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Overcome Challenge Digital Literacy Of UMKM Garment Industry Through Approach Collaborative And Technology Simple : Study CST UMKM Case

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ABSTRACT

Small and Medium Enterprises (SMEs) in Indonesia, particularly in the garment sector, hold great potential but face significant challenges in technology adoption. This study aims to identify the right digitalization strategy for CST Garment SMEs, focusing on the issue of low digital literacy. Using a Design Thinking approach, the research analyzes challenges and stakeholder needs, proposing solutions based on empirical data from observations and in-depth interviews. The findings show that implementing simple technologies like Google Sheets, CamScanner , and Google Drive improved efficiency by 88.88%, reduced reliance on manual systems, and enhanced data accuracy. Meanwhile, digital marketing testing through Instagram demonstrated a reach of 67,100 and increased followers from 0 to 1,148, proving the effectiveness of digital marketing in expanding market reach. This research proposes strategic steps for SMEs to tackle digitalization challenges: 1) Identifying catalysts for digitalization, 2) A personalized approach based on SME capacity, 3) Collaboration with stakeholders to develop relevant solutions, 4) Gradual implementation with project management, and 5) Continuous evaluation and success measurement. The study highlights the need for developing a digitalization evaluation framework for SMEs and policies supporting digital adoption. Further research is required to explore success factors in garment SME digitalization in Indonesia.

INTRODUCTION

MSMEs in the garment industry in Indonesia have potential big For developing . Sector This No only provide primary needs in the form of clothing , but also plays a role in support growth economy and creation field Work (Septiani et al., 2020). Based on data from the Central Statistics

Agency (2021-2024), the sector confection experience stable growth , outside of the pandemic , which makes it one of the promising MSME sector in Indonesia.

However , even though own potential big , many MSMEs in Indonesia are still face challenge big in increase capacity and power competition they , especially in matter adoption technology and digitalization . Survey by(Innovate, 2023) against 1,500 MSMEs revealed that two many obstacles faced by MSME actors is marketing less product effective and challenging in adopt digital technology . On the other hand , the adoption digitalization proven can give significant benefits , such as improvement sales (84.2%), effectiveness operational (73.1%), market expansion (62.8%), and reduction costs (50.7%).

LITERATURE REVIEW

The level of digital literacy of Indonesian MSMEs is still very low , namely only around 20%, this is what limits ability they For access digital markets and take advantage of technology For increase Power competition (Siregar, 2020). Low this digital literacy slow down adaptation to digital transformation that can helping SMEs expand market reach and increase income through e-commerce and other digital media (Ministry of Cooperatives and SMEs, 2020). In addition that , limitations access to technology , infrastructure that is not evenly distributed , and the lack of education digital skills are increasingly to worsen problem This (Anardani et al., 2022). Researches previously has identify low level digital literacy among MSME actors as one of the inhibitor main in adoption technology (Oktaga et al., 2023).

Although so , not yet Lots research that examines in a way deep Why matter This happen , challenge What only faced , and what is the right strategy For overcome problem This in context practical . Research This aiming For fill in gap and dig challenge in implementation digitalization of MSME garment industries in Indonesia, with focus on studies case of CST UMKM in East Java , for give outlook deep about benefit as well as solution practical that can applied use increase digital literacy and power competition business.

METHODS

Study This focus on one the object of the confection UMKM , namely the CST UMKM, which has stand since 1992 and operates in Surabaya, East Java . This UMKM has develop in a way organic However Not yet adopt digital technology in operational business them . Although business This Already walk during more from three decade , but Still face challenge in utilise digital technology optimally . Study This use approach qualitative with Design Thinking method that focuses on deep understanding to need users and try find effective solution based on outlook the (Shafarazaq et al., 2023). According to (Verganti et al., 2021), Design Thinking is an iterative process involving five stages main namely : Empathize, Define, Ideate, Prototype, and Testing.

Approach This chosen Because allow researcher For understand problem in a way deep , focused on need user (in matter this , some stakeholders interests of CST UMKM), as well as produce solutions that can tested and implemented direct. data collection process is carried out through do observation direct towards the existing business processes in CST UMKM for get information in a way complete and interview deep with stakeholders interests of CST UMKM. Data collected will analyzed use two technique main , namely analysis thematic and Grounded Theory. With analysis thematic , themes main thing that appears from interview data will identified For describe challenges and benefits digitalization for MSMEs.

While That is , Grounded Theory was developed by(Strauss & Corbin, 1990) chosen with objective For develop theory or a model that can explain the phenomenon that occurs in related

CST UMKM with implementation digitalization . This process allow researcher For develop better understanding deep and giving recommendations based on strong data.

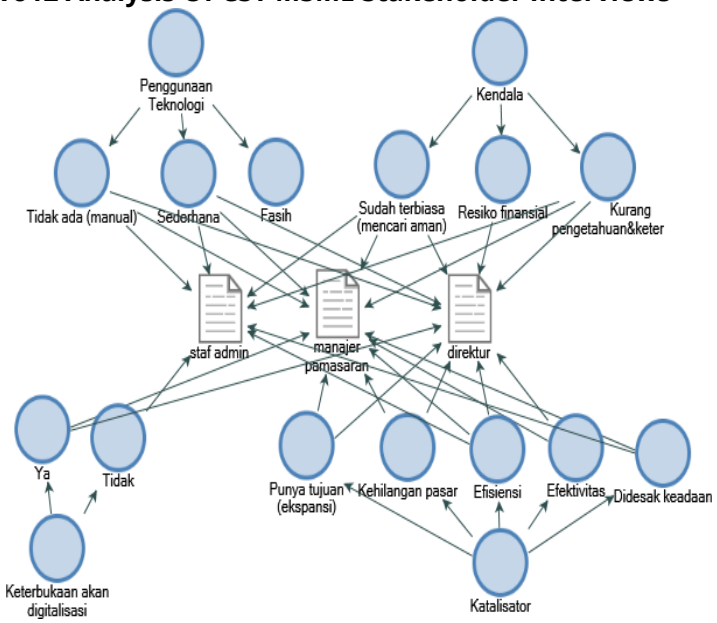
RESULTS AND DISCUSSION

Empathize

This stage aims to understand the needs and perspectives of stakeholders in the digitalization process at CST MSMEs. The study focused on three main stakeholders, namely the President Director, Marketing Manager, and Administrative Staff. Data were collected through semi-structured interviews lasting 50-75 minutes, allowing for in-depth exploration of issues such as business processes, views on digitalization, technology needs, barriers to adoption, and expectations of technology benefits. Furthermore, the collected data were analyzed thematically with NVivo12 as in Figure 1.Interview results show that business processes in CST MSMEs still rely on manual systems, which are high risk of errors and data inconsistencies. Administrative staff are comfortable with traditional methods despite being aware of their limitations in efficiency.

Discomfort with change and lack of technical skills are resistances that are major barriers to technology adoption. Marketing managers also show interest in digitalization, but are limited by technological knowledge. Conventional marketing activities make it difficult for companies to reach a wider market efficiently. CEOs recognize the importance of technology for expansion and efficiency, but internal resistance and financial concerns hinder further implementation of digitalization. Although major challenges exist, positive experiences with simple technologies such as WhatsApp show that relevant and easy-to-use technology can be well-received by employees. Therefore, companies need to take a gradual approach, starting with simple technologies and supported by training to reduce resistance barriers.

Figure 1 Nvivo12 Analysis Of CST MSME Stakeholder Interviews



In particular, analysis of the interview data revealed several key barriers faced by stakeholders in adopting digitalization, as shown in Figure 2:

Figure 2 Hierarchy Cst Umkm Digitalization Obstacle Chart

Based on the identified codes, there are three main obstacles that are often expressed by respondents:

1. Lack of Knowledge and Skills
   coding references from 3 respondents. This shows that the lack of understanding of the benefits and how to use digital technology is the most significant obstacle. All respondents felt they did not have enough knowledge or skills to use digital technology, which made them reluctant to switch from the manual system that had been implemented so far.
2. Already Used to the Old System (Seeking Security)
   This obstacle was identified with 5 coding references from 3 respondents. All respondents preferred to continue using the system they were used to, even though they were aware of the potential benefits of digitalization. This reliance on manual systems creates a sense of security and reduces motivation to make changes, because there is a fear of failure that may arise with new technology.
3. Financial Risk
   While this barrier was the least common, with 2 coding references from 1 respondent, concerns about the cost of implementing technology remained a significant barrier. Respondents expressed that the costs associated with adopting new technologies were often a major barrier, given limited budgets and uncertainty about the potential short-term benefits of digitization.

These three obstacles reflect the challenges that need to be considered in the process of digitalizing MSMEs, especially in the garment sector. Understanding these obstacles is essential to designing the right digitalization strategy according to the capacity and needs of each MSME.

Define

At the *define stage* , the interview results are translated into an *empathy map* and *values proposition canvas* to understand *the pain* and *gain* of each stakeholder. In the context of Administrative Staff, the analysis shows that respondents face challenges in manual processes that are prone to errors and require efficient, accurate, and easy-to-use solutions. The proposed technology aims to reduce manual workload and risk of errors, and increase productivity through gradual training. For Marketing Managers, the analysis results identify the need for technology that can accelerate the implementation of digital marketing and optimize marketing data. With a gradual approach, this technology solution is designed to expand the market and increase the company's competitiveness without adding pressure on marketing managers. Meanwhile, for the President Director, the main challenge is to ensure operational efficiency and support business expansion. The technology solution offered focuses on increasing efficiency, reducing risk, and expanding the market, while maintaining the company's competitiveness. The

value proposition designed aims to provide an easy-to-use and affordable system, with training support for a smoother transition. The results of this mapping provide guidance for designing solutions that are more in line with the specific needs of each stakeholder, so that the adoption of digital technology can be more effective and relevant. This analysis focuses on providing solutions that are in line with the needs of each stakeholder to achieve the company's strategic goals effectively.

Ideate

Next, this research leads to the development of relevant and innovative digitalization solutions for CST MSMEs, focusing on the needs and capacities of the companies. The process is carried out through ideation by holding a collaborative workshop that lasts for one day, involving key stakeholders, namely the company owner, marketing manager, and administrative staff, as well as a facilitator who guides each session. The workshop consists of several sessions: first, an introduction to digitalization to introduce the benefits and challenges of digitalization for MSMEs; second, a brainstorming session to generate ideas for technological solutions using mindmapping techniques , SCAMPER, and matrix priority. The results of this brainstorming session are then prioritized based on their impact on the business and the level of effort required, with a primary focus on initiatives that have a high impact and low effort, such as digitalization of administration and social media marketing. In the mindmapping of ideation results , there are strategies to improve operational efficiency through the use of inventory management applications and cloud- based data storage . Digitalization of administration and marketing also includes the integration of e- commerce through large marketplace platforms and promotions such as customer loyalty programs. On the other hand, SCAMPER is used to develop ideas further, by encouraging innovation through structured questions, while the Prioritize Matrix helps map ideas based on impact and implementation effort, providing focus on solutions that are quick and easy to implement. Finally, the Project Management approach The framework was implemented to ensure that the implementation was gradual, minimizing disruption to company operations, and giving employees time to adapt to the new system. The resulting solutions included digitizing transaction recording and digital marketing aimed at expanding market reach.

Prototype

In the *Prototype stage* , the two main areas focused on for digitization are administrative records and digital marketing. For administrative records, a prototype in the form of *Google Sheets* was designed as a replacement for the manual form commonly used by CST MSMEs. This prototype adapts existing recording formats, such as stock and transaction reports, and adds simple automation features to speed up data calculations and visualization. In addition, *CamScanner* is used to digitize physical documents that were previously at risk of being lost or damaged, and all files are stored in *Google Drive* for easy access and digital data management. For digital marketing, the prototype involves creating an Instagram business account, which was chosen because Instagram is the most popular social media platform in Indonesia (The Global Statistics , 2024). Instagram allows CST MSMEs to reach a wider audience outside of East Java as the main area of product marketing today, as well as utilizing effective product visualization through product photos and post scheduling features for marketing consistency.

Administration

Testing of the digital administration recording system was conducted by comparing the duration, accuracy, and efficiency between manual and digital methods in ten sample stores. The results of the observation showed significant time savings with the use of *Google Sheets* , with an average time savings of 40 minutes 5 seconds per store, exceeding the specified target of 25-30

minutes. Table 1 shows a comparison of samples in 10 stores between the time before and after the use of the digital system, where all stores experienced significant time savings.

Table 1 Analysis Of Time And Efficiency Of The Report Recording Process

Sample	Duration Before (Manual)	Duration After (Digital)	Difference Duration
Shop 1	41 minutes 34 seconds	5 minutes 12 seconds	-36:22
Shop 2	55 minutes 45 seconds	6 minutes 5 seconds	-49:40
Shop 3	47 minutes 22 seconds	4 minutes 58 seconds	-42:24
Shop 4	39 minutes 11 seconds	6 minutes 17 seconds	-32:54
Shop 5	28 minutes 56 seconds	4 minutes 25 seconds	-24:31
Shop 6	32 minutes 43 seconds	5 minutes 4 seconds	-27:39
Shop 7	53 minutes 19 seconds	6 minutes 12 seconds	-47:07
Shop 8	45 minutes 55 seconds	4 minutes 57 seconds	-40:58
Shop 9	50 minutes 4 seconds	6 minutes 10 seconds	-43:54
Shop 10	39 minutes 45 seconds	5 minutes 8 second	-34:37
Average	**45 minutes 8 seconds**	**5 minutes 3 seconds**	**-40:05**

In addition to saving time, using Google Sheets also increases data accuracy, reducing manual errors in recording and verification. Previously, data verification was done manually with repeated checking, which often led to data differences between partner and internal reports. With a digital system, the verification process is faster and more accurate, reducing dependence on time-consuming manual checking. In the digital data storage *testing phase* , the use of CamScanner and Google Drive was tested to replace the physical storage system. CamScanner allows staff to scan physical documents and convert them into digital files quickly and accurately, reducing the risk of document loss or damage. After that, the scanned documents are uploaded to Google Drive , which allows data storage to be structured and easily accessible in real- time . Testing shows that this system improves data accessibility and storage security, makes it easier to search and reduces the time needed to manage documents compared to manual systems that store physical data in cabinets or other storage places.

Marketing

Digital marketing testing was conducted by utilizing an Instagram account to promote CST UMKM products. Instagram analytics results during the trial (September 1-30, 2024) showed a reach of 67,100, indicating that the Instagram account succeeded in reaching a wider audience than the existing network. The number of *followers* increased from 0 to 1,148, indicating the success of the marketing strategy in attracting new audiences . The audience demographics also include areas outside East Java, such as Banten, South Sulawesi, and DKI Jakarta, which were previously difficult to reach with traditional marketing. *Engagement level rate* of 2.29%, with an average of 14 likes and 3 comments per post , indicating positive engagement with the audience .While this is a reasonable number for the beginning of a campaign, it provides a solid foundation for further content optimization to increase future engagement. With these results, digital marketing through Instagram has proven to be effective in expanding market reach and

increasing brand awareness. awareness , as well as providing useful insights for further marketing strategies.

Analysis

The results of the trials conducted in this study provide significant insights for digital literacy of MSMEs in Indonesia. Although digital literacy is a major obstacle in the adoption of technology by MSMEs, this study proves that the implementation of simple technologies, such as Google Sheets , CamScanner , and Google Drive , can have a major impact on improving operational efficiency. This technology helps reduce the gap between business strategy and information technology, in accordance with the *IT-Business Alignment theory* . The implemented digitalization solutions have proven effective in improving data accuracy, accelerating the process of recording and verifying transactions, and simplifying data management, which previously relied on manual methods that were time-consuming and prone to errors. (Togo & Er, 2022). The study also shows that digitalization can be a critical step in helping MSMEs move up the ladder, allowing them to focus more on market development and productivity improvement. By minimizing time spent on administration and increasing marketing efficiency, MSMEs can be more competitive and ready for expansion.

Based on the research results, here are strategic steps that can be taken by MSMEs to start digitalization and develop their businesses:

1. Empathize : Finding a Catalyst to Drive Digitalization
   Identify influential parties in decision making and key stakeholders. Find driving factors to increase awareness and drive towards digitalization, for example by demonstrating long-term benefits. (Sarjito, 2023)
2. Define : Personalization and Adjustment to MSME Capacity
3. Personalized approach : Digitalization must start with understanding the specific capacities and needs of each MSME. It is important to understand *the pain* and *gain* of each stakeholder.

Then, using *the pain relievers* and *gain creators* to design solutions that suit the specific needs of each stakeholder and MSME.

Choose scalable technology : The technology chosen to be implemented must be flexible and able to grow as the MSME grows.

Digital readiness evaluation: Conduct an assessment of MSME technology readiness to determine the next steps in digitalization. (Hutama et al., 2022)

1. Ideate : Collaborative and Inclusive Steps (Tambunan et al., 2023)
   Direct collaboration with stakeholders: Engage stakeholders who are directly involved in digitalization to ensure that the solutions developed are aligned with their practical needs and operational realities. Without their involvement, external ideas are difficult to accept and implement effectively.
   Development of needs-based training modules: Training based on the practical needs of each party, prioritizing solutions that are in line with the technological capacity of MSMEs.
2. Prototype : Project Simplification and Management
3. Phased implementation: Start with simple tools or applications that are free or do not require a large investment.

Project implementation *management* to ensure the digital transition is carried out in a structured manner.

1. Ongoing training: Conduct regular training to ensure understanding and optimal utilization of the digital tools used.
2. Testing: Evaluation and Measuring Success

Performance measurement: Evaluate operational efficiencies, such as reduced recording time and increased data accuracy.

1. Follow up on user feedback to improve the system and ensure sustainability.
2. Focus on sustainability: Ensure that digitalization becomes part of the ever-evolving work culture of MSMEs.

With these strategic steps, MSMEs can begin to digitally transform, improve operational efficiency, and expand their markets, without the need for large investments or drastic changes. Gradual digitalization allows MSMEs to grow according to their capacity, while ensuring long-term sustainability.

CONCLUSION AND SUGGESTION

This study identifies the right digitalization strategy for CST confection MSMEs by considering the low digital literacy that exists. With a *Design Thinking approach* , this study analyzes the challenges and needs of stakeholders in CST, and proposes solutions that can be implemented gradually and according to their capacity. The findings show that simple digitalization such as the use of *Google Sheets* , *CamScanner* , and *Google Drive* can increase accuracy and efficiency by up to 88.88%, and reduce dependence on manual systems. Limited digital literacy and dependence on traditional methods are major obstacles to technology implementation. However, with the right solutions, such as interactive training and uncomplicated technology implementation, stakeholders can feel the real benefits of digitalization.

Based on empirical data, an approach based on the capacity and digital readiness of MSMEs is essential to ensure the success of applicable and sustainable digitalization. Furthermore, the development of an evaluation framework for MSME digitalization needs to be carried out to measure the impact of technology on business performance and operations. With this framework, MSMEs can assess the success of digitalization and make continuous improvements. The government also needs to formulate policies that support MSME digitalization, such as providing incentives and developing equitable digital infrastructure, so that MSMEs, especially those in less developed areas, can access affordable technology. Finally, further research needs to be conducted to analyze the factors that influence the success of digitalization and its impact on MSME operational efficiency, in order to provide deeper and more applicable insights .

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