

## GREEN COMMUNITY EMPOWERMENT BUSINESS MODEL TO RECOGNIZE SOLO GREEN CITY: A CASE STUDY

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**Abstract.** This research aims to investigate how the local government of Surakarta has been developing green businesses to realize Solo Green City, as the answer to the environmental sustainability issue. We elaborate on the Green Business Model as a strategy to enhance communities participation in green projects. Schaltegger et al., (2012) explained that green business is a systematic approach to develop both business and sustainable environment. We applied the qualitative method in this study. We did interview two groups of respondents, policymakers and green business practitioners. Policy makers are Regional Planning Agency (Bappeda) as a macro planner and Environmental Agency and Agricultural; Food Security and Fishery Agency as implementers. On the other hand, we interviewed business people of decorative plants, hydroponic community, organic vegetables village, and go green souvenirs sellers as practitioners. It can be concluded that from several green business activities, the community empowerment is the most influential movement to establish Solo Green City.

**Keywords:** Green Business Model, community empowerment, sustainability

**Abstrak.** Penelitian ini bertujuan untuk menginvestigasi bagaimana Pemerintah Kota Surakarta mengembangkan bisnis hijau untuk mewujudkan Solo Green City, sebagai jawaban atas isu lingkungan yang keberlanjutan. Peneliti menggali *Green Business Model* (GBM) sebagai strategi untuk meningkatkan partisipasi masyarakat dalam proyek hijau. Schaltegger et al. (2012) menjelaskan bahwa bisnis hijau adalah pendekatan sistematis untuk mengembangkan bisnis sekaligus keberlanjutan lingkungan. Metode kualitatif digunakan dalam penelitian ini. Peneliti melakukan wawancara dengan dua kelompok responden, pembuat kebijakan dan praktisi bisnis hijau. Pembuat kebijakan adalah Bappeda (Badan Perencanaan Pembangunan Daerah) sebagai pembuat perencanaan makro serta Dinas Lingkungan Hidup dan Dinas Pertanian, Ketahanan Pangan, dan Perikanan sebagai pelaksana. Di samping itu, peneliti juga melakukan interview terhadap pelaku bisnis hijau seperti penjual tanaman hias, komunitas hidroponik, kampung sayur organik, dan penjual souvenir *go green* sebagai praktisi. Dari serangkaian aktivitas bisnis hijau yang ada, pemberdayaan masyarakat merupakan gerakan yang paling berpengaruh untuk mewujudkan Solo Green City.

**Kata kunci:** Model Bisnis Hijau, pemberdayaan masyarakat, keberlanjutan

### INTRODUCTION

Go green is the movement to maintain environmental sustainability. Several institutions are making specific credos about go green in order to make sure that the programs are internalized and became the custom. For example; UNS Green Campus, Solo Green City, etc. The green issue also becomes the consideration in the policy-making process. In Solo/Surakarta, the municipal has been developing a green city through several projects, which need a significant budget in the process.

For instance, building a new city garden required approximately 4 billion rupiahs and an additional 3 billion for maintenance per annum. The government is also fully responsible for the maintenance activities since the society is not directly participating in project maintenance. The related-cost associated with the program is usually charged to local government budget (APBD).

Basically, physical development is an easy thing to do as long as the funds are available. But the problem arises when faced with the condition of limited funds, can development still be done? If the initial construction has been successfully carried out, how do the management of the sustainability and the maintenance of the assets? In the context of green city realization, the charging of all costs programs to the APBD will result in a high component of the cost of capital and also maintenance costs in the local government budget structure. Is there a way to realize a green city with a low budget? This paper attempts to explore ideas as the strategy for a local government to realize a green city through programs that encourage people to voluntarily take active roles. This role then leads to a pattern of low-cost in developing green city. The contribution of the article to the Surakarta municipal is provide mapping of ongoing community empowerment and green business development in Surakarta and also the improvements needed to be made.

There is an approach to enhancing communities' active roles to implement green city using a low budget. Developing green business projects can be done through contribution to make the environment both sustain and economically beneficial at once. Naturally, people have higher support to the government's programs if they feel the direct impacts. Therefore, the green business can be seen as an interesting leap in making the city greener with inherent real profit. To support the program, some existing green businesses need to be developed with relevant policies. Schaltegger et al., (2012) explained that go green business is a systematic approach to build the business as well as environmental sustainability. This economic advantage becomes the major attractiveness in the green city project. Green & McCann (2011) stated that the development of the green economy would give a greater chance for society to savor financial growth so that they become empowered. Therefore, the community empowerment is the second approach to drive people's participation in the green project.

This research aims to examine how the Surakarta government develops plans and programs to carry out Solo Green City. Furthermore, this research identifies the types of existing go green businesses in the city. We also explore how the government evolves to the businesses so that that businesses grow well. Moreover, we also identify community development strategy that has been run in several locations in Surakarta. This research will support the literature on green business, climate change, and biodiversity. The paper helps to build the blueprint of policy model in green value and economic value for urban planner and policymakers. The novelty of this research is presenting new information about the existence of the go green business in Surakarta, elaborating a number of policies of the Surakarta government to realize a Green City and increasing knowledge by exposing the approach to develop a green environment with a lower cost of local government budget.

## LITERATURE REVIEW

According to International Tourism Partnership (2016), the term "green" connected to sustainability and corporate social responsibility issues that are much more comprehensive than a merely environmental topic. Likewise, (Roarty, 1997) stated that the concept of "green business" does not have specific definition whereas some references explain it generally but the other is narrowly (Eden, 1996); (Elsayed, 2006).

Business Model (BM) can be defined as a fundamental reason how value is created, delivered, and captured (Osterwalder et al., 2010). The model is also undergoing as a transformation to be greener. For instance, Pan & Goodier (2012) explained that the green business model gained popularity in a construction case. Their research was pointing at the sustainability approach in a green environment. Besides, Zhao & Pan (2015) addressed the issue of building with better carbon absorption by using BM concept. Walravens (2015) confirmed that the smart city design concept was based on network and public value. The focus of those researches was exploring the logic behind economic value creation. Moreover, Green Business Model (GBM) definition by Sommer (2012) is stated below.

“A business model that represents a significant improvement (discontinuous leap) in overall environmental performance relating to its entire value chain system vis-à-vis that of the conventional business model (i.e., the reference case). This improvement is directly attributable to the business model through the alternative design and configuration of business models elements.”

The transformation from BM into GBM is done by changing the BM elements into the reduction of the ecological impacts. Sommer (2012) stated that Green Business Model have five elements; (1) green value proposition, (2) target group, (3) key activities, (4) key resources, and (5) financial logic. The first element, green value proposition, means that the increase of public expectation toward green value will make products that meet that expectations are becoming more competitive. However, green value alone is not sufficient for market success. It needs support from the second element, known as a target group. The target group is presenting the company's view in identifying and selecting relevant groups to the green value offered (Osterwalder et al., 2010). As the increase of environmentalism, it can be investigated the specific green markets based customer's attitudes and behaviors (Jain & Kaur, 2004). The third element, key activities is a set of procedures and processes used by a company to generate value that meets the expectations of the target group (Betz, 2002). The next element is vital resources which includes people, band, knowledge, technology, physical assets, and partnership. (Abuzeinab et al., 2016). After all, the last element is economic logic that becoming economical part of the model. Osterwalder (2004) explained that financial logic consists of cost structure and revenue model in determining the profitability of GBM.

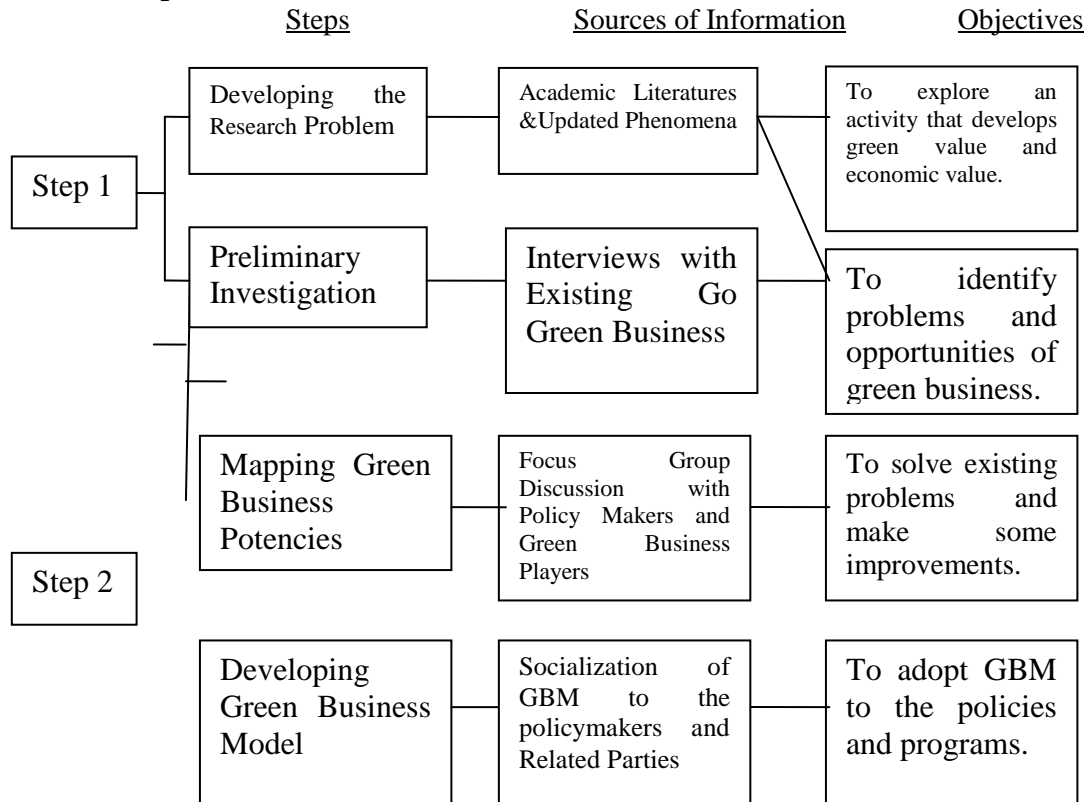
The tagline “Solo Green City” is used for branding as an attractive, comfortable and livable city. Chan & Marafa (2016) explained that urban green resources, including public parks, trees, landscapes and other green open spaces are effective to become the icon of a green city. Characteristic of an urban area is very restrictive and expensive therefore the society hopes that the government will provide adequate accessible public spaces. . The availability of public spaces will attract people to visit the city for tourism, business or living. Merrilees et al., (2013) stated that city's identities creation has been an important strategy to be success in city-branding process. In the era when people and their communities are more aware to the environment sustainability, both enterprises and cities should develop “green branding” to **increase** branding values (Wang, 2019). The implementation of GBM in developing and maintaining public spaces can strengthen branding efforts at affordable costs.

## METHOD

This research method **used** qualitative which combines description of case in Surakarta with the conceptual literatures. In-depth interviews have been done to explore the existing go green businesses. We also interviewed the chairmans of some institutions, in which connected to the Solo

Green City policies. We developed *focused-group discussion* between policymakers and the green business practitioners. **Finally**, we designed a green business model as a recommendation to some institutions; such as Regional Development Planning Board (Bappeda), Environmental Agency (Dinas Lingkungan Hidup), and Agricultural, Food Security and Fishery Agency (Dinas Pertanian, Ketahanan Pangan dan Perikanan). This diagram below depicted the steps of this research.

### Research Steps



## RESULTS AND DISCUSSION

**Policy Maker's Perspectives.** It is important to manage urban green spaces because essentially it support both the quality of life and the sustainability of urban development (Cilliers et al., 2010). This responsibility is attached on grand design setting of a city by the policy makers. Amersfoort, The Greenest City in the Netherlands 2006, has been implemented green urban planning. The municipality of Amersfoort faced sophisticated problems related to open green spaces. Firstly, the involvement of various stakeholders in the decision-making process. Secondly, the competition in land-use in the city between the business, housing needs and infrastructure facilities. Thirdly, the measurability of green space investment (Cilliers et al., 2010). Meanwhile, green city branding could probably support the city's competitiveness (Wang, 2019).

The Surakarta Government has its own steps in realizing green city. We have interviewed chairpersons of several institutions who are responsible for planning and implementing green city concepts. Firstly, Regional Development Planning Board (Bappeda) that is the technical board who support the district government to formulate and to coordinate any planning development in the

city. The plan is derived from national development planning that divided into long term, medium term, and short-term basis. Regional long-term development plan delivers direction and aims to perform the city's purposes for the next twenty years which correspond to the country's mission and vision. However, the medium-term plan is the district government is planning for the next five years, including mission, vision and work plan of the elected regional head. Furthermore, local government short-term plan is arranged as the foundation and operational guidance for the government to set annual work plan.

Based on the interview with Bappeda secretary, it can be concluded that Bappeda did not mention "Solo Green City" in its documents explicitly. Nevertheless, it was arranged in macro planning with a fundamental principle that the development programs must be an ecological basis. Furthermore, she said that the slogan "Solo Green City" may be attached to all missions of Surakarta, 3 WMP (Waras, Wasis, Wareg, Mapan, Papan). Waras means guaranteed health; wasis means guaranteed education; wareg means gorged/full; mapan means available jobs; papan means available houses. The missions are then elaborated to the related agencies work plans. The agency plans also refer to the macro plan made by Bappeda. Agencies which have the responsibility to the green city project are Environmental Agency and Agricultural, Food Security and Fishery Agency.

Environmental Agency is the merger between the Cleaning and Gardening Agency and the Environmental Board. The biggest problem of this institution is the difficulty to provide 20% green open space (GOS) of urban area Surakarta to be ideal according to the Minister of Home Affairs regulation number 1 of 2007. Now, the percentage of green open space in Surakarta is only 9,7% which consists of public green open space and private green open space. Further, the government also built the city gardens and the city forests as the effort to build more green open spaces. The initial development and maintenance activity which are costly were all charged to the government budget. So that, the government should bear with a considerable expense for green open space management. Despite those facts, the local government finds that it is hard to manage the green open space even though the economic potential is quite enormous.

Through discussion, we concluded that the transformation of open public spaces management might be done by involving the community around them. Then, the agency staffs are therefore the society hopes that the government will provide adequate accessible public spaces. . We need to prioritize the types of plants that can be consumed or sold. Afterward, the government may delegate the authority to manage the park to the community. In doing so, the government needs to continue in providing assistantships, guidance and initial maintenance cost for the GOS management. If this concept runs well, we will get two benefits at once, ecological benefits and economical advantages as stated in the GBM theory. Based on the interview with a head of division in Environmental Agency, this suggestion is feasible for some places, but it is hard to implement in other spots because of public indifference.

The next program connecting Solo Green City is climate villages development by Environmental Agency. The most successful climate village is Kampung Sayur Organik (Organic Vegetables Village) in Mojosoongo, Surakarta. The project initiated by Rumah Zakat (RZ), an NGO that aims to support community development, with its empowered community concept. Grand design from RZ as the initiator is to build village-owned enterprise (BUMD-Badan Usaha Milik Desa). The empowered terminology indicate that the program is emphasized on strengthening economical capacity and climate village tend to environmental consideration. The program relatively success because the characteristics of the community are cooperative and manageable. The project started at 2014 through optimizing the use of personal yard program towards the food self-sufficient village. These community empowerment program orientations are significant in environment conservation and poverty reduction. Although the government is still played as the

third party who assisted the society, the community has acknowledged the importance of self-financing management by forming Self-Help Groups (Kelompok Swadaya Masyarakat-KSM). The SHGs campaign program is "Eat fruits and vegetables from your garden." Each house is expected to plant 50 pots of vegetable crops, make a simple fish pond, keep five chickens and cultivate 50 oyster mushroom logs. The yields are for their consumption, and just in case that the harvests are excessive, they can sell them.

The Environmental Agency supports the empowered climate village program by giving vegetables and fruits seeds. They also provide support in mentoring and coaching for the activities carried out in the vegetable village. By now, the Agency is preparing the village to participate in the national green village competition in June 2018. Organic Vegetables Village in Mojosongo is one of the projects initiated by their community with NGO Rumah Zakat. As an addition, the government also develop several climate villages in Solo, which located in six locations; Kadihiro (two locations), Sondakan, Kestalan, Mojosongo, and Joyotakan. The agency supervisor is hoping that there will be more climate villages initiated by the local community and developed by a bottom-up process. For that purpose, Organic Vegetables Village Mojosongo becoming the role model for other new climate villages. Moreover, the development of existing green villages is currently focused on the innovation of derivative products and waste banks management.

Another institution who are responsible for go green business are Agricultural, Food Security, and Fishery Agency. The organization is in charge of doing the technical guidance in agricultural production /plantations and horticulture. In contrast to the environmental agencies that do greening in green open spaces, this agency provides agricultural infrastructure facilities that are planted in the field of offices and schools and other spaces which are not categorized as green open spaces. It also assists in the management of the sleeping land owned by the state as well as private/citizens. This assistance was aiming to make the land more productive as well as environmentally beneficial. There are several coaching activities toward some farmers communities, for examples: rice farmers group and ornamental plants farmers group. Furthermore, the agency performs marketing coaching by forming Agricultural Products Marketers Associations. Here are examples of agricultural products; pare chips, spinach chips, star fruit syrup, and ginger syrup.

**Go Green Business Practitioner's Perspective.** The slogan "Solo Green City" is a manifestation of attempts to build green city branding that refers to a city which willing to make green concept as a priority. A green brand can be seen as something that offer a significant eco advantage (Grant, 2008). In the context of green city branding, the stakeholders involved are residents, businesses, tourists, investors, and environment supporters (Merrilees et al., 2012). However, in this research we focus on green business practitioners as stakeholders who actively participate in green city branding. We have interviewed some go green business to get information about their potencies and business constraints. Go green business can be defined merely as a business that trades green commodities. Among the various go green businesses that developed in Solo City, the long-established business is ornamental plants business located at several spots; Purwosari, Pasar Nongko, Jurug, Mangkunegaran, and Kandangsapi. This business market segments are offices, schools, green programs, and households. Based on an interview with Mr. Jumadi, former Chairman of the Jurug Flower Traders Association, the demand for flower plants for individual buyers has been increasing recently. It indicates that the need to create a green environment becomes more urgent than before. Nevertheless, according to Mr. Jumadi, the traders need a coaching session mainly related to the management of cooperatives that several years are passive. The fostering of ornamental plant traders becomes the obligation of the agricultural service.

Despite limited urban land, green business requires specific innovations. One of them is by developing vertical garden/farm. The vertical farming development has been initiated by Hydroponic Lover Community Panti Waluyo Hospital Surakarta by doing hydroponics agriculture. This business started in September 2014 by installing a hydroponic set on the rooftop of the 3<sup>rd</sup> hospital's floor. Hydroponic business development does not require extensive land because the concept is vertical. Unfortunately, the vertical garden concept does not meet the category of Green Open Space (RTH) because it does not fulfill absorption function. According to Local Regulation No.1 / 2012 on Solo Urban Spatial Planning 2011-2031, RTH is understood to be a space used for growing vegetation and has a function as an airflow.

In addition to some types of go-green business above, there is also a contemporary business, namely start-up businesses that sell souvenirs go green for weddings, seminars and training through social media. The souvenirs are containing vegetable seeds that are packaged in such a way to be more attractive and attached with messages to preserve the environment. This activity has been pioneered by some alumni of the Faculty of Agriculture Universitas Sebelas Maret who are members of the Grow Green Project. They run the business as well as spread go green messages through social media Facebook, and Instagram.

**Discussion.** The existence of green businesses will grow even better if the local government do some intervention. This is what the Amersfoort municipal did to get the award in 2006. After stated a vision to renew the quality of the green-open-spaces within the urban environment, the municipal developed the Green Credit Tool as a method to realize the vision (Cilliers et al., 2010). This is also what we think that the city government of Surakarta needs to make specific regulations that bind stakeholders to actively contribute in realizing a green city. For example, when the government requires office buildings, hotels and hospitals in the city to set aside space for hydroponic plants, then the horticulture production in the city will be extremely massive. It also can be an alternative futuristic vertical farming in urban areas with limited farmland. In Japan, vertical farming can produce 12.000 heads of lettuce a day (<https://inhabitat.com>). Moreover, the city will look greener without significant local government budget allocation. Nowadays, some managements of the office buildings in Surakarta have been developing hydroponic farming voluntarily, unfortunately the harvest is insignificant.

The Government of Surakarta has been supporting green business basically rooted at community development. For example, empowered village in Mojosongo pioneered by NGO Rumah Zakat is supervised by Environmental Agency and Agricultural Agency. This successful project has a significant impact to the community, both economically and environmentally. Every household has been encouraged to have their own nutrition garden; vegetables and livestock, at least to fulfill their consumption. In line with the increasing economy of the community, the village also became greener and colder because it was surrounded by various vegetable plants. The successful of the program in developing empowered villages on Green Business Model basis can be a of city branding in Solo Green City realization. Unfortunately, this empowered village development has not been explicitly included in the regional government planning documents. The government has been providing a stimulus for ongoing empowered villages, but still the main initiator is Rumah Zakat.

Recently, some cities have been trying to do green cities branding. Hongkong government has done some greening efforts by offering public parks, green spaces and other resources to be highlighted as new city branding (Chan & Marafa, 2016). The government try to alter the previous city brand which is not reflecting local characteristic and stakeholder's core values. Wang (2019) has several applicable implications on his paper about green city branding in Yilan, Taiwan .

Firstly, the paper give the city manager a guidance to compare and analyze the differentiation of brand positioning strategies among green cities. Secondly, the paper provides city managers an exploratory basis to re-evaluate or modify their branding communication strategies in terms from multiple stakeholder perceptions. Thirdly, there is an analysis of association between green city brand and behavioral decisions of multiple stakeholders. This analysis is greatly useful as reference to develop city marketing programs for various target groups. Anyhow, we have not find any article about the application of GBM in green city branding yet.

### **Implementation of GBM Concept in the Community Empowerment Development**

Although there are several programs and businesses connected to the green city, we focus on the empowerment community project or specifically called empowered climate villages development. Empowered village is a concept of developing communities by Rumah Zakat to improve the quality of life of individuals and the community by establishing partnerships with various local and national stakeholders. Whereas climate village / Program Kampung Program (ProKlim) is a national-scale program developed by the Ministry of Environment (KLH) to encourage active participation of the community and all parties in carrying out local actions to increase resilience to the effects of climate change and reduce greenhouse gas emissions.

For organic vegetable village in Mojosoongo as an implementation of both concept empowered village and climate village, we identify the elements of GBM refer to Sommer (2012) such as:

**Green Value Proposition (GVP).** Initially, the goals of the program are making the environment greener and fulfilling the personal consumption needs. This has worked. Next, we will level up to produce harvests that are not only for their consumption but also for sale. So far, we have been selling vegetable plants in pots to visitors who come to the village. However, we have a plan to process the vegetables into derivative products that will be marketed widely. Farmers are directed to plant specific seeds to meet the ability of raw materials. The village will be clustered based on the type of vegetables. So, clustering is an effort to increase the green value proposition. By clustering, each area in the village may offer specific vegetable to be processed by a group of women farmers (Kelompok Wanita Tani-KWT). As the grand designer of Vegetables Village, NGO Rumah Zakat responsible for selecting the types of vegetable crops that are potentially converted into agricultural processed products.

**Target Group (TG).** The target group can be explained as clients whom the village wants to offer the products. For example, nutrition departments in the hospitals are target groups for organic vegetables which are chemicals free. By producing, it will be a shifting of target group from seeds and crops consumers into finished products consumers. The next new target group after production process by KWT is green consumption. Green consumption is a form of consumption that allows people to participate in environmental protection (Sun, et al., 2019).

**Key Activities (KA).** The most important activity to create more value for clients is the production process. The production planning in this community refers to sustainable development concept whereas production process must be minimizing negative impacts on environment and community (Handayani et al., 2018). Moreover, the concept of sustainable development encourage the emergence of eco concepts innovation and green consumption. The eco innovation concept focuses on incorporating elements of a sustainable environment in the early stages of making goods and



services (Veleva & Ellenbecker, 2001). Meanwhile, the concept of green consumption is related to patterns environmentally responsible consumption (Handayani et al, 2018). However, before production started, we need to do market research about types of products, suitable raw materials, and best practices process. After processing, we focus on packaging and marketing activities. We will try to implement green marketing concept including some advantages as follows (Annisa, 2015): (1) Produce environmentally friendly products; (2) Producers and advertisers develop the products they are trying to meet the desires of the people who care about environment; (3) Innovation. Without a doubt, it involves a comprehensive project to build business chain through the empowerment of self-help group.

**Key Resources (KR).** The most significant resource that we need been active and visionary human resources who are ready to be the change agents who moved via Rumah Zakat. Furthermore, characteristics of the semi urban-rural people that cooperative, responsive to change, and permissive to accept innovation are valuable assets in this project. These characteristics enable academicians to provide assistance in the application of information technology. For instance, financial statements preparation by using Akun.biz, a financial application based on Android, under this researcher's supervision.

**Financial Logic (FL).** Performing GBM for community empowerment allows us to use minimal financial resources with the ability to generate substantial benefits and the significant multiplier effect. It is in line with the purpose of decreasing the local budget for green city projects. The availability of adequate financial reports allows SHG caretakers to conduct an analysis of their financial capabilities. This information available on Akun.biz application and can be accessed by the members.

## CONCLUSION

**Implications and Conclusion.** The result of this research will be the driving forces for the policymakers, in this case, are Regional Planning Agency (Bappeda), Environmental Agency and Agricultural, Food Security and Fishery Agency to develop policies related to green business improvement. Developing GBM for community empowerment can be triggered by a set of regulations. For example, improving green value proposition by clustering will be stronger if Regional Planning Agency creates the blueprint of green village clusters in all around Solo. Moreover, Environmental Agency arranges operational plan to execute the blueprint. On the other hand, Agricultural, Food Security and Fishery Agency can be more focus on critical activities element by organizing some trainings on production, packaging, marketing and so on. It also recommends the Environmental Agency which supervise climate village project, to create more spots of empowered climate villages and doing collaboration with more NGOs.

Creating Solo Green City need collaborative actions between the government and communities so that the program works effectively. Go green business might be chosen as a way to drive voluntary participation from societies and it bears both environmental and economic advantages. Although the government has set a top-down plan to realize green city, bottom-up initiatives from societies and NGOs are preferable. Furthermore, of the many go green businesses that have been done, go green business that is rooted in community empowerment can be seen as a go green movement with the most significant multiplier effects.

Furthermore, it is suggested to the next researchers to develop a model of empowered climate villages which has an orientation to improve environmental sustainability and economical

advantages. They need to depict a mapping of business capacity and biosphere refinement in each empowered village by considering its own characteristics and local cultures. The model will be very useful for the Surakarta municipal in developing green city branding and realize Solo Green City.

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