M. I., Amaliyah., Bastaman, A., & Kanto, D. S. (2020). Techonososiopreneur: Development Strategy of Halal Travel Agency (Using VCIT Model). *International Journal of Supply Chain Management*, 9(2). <https://doi.org/10.59160/ijscm.v9i2.3390>
- Arrasyid, M. I., Sidek, S. B., Ismail, N. A., et al. (2024). Sociopreneurial behaviour formation: antecedents and conversion. Case of dairy farming industry in Indonesia. *Social Enterprise Journal*. <https://doi.org/10.1108/sej-10-2023-0135>
- Badan Pusat Statistik Provinsi Jawa Timur (BPSP Jatim). (2024a). Total Population by Sex and Regency / City of East Java Province (Soul), 2021–2023 (Indonesian). Available online: <https://jatim.bps.go.id/indicator/12/375/1/jumlah-penduduk-provinsi-jawa-timur.html> (accessed on 17 May 2024).
- Badan Pusat Statistik Provinsi Jawa Timur (BPSP Jatim). (2024b). Open Unemployment Rate by Regency/City (Percent), 2021 – 2023 (Indonesian). Available online: <https://jatim.bps.go.id/indicator/6/54/1/tingkat-pengangguran-terbuka-tpt-provinsi-jawa-timur.html> (accessed on 16 May 2024).
- Badan Pusat Statistik Provinsi Jawa Timur (BPSP Jatim). (2024c). Percentage of Poor Population by Regency/City in East Java (People), 2021–2023 (Indonesian). Available online: <https://jatim.bps.go.id/indicator/23/497/1/persentase-penduduk-miskin-menurut-kabupaten-kota-di-jawa-timur.html> (accessed on 16 May 2024).
- Bettez, S. C., & Hytten, K. (2013). Community Building in Social Justice Work: A Critical Approach. *Educational Studies*, 49(1), 45–66. <https://doi.org/10.1080/00131946.2012.749478>
- Badaruddin, Kariono, & Hafi, B. (2022). Utilization of Village Potential for the Development of Village Business Company (VBC) Entities in North Sumatera, Indonesia. In: *Proceedings of the Second International Conference on Public Policy, Social Computing and Development (ICOPOSDEV 2021)*.
- Balta, M. E., & Papadopoulos, T. (2024). Business model pivoting and digital technologies in turbulent environments. *International Journal of Entrepreneurial Behaviour & Research*. <https://doi.org/10.1108/JTS-06-2023-0002>
- Banerjee, S., Gupta, S., & Koner, S. (2022). Digital tools for direct and indirect citizen empowerment: The retaliatory response against COVID-19 in India. *Digital Innovation for Healthcare in COVID-19 Pandemic: Strategies and Solutions*, 153–171. <https://doi.org/10.1016/b978-0-12-821318-6.00012-8>
- Bryman, A., & Bell, E. (2019). *Social Research Method*. 5th Canadian Edition. Oxford University Press Canada.
- Bowling, A. (2014). *Research methods in health: investigating health and health services*. McGraw-Hill Education (UK).
- Capece, G., & Costa, R. (2013). The new neighbourhood in the internet era: network communities serving local communities. *Behaviour & Information Technology*, 32(5), 438–448. <https://doi.org/10.1080/0144929x.2011.610825>
- Chandra, Y., Man Lee, E. K., & Tjiptono, F. (2020). Public versus private interest in social entrepreneurship: Can one serve two masters? *Journal of Cleaner Production*, 280, 124499. <https://doi.org/10.1016/j.jclepro.2020.124499>

- Cobigo, V., Martin, L., & Mcheimech, R. (2016). Understanding Community. *Canadian Journal of Disability Studies*, 5(4), 181. <https://doi.org/10.15353/cjds.v5i4.318>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approach* 5th ed. Sage Publications.
- Dharmawan, A., Aji, G. G., & Mutiah. (2017). Madurese cultural communication approach. *Journal of Physics: Conference Series*, 953, 012195. <https://doi.org/10.1088/1742-6596/953/1/012195>
- Drasopolino, Zauhar, S., Santoso, B., & Hermawan. (2023). The Forest Management Policy and its Influence in Forest area Utilization and Empowering Forest Communities in Yogyakarta. *Land Use Policy*, 127, 106539. <https://doi.org/10.1016/j.landusepol.2023.106539>
- Faraby, M. E. (2016). Islamic Work Ethic of Madura Ethnic Community (Indonesian). *SALAM: Jurnal Sosial Budaya & Syar-i*, 3(1), 21–23. <https://doi.org/10.15408/sjsbs.v3i1.3095>
- Fayomi, O. S. I., Adelakun, J. O., & Babaremu, K. O. (2019). The Impact of Technological Innovation On Production. *Journal of Physics: Conference Series*, 1378(2), 022014. <https://doi.org/10.1088/1742-6596/1378/2/022014>
- Gandhi, T., & Raina, R. (2018). Social entrepreneurship: the need, relevance, facets and constraints. *Journal of Global Entrepreneurship Research*, 8(1). <https://doi.org/10.1186/s40497-018-0094-6>
- Habibih, O. N. Y., Suryani, W., & Radianto, D. O. (2019). FKMB Binadesa in Juruan Daya Village, Batu Putih, Sumenep with efforts to eradicate illiteracy and prolonged drought (Indonesian). *Jurnal Masyarakat Merdeka*, 2(1), 2654–9174. <http://dx.doi.org/10.51213/jmm.v2i1.12>
- Han, S. B., Sim, K. L., & Ebrahimpour, M. (2012). Relationships among ISO 9001, competitive dimensions and profitability. *International Journal of Services and Operations Management*, 11(2), 222–236. <https://doi.org/10.1504/ijksom.2012.045200>
- Hanley, C. (2014). Putting the Bias in Skill-Biased Technological Change? A Relational Perspective on White-Collar Automation at General Electric. *American Behavioral Scientist*, 58(3), 400–415. <https://doi.org/10.1177/0002764213503339>
- Hanushek, E. A., & Ettema, E. (2017). Defining Productivity in Education: Issues and Illustrations. *The American Economist*, 62(2), 165–183. <https://doi.org/10.1177/0569434516688207>
- Hassan, H. M. K. (2020). Intention towards social entrepreneurship of university students in an emerging economy: the influence of entrepreneurial self-efficacy and entrepreneurship education. *On the Horizon*, 28(3), 133–151. <https://doi.org/10.1108/oth-04-2020-0012>
- Haryono, A., Soetjipto, B. E., & Sopiah. (2021). Sociopreneurship And Entrepreunial Behavior in The Environment of The Kowel Batik Center (A Phenomenological Study at The Kowel Handicraft Batik Center, Pamekasan Regency). *International Journal of Business, Economics and Law*, 24(5), 32–38.
- Heutel, G. (2012). How should environmental policy respond to business cycles? Optimal policy under persistent productivity shocks. *Review of Economic Dynamics*, 15(2), 244–264. <https://doi.org/10.1016/j.red.2011.05.002>
- Hockerts, K. (2017). Determinants of Social Entrepreneurial Intentions. *Entrepreneurship Theory and Practice*, 41(1), 105–130. <https://doi.org/10.1111/etap.12171>
- Hsieh, H. F., & Shannon, S. E. (2005). Three Approaches to Qualitative Content Analysis. *Qualitative Health Research*, 15(9), 1277–1288. <https://doi.org/10.1177/1049732305276687>
- Ivaldi, S., Scaratti, G., & Fregnan, E. (2022). Dwelling within the fourth industrial revolution: organizational learning for new competences, processes and work cultures. *Journal of Workplace Learning*, 34(1), 1–26. <https://doi.org/10.1108/jwl-07-2020-0127>
- Jabbouri, R., Truong, Y., & Issa, H. (2024). The impact of local entrepreneurial initiatives on women entrepreneur empowerment: the case of cooperative social ventures in Morocco. *International Journal of Entrepreneurial Behavior & Research*, 30(7), 1838–1866. <https://doi.org/10.1108/ijebr-04-2023-0427>
- Karlaftis, M. G. (2004). A DEA approach for evaluating the efficiency and effectiveness of urban transit systems. *European Journal of Operational Research*, 152(2), 354–364. [http://dx.doi.org/10.1016/S0377-2217\(03\)00029-8](http://dx.doi.org/10.1016/S0377-2217(03)00029-8)
- Lapuz, M. C. M. (2023). The role of local community empowerment in the digital transformation of rural tourism development in the Philippines. *Technology in Society*, 74, 102308. <https://doi.org/10.1016/j.techsoc.2023.102308>
- Lekan, A. M., Adedamola, O., Adelakun, O. A., et al. (2013). Target output, extended output and site productivity: tales of the expected. *Journal of Environment and Earth Science*, 3(3), 38–45.
- Lindqvist, A., Sendén, M. G., & Renström, E. A. (2021). What is gender, anyway: a review of the options for operationalising gender. *Psychology & Sexuality*, 12(4), 332–344. <https://doi.org/10.1080/19419899.2020.1729844>

- Luthra, E. S. (2019). *Technopreneur Without the Technology*. Available online: <https://www.forbes.com/councils/forbestechcouncil/2019/08/19/technopreneur-without-the-technology/> (accessed on 15 August 2024).
- Mahdi, I., & Sulistyono, S. W. (2023). Determinants of gini ratio: a case study of low gini ratio in Madura. *Entrepreneurship Bisnis Manajemen Akuntansi (E-BISMA)*, 245–260. <https://doi.org/10.37631/ebisma.v4i2.1119>
- Mariam, M., Kurniawan, K., & Iskandar, Y. (2023). Application of Business Technology in Management: A Case Study of Using Technology Innovation to Improve Business Operational Efficiency and Effectiveness. *West Science Business and Management*, 1(3), 176–183. <http://dx.doi.org/10.58812/wsbm.v1i03.98>
- Masduki, A. (2024). Youngest Property Entrepreneur in Madura Gives CSR to Repair 500 Meters of Road (Indonesian). Available online: <https://surabaya.inews.id/read/424814/pengusaha-property-termuda-se-madura-berikan-csr-perbaikkan-jalan-sepanjang-500-meter> (accessed on 28 July 2024).
- Maziriri, E. T., Dzingirai, M., Nyagadza, B., et al. (2024). From perceived parental entrepreneurial passion to technopreneurship intention: The moderating role of perseverance and perceived parental entrepreneurial rewards. *Sustainable Technology and Entrepreneurship*, 3(1), 100051. <https://doi.org/10.1016/j.stae.2023.100051>
- Nandru, P., Kumar, S. S. A., & Chendragiri, M. (2023). Adoption intention of mobile QR code payment system among marginalized street vendors: an empirical investigation from an emerging economy. *Journal of Science and Technology Policy Management*. <https://doi.org/10.1108/JSTPM-03-2023-0035>
- Neal, S., Bennett, K., Cochrane, A., & Mohan, G. (2019). Community and conviviality? Informal social life in multicultural places. *Sociology*, 53(1), 69–86. <http://doi.org/10.1177/0038038518763518>
- Nugraha, A. R., Perbawasari, S., Zubair, F., et al. (2019). Community Empowerment through Effective Communication Training Based on Tourism Potential and Local Wisdom (Indonesian). *urnal Pengabdian Dan Pemberdayaan Masyarakat*, 3(1), 123. <https://doi.org/10.30595/jppm.v3i1.3546>
- Olusegun, O. O., Akpoviro, K. S., & Adebawale, O. M. (2019). Impact of Technopreneurship on Business Performance. *Journal of Economics and Management Research*, 8, 55–71. <https://doi.org/10.22364/jemr.8.03>
- Parsons, R. J., James, D. J., & Santos, H. H. (1994). *The Integration of Social Work Practice*. California: Brooks/Cole. Payne.
- Permatasari, A., Doohan, G., & Kusmulyono, M. S. (2020). Factors Influencing Social Entrepreneurial Intention: A Case of Private University in Bekasi. *International Journal of Family Business Practices*, 3(2), 33. <https://doi.org/10.33021/ijfbp.v3i2.1342>
- Prakash, A., Jha, S. K., Prasad, K. D., et al. (2017). Productivity, quality and business performance: an empirical study. *International Journal of Productivity and Performance Management*, 66(1), 78–91. <https://doi.org/10.1108/ijppm-03-2015-0041>
- Probosiwi, R. (2015). Women And Its Role On Social Welfare Development. *Natapraja*, 3(1). <https://doi.org/10.21831/jnp.v3i1.11957>
- Quansah, E. M. (2024). Digital divide: accessing digital technologies for firms in BOP countries. *Online Information Review*, 48(3), 476–490. <https://doi.org/10.1108/oir-05-2023-0213>
- Rachman, D. R. N., Roziqin, A., & Salahudin. (2022). Community Empowerment Based on Local Potential: A Systematic Literature Review. *Jurnal Administrasi Publik*, 20(1), 299–316. <https://doi.org/10.30996/dia.v20i01.6472>
- Rahayu, D. (2009). Strengthening the Rights of Migrant Workers through the Involvement of Community Based Organizations as an Effort to Prevent Trafficking in Women in Madura (Indonesian). *Masyarakat, Kebudayaan dan Politik*, 22(2), 140–147.
- Ratten, V. (2018). Social entrepreneurship through digital communication in farming. *World Journal of Entrepreneurship, Management and Sustainable Development*, 14(1), 99–110. <https://doi.org/10.1108/wjemd-07-2017-0045>
- Ribeiro-Navarrete, B., Calderon-Monge, E., & Simón-Moya, V. (2023). Digitalisation and digital transformation in the social economy: the cases of Anecoop and Consum. *British Food Journal*, 125(10), 3489–3505. <https://doi.org/10.1108/bfj-12-2022-1086>
- Roberts, R. (2020). Qualitative Interview Questions: Guidance for Novice Researchers. *The Qualitative Report*, 25(9), 3185–3203. <https://doi.org/10.46743/2160-3715/2020.4640>
- Roifah, M., & Mufidah, Z. (2022). Uncovering The Marriage Life of Modern Madurese Women: The Sexual Contracts Theory. Parafrese: *Jurnal Kajian Kebahasaan dan Kesustraan*, 22(1), 115–120. <https://doi.org/10.30996/parafrese.v22i1.6619>
- Rubin, H. J., & Rubin, I. S. (2012). *Qualitative interviewing: The art of hearing data* 3rd ed. Los Angeles, CA: Sage.
- Ruslin, Mashuri, S., Rasak, M. S. A., et al. (2022). Semi-structured Interview: A Methodological Reflection on the Development

- of a Qualitative Research Instrument in Educational Studies. *IOSR Journal of Research & Method in Education (IOSR-JRME)*, 12(1), 22–29. <http://dx.doi.org/10.9790/7388-1201052229>
- Sarmini, M., Nadiroh, U., & Hasanah, S. (2018). The Identity of Madurese Women: Between Tradition and the Development of Modernization. *Proceedings of Social Sciences, Humanities and Economics Conference (SoSHEC 2017)*. <https://doi.org/10.2991/soshec-17.2018.41>
- Septiadi, M., & Wigna, W. (2015). The Effect of Gender Inequality on Household Survival Strategies of Poor Agricultural Labourer in Cikarawang. *Sodality: Jurnal Sosiologi Pedesaan*, 01(02), 100–111. <https://doi.org/10.22500/sodality.v1i2.9394>
- Silverman, D. (2016). *Qualitative Research*. Sage Publication Limited.
- Siscawati, M., Adelina, S., Eveline, R., & Anggriani, S. (2020). Gender Equality and Women Empowerment in The National Development of Indonesia. *Journal of Strategic and Global Studies*, 2(2), 40–63. <https://doi.org/10.7454/jsgs.v2i2.1021>
- Shava, G. N., Hleza, S., Tlou, F., et al. (2021). Qualitative Content Analysis, Utility, Usability and Processes in Educational Research. *International Journal of Research and Innovation in Social Science (IJRISS)*, 5(7), 2454–6186.
- Sidek, S., & Arrasyid, M. I. (2022). Unified Theory of Sociopreneurial Behavior: The Formation and Impact of Sociopreneurial Behavior (Indonesian). *Jurnal Ulwan*, 7(1), 60–74.
- Solehen, N. (2024). Inspiring Story of Sultan Madura, Explore School to Promote Selling Imported Goods in Bangkalan (Indonesian). Available online: <https://madurapost.net/kisah-inspirasi-sultan-madura-jajaki-sekolah-promosi-jualan-barang-impor-di-bangkalan/> (accessed on 28 July 2024).
- Soomro, B. A., & Shah, N. (2021). Technopreneurship intention among nonbusiness students: a quantitative assessment. *World Journal of Entrepreneurship, Management and Sustainable Development*, 17(3), 502–514. <https://doi.org/10.1108/WJEMSD-10-2020-0129>
- Strategic Scrutiny Group (SSG). (2019). Principles for community empowerment. Available online: <https://audit.scot/publications/principles-for-community-empowerment>. Accessed on 16 August 2024).
- Studdert, D., & Walkerdine, V. (2016). Being in Community: Re-Visioning Sociology. *The Sociological Review*, 64(4), 613–621. <https://doi.org/10.1111/1467-954x.12429>
- Sugito, P., & Kamaludin. (2019). Supporting Entrepreneurship Through Migratory Culture and Information Acquisition. *International Journal of Engineering and Advanced Technology (IJEAT)*, 9(1), 2249–8958. <https://doi.org/10.35940/ijeat.a9365.109119>
- Sumarno, S., Saryono, S., & Gimin, G. (2017). Technopreneurship Development at Riau University (Indonesian). *Journal of Promotion*, 5(2), 85–94. <http://dx.doi.org/10.24127/ja.v5i2.1217>
- Supraptiningsih, U., Jubba, H., Hariyanto, E., et al. (2023). Inequality as a cultural construction: Women’s access to land rights in Madurese society. *Cogent Social Sciences*, 9(1). <https://doi.org/10.1080/23311886.2023.2194733>
- Surokim, A. S., & Gunawan, S. (2017). *Internet, Social Media and Change in Madura (Indonesian)*. Universitas Trunojoyo Madura Publisher.
- Tandelilin, E., Ratmawati, D., & Agustina, T. S. (2021). An exploration of ethnic entrepreneurial values and characteristics in MSEs. *BISMA: Bisnis dan Manajemen*, 13(2), 148–162. <https://doi.org/10.26740/bisma.v13n2>
- Tambrin, M. (2019). Factors Affecting the Success of Madurese Women Entrepreneurs (Indonesian). *Eco-Entrepreneur*, 5(2). <https://doi.org/10.21107/ee.v5i2.9008>
- Theodori, G. L. (2005). Community and Community Development in Resource-Based Areas: Operational Definitions Rooted in an Interactional Perspective. *Society & Natural Resources*, 18(7), 661–669. <https://doi.org/10.1080/08941920590959640>
- Tiwari, P., Bhat, A. K., & Tikoria, J. (2020). Mediating Role of Prosocial Motivation in Predicting Social Entrepreneurial Intentions. *Journal of Social Entrepreneurship*, 13(1), 118–141. <https://doi.org/10.1080/19420676.2020.1755993>
- Trail, H. (2021). The idea of community and its practice: Tensions, disruptions and hope in Glasgow’s urban growing projects. *The Sociological Review*, 69(2), 484–499. <https://doi.org/10.1177/0038026120982272>
- Usman, S., Masood, F., Khan, M. A., & Khan, N. ur R. (2021). Impact of empathy, perceived social impact, social worth and social network on the social entrepreneurial intention in socio-economic projects. *Journal of Entrepreneurship in Emerging Economies*. <https://doi.org/10.1108/JEEE-10-2020-0355>
- Unicef Regional Office for South Asia (UNROSA). (2017). Gender equality: glossary terms and concepts. Available online: <https://www.unicef.org/rosa/media/1761/file/Genderglossarytermsandconcepts.pdf> (accessed on 18 August 2024).
- Venciute, D., Auruskeviciene, V., & Reardon, J. (2023). The impact of social media marketing on new venture performance. *Corporate Communications: An International Journal*, 28(5), 788–810. <https://doi.org/10.1108/ccij-11-2022-0137>

- Wispondono, W., Kurniasari, N. D., Rahayu, E. S., et al. (2017). Motives, Perceptions, and Experience of Madurese Workers (Indonesian). *Jurnal Komunikasi*, 11(2), 179. <https://doi.org/10.21107/ilkom.v11i2.3334>
- Webber, D. J., Webber, G. A., Berger, S., et al. (2018). Explaining productivity in a poor productivity region. *Environment and Planning A: Economy and Space*, 50(1), 157–174. <https://doi.org/10.1177/0308518x17735103>
- Yadav, P., & Marwah, C. S. (2015). The Concept of Productivity. *International Journal of Engineering and Technical Research*, 3(5).
- Zaremohzzabieh, Z., Ahrari, S., Krauss, S. E., et al. (2018). Predicting social entrepreneurial intention: A meta-analytic path analysis based on the theory of planned behavior. *Journal of Business Research*, 96, 264–276. <https://doi.org/10.1016/j.jbusres.2018.11.030>
- Zikmund, W., Babin, B., Carr, J., & Griffin, M. (2012). *Business research methods*: Cengage Learning. *Journal of Small Business Management*, 44(2), 268–284.