

## Green Management Framework Early Implementation With a Pentuple Bottom Line Approach for IKM in Malang City

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### ABSTRACT

*In the era of free trade encourage the Indonesian government's trade policy which leads to an increase in the high competitiveness of these products/services, Small and Medium Industries (Industri Kecil Menengah = IKM). The need for industry in IKM to have a sustainable manufacturing process is a must that must be met, considering the five pillars referred to as pentuples, namely profit, planet, people, phenotechnology, and prophet. Especially in the city of Malang, East Java Indonesia, has difficulties in terms of waste disposal and raw material management in general. Framework is needed that is able to connect the application of green management for the efficiency of the manufacturing process in IKMs by adapting existing local cultures. When they were offered an introduction to Green Management, the response they got was a fairly good, however, some obstacles occur when they try to implement good Green Management as their company strategy. The use of Green management in the management of IKM is basically acceptable to IKM entrepreneurs in the city of Malang. In its use, it can be supported by a pentuple implementation strategy that involves five components in it. So that in the end it can go towards sustainable manufacturing for IKM, especially in the city of Malang. However, when explained about the generic pentuple component, entrepreneurs can be triggered by their motivation to implement Green management through the Prophet component which contains spiritual elements. This is because the scope of entrepreneurs tends to be religious and the majority are Moslem, so it is easier to influence through this aspect.*

### Keywords:

IKM, Sustainable Manufacturing, Green Management, Pentuple Bottom Line

### INTRODUCTION

In the era of free trade, a trading market will be formed based on the high competitiveness of a product/service presented by every country in the world (Silalahi, 2009). Surely, this will also encourage the Indonesian government's trade policy which leads to an increase in the high competitiveness of these products/services, Small and Medium Industries (*Industri Kecil Menengah* = IKM) so that they have great business opportunities to be developed, because their existence is very useful in terms of distributing people's income. In addition, it is also able to create an economy that is in line with efforts to maintain and develop elements of traditions and culture of the local community. The existence of IKM cannot be abolished or avoided from the Indonesian people and nation at this time (Fadilah et al., 2021), because its existence is very useful in terms of distributing people's income. SMEs also have a very important role for Indonesia, where SMEs have also proven to be a stronghold of the Indonesian economy during the global economic crisis in 1998 and 2012 (Afriani, 2016; Indarti et al., 2018).

The need for industry in IKM to have a sustainable manufacturing process is a must that must be met, considering the five pillars referred to as *pentuples*, namely profit, planet, people, phenotechnology, and prophet (Ganis Sukoharsono, 2019). Any kind of industry will definitely pursue profit, and one way to increase profits is to increase the productivity of processes, without compromising the environment and human resources (Priyono, 2010). Especially in the city of Malang, East Java Indonesia, which is dominant with *tempe* IKM in the Sanan area which has been famous for a long time, but has difficulty on soybean supply, making the condition of processed *tempe* IKM's have an influence on production productivity (Wahyono, 2021). In addition, the IKM also has difficulties in terms of waste disposal and raw material

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management in general, due to managerial abilities in the industrial field that rely on conventional methods in daily production. This makes industry players in this area have to apply efficiency in their production processes in order to survive in the midst of an uncertain economic situation after the pandemic (Soetjipto, 2020).

The need for efficiency is a need that must be assisted so that IKM can survive, especially from the managerial side. One effective solution for this is to implement *green management* by prioritizing efficiency, and this has been empirically proven that selian can increase efficiency and also be able to improve the business image as well as profit of the company (Putri & Sudarma, 2020). This ultimately leads IKM to resilience in facing situations that often change after the pandemic, because the existence of *green management* is considered capable of overcoming this (Zhou et al., 2019).

However, the implementation of *green management* within the scope of IKMs cannot be directly successful if it is implemented in Indonesia, especially in the city of Malang, East Java. When the initial survey was conducted involving at least 50 IKMs in Malang in early April 2022, the root of the problem that arose was the difference in organizational culture and differences in daily behavior in the production process that still valued the value of local and strong religious content, so that obstacles arose that were beyond expectations. On the other hand, the application of modern management models is needed so that these IKMs are able to overcome post-pandemic challenges while balancing the components of economic, social and environmental benefits (Raharjo, 2019; Sari & Handayani, 2020).

Adaptation to local loads can be overcome by the implementation of a bottom line pentuple framework previously adapted from a triple bottom line (Ganis Sukoharsono, 2019; Szekeley & Dossa, 2017). The triple bottom line, which only features three main components, was refined in the next stage by adding two components that are generally inherent in Indonesian society, namely the spiritual aspect and phenotechnology (Ganis Sukoharsono, 2019). So it is hoped that IKM actors can more easily accepted the solutions offered to them.

Meanwhile, the Pentuple Bottom Line, which is a modification of the Triple Bottom Line, is a framework that involves five aspects in relation to sustainability development in the company (Ganis Sukoharsono, 2019). In the framework, it is emphasized the importance of sustainability of the company by prioritizing the 5 P's, namely Planet, People, Profit, Phenotechnology and Prophet. Especially for the last two aspects that are very in line with the local wisdom of the religious Indonesian people, so it is hoped that it can be easily adapted for sustainable business implementation and manufacturing.

Manufacturing is an input-output system, in which resources are inputs and are transformed through the manufacturing process into semi-finished products or products (Mittal et al., 2017). Manufacturing is closely related to Sustainable manufacturing (SM). Sustainability can be obtained by doing the Green concept (Dornfeld, 2014). Sustainable Manufacturing itself is defined as "the creation of products of economic value through a process that minimizes negative impacts on the environment, saves energy and natural resources, and preserves natural resources and energy to ensure their availability in the future (Rizal, 2014). The process must also be safe for employees, the public, and consumers." Sustainable Manufacturing is an evolution of the manufacturing system starting from the traditional manufacturing system, then lean manufacturing which focuses on waste reduction based, green manufacturing with 3R, to finally the concept of sustainable manufacturing with a 6R approach to the product life cycle.

Based on this initial explanation, a framework is needed that is able to connect the application of *green management* for the efficiency of the manufacturing process in IKMs by adapting existing local cultures. Thus, this research seeks to explain the framework and theoretical studies which in the end can be the initial basis for empirical research in the next stage. However, this study also still involves a preliminary survey on IKM in Malang, so that the framework formed is not only based on theoretical studies but also based on field conditions that have been successfully analyzed to get the root of the problem.

## LITERATURE REVIEW

Green management is a paradigm that incorporates working on natural mindfulness, utilizing energy assets and eco-accommodating innovations, reuse of wastes, and reusing activities beginning from creation activities of organizations to bundling and conveying to purchasers (Musluk & Uygur, 2015). This means

that Green Management not only focuses on environmentally friendly management, but also pays more attention to general activities from the company's life cycle from supplier supply to customers which ultimately leads to the sustainability of the business as a whole (Loknath & Azeem, 2017; Raharjo, 2019). So that in the end good Green Management will lead to supply chain management.

Green Strategy Management (GMS) is a useful tool in assisting organizations in defining responsibilities that are appropriate to green management (Krisnanto, 2017). The GMS model is an integral part of the management operating model, therefore the establishment of positive indicators of various business activities towards environmental protection becomes very important, which is then used in examining the realization of goals, including encouraging all suppliers to meet the objectives of the green policy (Bangwal et al., 2017). GMS, as one of the management models, wants an environmental impact assessment, sets targets to reduce these impacts and plans ways to achieve these targets. Many components must be considered when management decides to develop a GMS: Environmental policy, identification of environmental impacts, goals and objectives, environmental management plans, reporting responsibilities and structures, audit of continuous improvement systems (Abu Bakar & Azlan, 2020).



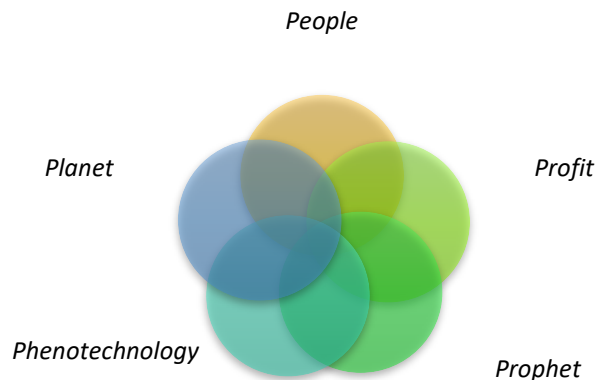
**Figure 1.** Green Management Resume

Green Management itself as a strategy is more towards efficiency that prioritizes sustainability for the company (Abu Bakar & Azlan, 2020; Hamidi et al., 2014; Lun et al., 2016). Especially for IKMs that have limitations in terms of capital and resources for operations, Green Management is an excellent alternative solution (Lun et al., 2016; Teruel-Gutiérrez, 2020). Because with the implementation of good Green Management, it can guarantee efficiency in which there is environmental concern, both in terms of waste management, resource management and strong social relations with the surrounding environment.

The Pentuple Bottom Line consisting of profit, people, planet, Phenotechnology, and Prophetis offered into a concept of social and environmental accountability to explain the disclosure of sustainability reports (Ganis Sukoharsono, 2019).

1. The Economic Aspect (Profit) is the most important element and is the main goal of any business activity, and profit itself is essentially an additional business that must still be oriented to seek economic benefits that allow it to continue to operate and develop.
2. Social aspects (People, human welfare / society) are aspects that affect the existence of society in the midst of a sustainable industry, so the community is an important stakeholder for the company must have concern for human welfare.
3. The Environmental Sustainability Aspect (Planet of environmental sustainability) is an aspect related to all fields in human life that care about the environment and all activities carried out by humans as living beings are always related to the environment
4. Phenotechnology aspects of information technology phenomena should be an important part of maintaining survival.

5. Spiritual aspects (Prophet) of spiritual, mental, or spiritual balance in the process of preserving the life of an organizationManufacturing is one of the important elements of sustainable development because it produces the goods necessary to meet the needs of society.



**Figure 2.** Pentuple Bottom Line (Ganis Sukoharsono, 2019)

## METHOD

This study use qualitative approaches to collect primary and secondary data in Malang City. The sample was acquired through the use of a questionnaire. The samples in this study were selected based on the following criteria: a). Tempe IKM in Malang, b). According to the large number of workers, home-based business is prevalent. The samples utilized were 50 IKMs from the Sanan region of Malang City.

Interviews were conducted on a limited basis with IKM actors, so not all IKM received in-depth interviews. There are at least 10 initial questions asked by not using a questionnaire, namely: business background, brief history of business, business cycle so far, human resource management, raw material management, waste management, place management, sales cycle, organizational structure (if it is an incorporated company), and capital management. Based on these initial questions, it is then continued to the next session if it is considered that the answers given can support the research.

The next session was conducted by asking questions which contained an introduction to the concept of Green Management and its relation to sustainable manufacturing. Because the majority of IKM actors do not understand the concept, a brief explanation is made in advance of the concept and implementation of Green Management to them. This session is basically quite time-consuming because the explanations given are not in a forum, but personally one by one. But in the end, this method is able to give a more in-depth explanation so that the question asked can get the desired answer. After this session ends, the next series of questions is a question about the concept of implementing the Pentuple Bottom Line related to Green Management.

In the Pentuple question-and-answer session, IKM actors were asked fundamental questions about the concept and application of Pentuple. In this session, the notion of Pentuple was not explained, as was the concept of Green Management in the prior session. IKM actors are only given questions with five elements of pentuple, namely: management of profits obtained (profit), the relationship between entrepreneurs and the surrounding environment (social), efforts to preserve the environment by entrepreneurs, particularly from waste management and raw material efficiency (environmental), the use of technology by entrepreneurs in their daily activities (phenotechnology), and the spiritual aspect carried out by enlightened entrepreneurs (spiritual/prophet).

Furthermore, based on the answers given, follow-up questions are given on the basis of unstructured data mining. In this scope, data mining is carried out in depth and in a family atmosphere, because Javanese

culture does bring an informal atmosphere in this interview session. This is an advantage in itself because entrepreneurs who take part in the interview session are much more open in answering and are able to understand more fundamentally about the concept of implementing Pentuple and also Green Management.

## RESULTS AND DISCUSSION

IKMs in Malang, which are dominated by *Tempe* producers, basically require a lot of sustainability in their production processes, and must be able to streamline waste treatment in order to reduce production costs. Many of them claim that they have difficulty in implementing production efficiency and the application of management which involves environmentally friendly production processes. So that when the interview was conducted, various reasons were revealed that made it difficult for SMEs to develop further.

When they were offered an introduction to Green Management, the response they got was a fairly good enthusiasm because it turned out that they actually really needed to apply this in the daily manufacturing process. However, some obstacles occur when they try to implement good Green Management as their company strategy. This is because they still feel that the environment around them is not an important factor in the production process. So that Green Management is considered a concept that is difficult to implement in the daily production process.

Furthermore, solutions are offered using aspects contained in the Pentuple Bottom Line as a liaison between the implementation of Green Management and the sustainability of production that occurs in IKM (Firdaus & Udin, 2011; Teruel-Gutiérrez, 2020). So that the aspects contained in the Pentuple can be a helper so that IKM can implement Green Management gradually and not feel constrained at the time of its implementation.

### Important factors

The results of the interviews conducted by the respondents showed that the five dimensions offered from the Pentuple scheme there is one most important factor that greatly affects IKM entrepreneurs, namely *Prophet* which leads to spiritual aspects. Given that the community of entrepreneurs in the area is classified as very religious, the aspects offered start from *Prophet* which can then eventually provoke entrepreneurs to further implement the Pentuple strategy in the implementation of Green Management.

Almost all respondents stated that they were willing to implement Green Management if it was needed to make their business more efficient. However, when respondents were asked about their main motivations, it turned out that the spiritual aspect became more prominent in fact. The respondents, who are predominantly Muslim, were very enthusiastic when they were told that the activities of Green Management are one of the aspects that are a source of reward in religious activities.

This explanation ultimately led the respondents to better understand Green Management which can be applied with an integrated Pentuple strategy. Green management which in the end can bring the process of making products with minimal use of materials and processes that minimize negative impacts on the environment, save energy and natural resources, are safe for employees, society, and consumers, while still having economic value (Dornfeld, 2014). So that in the end the implementation of effective green management can have an impact on sustainable manufacturing, especially on IKM in malang. The role of Green management on the sustainability of the Tempe Food Small and Medium Industry can be described in the following picture.



**Figure 3.** The Role of "Green Management" in IKM



## CONCLUSION

The use of Green management in the management of IKM is basically acceptable to IKM entrepreneurs in the city of Malang. In its use, it can be supported by a pentuple implementation strategy that involves five components in it. So that in the end it can go towards sustainable manufacturing for IKM, especially in the city of Malang. The results of the interview qualitatively shown that IKM entrepreneurs still do not understand comprehensively about the application of Green management, especially if it is implemented using the Pentuple strategy. However, when explained about the generic pentuple component, entrepreneurs can be triggered by their motivation to implement Green management through the Prophet component which contains spiritual elements. This is because the scope of entrepreneurs tends to be religious and the majority are Muslim, so it is easier to influence through this aspect. Thus, that as an answer to the initial framework of the discussion of theories about Green management, it can be concluded that in the next research it is necessary to explore more deeply the motivations of entrepreneurs in the application of Green management in order to go towards sustainable manufacturing. In addition, it is also necessary to further examine whether it is true that the Prophet component in Pentuple can be an effective trigger so that IKM become easier to be directed to implement Green management in the future

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