

wahyu1

by Jeky Jeky

Submission date: 25-Oct-2021 06:19PM (UTC+0800)

Submission ID: 1683484667

File name: nge-agricultural-startup-in-the-era-of-the-agricultural-8435.pdf (651.91K)

Word count: 13184

Character count: 70343



The role and strategy of agent of change agricultural startup in the era of the agricultural industry revolution 4.0

Wahyu Windari^{1*}, Keppi Sukesi², Sugiyanto², Kliwon Hidayat²

¹ Doctoral Program, Agricultural Extension and Communication, Faculty of Agriculture, Brawijaya University Malang, INDONESIA

² Faculty of Agriculture, University of Brawijaya Malang, INDONESIA

*Corresponding author: wahyu_windari@yahoo.com

Abstract

The startup is an action taken to start a process, a new business or a new organization. Today the emergence of a change agent creates the development of a business model in the era of internet network-based industry 4.0. This study reveals to know the role of change agents in strengthening startups in the agricultural industry era 4.0 and the role strategy of startup agents in the Era of Agricultural Industry 4.0. Design/methodology/approach: We surveyed three different ways: (a) meet directly with respondents and informants who can be found; (b) through the zoom application with parties that cannot be found but can be contacted through this application; and (c) by charging via online google form to respondents who cannot be found and cannot use the zoom application. In total, we conducted 144 surveys out of the 144 actors we initially identified as relevant, and we conducted eight agents of change that could be able to identify as relevant. Findings: The study reveals to know a 14 role of agent of change startup agriculture is agricultural startup business support, ensuring funds or venture capital, catalyst, troubleshooter, liaison, leader, strategic planner, implementation of strategies, organizing, science transfer, motivators, empowerment, creative development and innovation, education developers. Practical implications: agent of change is of great person to growing and giving innovation in Malang Raya Area, Indonesia's agricultural selling system, which features 'empowering farmer in technology'. Theoretical implications: The study reveals the influence of a more complex policy network composed on startup-based agricultural to make a new strategy for improving and growing startup, and expands the application of the strategy to empowering startup and extension in farmer. Originality/value: The findings will guide the agriculture startup in achieving its vision of creating the perfect strategy for agent of change.

Keywords: agent of change, startup, agriculture, strategy, role

Windari W, Sukesi K, Sugiyanto, Hidayat K (2020) The role and strategy of agent of change agricultural startup in the era of the agricultural industry revolution 4.0. Eurasia J Biosci 14: 6787-6803.

© 2020 Windari et al.

This is an open-access article distributed under the terms of the Creative Commons Attribution License.

INTRODUCTION

Agent of change is a person tasked with influencing the client in order to accept innovation following the purpose desired by the change entrepreneur (Amalia, Dayati, and Nasution¹2017; Havelock 1995; Soekanto and Soerjono 1992). Today the emergence of a change agent creates the development of a business model in the era of internet network-based industry 4.0 known as a startup. The startup is an action taken to start a process, a new business or a new organization. The Silicon Valley area is well known as the startup centre we can see a wide range of startups engaged in the field of Information and Communication Technology (Widyasthana, Wibisono, Purwanegara, and Siallagan, 2017). The development of startups resulted in the economic revival of farmers in the small agricultural,

industrial sector in various countries is no exception in Indonesia. The development of agricultural startups in Indonesia is centred on the region in East Java with many technology-based business development programs through belief institutions with the program "1000 Startup". Smallholder farmers often use mobile phones as a medium to search for information so that all current farming activities are supported by adequate communication technology (Christian and Subejo, 2018). The startup system changes the viewpoint from the economic capitalist to a free economy.

However, the development of the industry era in 4.0 is now a very profitable finding (Tasmin et al., 2020;

Received: April 2019

Accepted: March 2020

Printed: December 2020

Ralston & Blackhurst, 2020; Nguyen, 2020; Fields et al., 2020; Lauber et al., 2020); the business network is run through the development of technology through internet communication very well, the sharing of information through logarithm is different from the previous one (Kosareva et al. 2019). In each case, we use a unique algorithm to search for patterns in the data to determine, first, whether a layered structure similar to that found on the offline go network exists in the reciprocal traffic data collected from the online environment, and then if so, to identify the size of this layer (Dunbar, Arnaboldi, Conti, and Passarella, 2015). All of which has implications with the change in the pattern of the industry itself that seeks to manage the production process, the change can reach the entire value chain of both villagers and urban people (Kovács and Husti, 2018). The change agent became one of the system reinforcement givers in this agricultural startup. According to Cerf, Guillot, and Oly, (2011) farmers became one of the targets of receiving benefits from the change agent, in addition to being given a wide range of advice and providing excellent service related to an innovation product. (Salifu, Obeng, and Mas-ud 2016) The ability of the agent to change. In this case, it becomes a measure of the capacity of its role because, during this time in a startup, the change agent became one of the proponents of the success of agricultural startups (Beuchelt and Zeller 2013).

Currently, agents of change in the world of agriculture industry its role have changed the role of extension of the government (Norton., & Alwang, 2020; Shah et al., 2020; Abugba et al., 2020), because the role of government extension is minimal and insufficient industry capacity (Tanjung 2020). So, they give focus to the development of human resources that is the agent of change that is a pioneer in the context of historical changes that have occurred in the paradigm of extension and rural innovation (Klerkx, Hall, and Leeuwis 2009; Singh et al. 2016; Sulaiman and Davis 2012). Many sources of literature can be used as a standard in looking at the standards of institutional entrepreneurship agents (Duygan, Stauffacher, and Meylan, 2019; Westley et al., 2013), "policy entrepreneurs" (Frisch Aviram, Cohen, and Beeri, 2020; Mintrom and Norman, 2009), "agents of change" (Andriamihaja et al. 2021; Lampert and Mohan 2019), or "agents of transformation" (Grosvenor and Macnab, 2015).

However, standards and some of these studies only provide findings of role agents of change in the extension process based on the old paradigm. There has been no role agent of change capable of being portrayed in the depiction of the role of the new paradigm. There needs to be more research on this to achieve the prime condition of the change agent through its role. In achieving these prime conditions, the change agent has various ways of building its power capacity by adjusting the institutional state of its startup (Sinkaiye

and Nwserema 2008; Remneland, 2020; Nielsen et al., 2020; Zhang, 2020). Mastery of training on techniques on good social knowledge is an essential basis for fulfilling the existence of agents of change (Sulaiman and Davis, 2012; Tarekegne et al., 2017). Change agents always bring an innovation that can be applied in agricultural startups through the development of self-competence capacity in the learning process of teaching to farmers (Albaladejo, Couix, and Barthe, 2007; Mulder, 2016). In this study, there are three objectives: (a) To decrypt the role of change agents in strengthening startups in the agricultural industry era 4.0?, (c) Knowing the role strategy of startup agents in the Era of Agricultural Industry 4.0. The goal is to explain the state of startups and strategies for the role of change agents in startups that can later support the development of industrial-scale agriculture 4.0 (Rose & Chilvers, 2018; Rose, Wheeler, Winter, Lobley, & Chivers, 2021; Zhai, Martínez, Beltran, and Martínez, 2020).

CONCEPTUAL FRAMEWORK

There are many transformative measures to address the diverse social, economic, and agricultural problems facing the world such as farmer insecurity, production price inequality, and the development of agricultural technologies that require agents of change to do so. In this case, we take on the challenge of combining strategy analysis and role analysis to identify the role of the change agent. When our study deals with agricultural startups, we aim, more specifically, to discover the role of change agents on sustainable agricultural startup governance among the organizational actors who are already part of the current governance of agricultural logistics. The Conceptualization of the reform agents in this study based on the theory of choosing a human actor model (Wiesmann, Ott, Ifejika, Speranza, et al. 2011; Wiesmann, Ott, Speranza, et al. 2011). This model defines actors by their actions, which is the sum of their meanings (the strategies motivating actors to act), their means (the resources through which actors achieve meaning and implement an action), and their activity (interactions with other actors while implementing an action). The study also used two fundamental theories, namely the basic theory of the agent of change, according to Carnall, (2007). The agent of change must be able to master the leadership capability in a project on a client Carnall, (2007). Some of these leadership abilities became the basis for his role as agent of change Carnall, (2007). As for the leadership capabilities that must be possessed by the change agent such as (a) Delegating, a change agent must be able and formally given the task of delegating and innovation to the client to improve his/her life or solve the problems he or she faces, (b) Participating, a change agent is required to provide participation to facilitate the exchange of

information about the things he hopes to achieve in the process of change (innovation) between the change agent and the client, c) Selling, a change agent is required to be able to increase sales to the client, the sale becomes the primary basis of client satisfaction in receiving an innovation, (d) Telling, a agent of change must be able to provide an explanation to the institution, client and consumer in the application of innovation in the field Carnall (2007).

Agents of change should be able to establish good relationships with change entrepreneurs and also with client systems (Diah, Partini, and Sri, 2018; Wibowo and Nulhakim, 2015). Rusaw, (2005), suggested that the agent of change serves as a communication link between two (or more) social systems, namely connecting between a social system that pioneered the change and the social system of society that he built in the effort of change. The primary key to whether or not innovation is received depends on the communication process conducted by the change agent with the client (Juwita, Roza, and Mulkhairi, 2019; Wibowo and Nulhakim, 2015). Ison and Russell, (2000) mentions that there are two qualification changes made by the agent of change. The first qualification in change is the agent of change should be able to improve the efficiency of a system. A second qualification means getting out of an existing system to see from a different perspective or angle. The implication is that other perspectives or other points of view have different reasons. However, does the agency understand the various agricultural problems and their development in interacting with farmers today?

There is much literature that gives a variety of direction in becoming an agent of change in the management of the organization. There are many manuals and recommendations, both written by scholars and consultants. However, as far as we know, some researchers have adopted a variety of approaches to understanding how agents of change themselves defining their roles and developing their skills. Sociologists are also instrumental in determining these various supporting theories (for example (Carnall, 2007; Compagnone, Auricoste, and Lemery, 2009; Sulaiman and Davis, 2012) but the theory of the agent of change mentioned focuses only on the concept and relationship of the development of the agent, rather than in the course of the agent of change in performing his role to provide action in a situation. Some researchers (for example Abegaz and Wims, 2015; Cerf et al., 2011) has findings on how agents of change learn to play a role in making changes to farmers in producing their crops. So, the basic concept of the role of reformer agencies in agricultural startups should be able to be interpreted as behaviour that can change the mindset of consumers and farmers.

METHODOLOGY

Study area and design

We conducted the study in Indonesia, especially Malang Raya, East Java, which one the central startup agriculture is growing up in this province. The emergence of agricultural startups in Malang Raya has been since 2016 and developed until now accompanied by BEKRAF (Tourism and Creative Economy Agency). BEKRAF can launch a new agricultural startup to become a marketing and technology medium for smallholders.

We purposively selected three districts, namely Malang City, Batu City, and Malang Regency for this study, based on their prior participation in the startup activity and dissemination activities with BEKRAF from 2019 to present. This research uses the sequential mix method of sequential mix method. Research begins with quantitative methods to test specific theories or concepts, followed by qualitative methods by exploring several cases and individuals according to the circumstances of the research location (Creswell 2015). Quantitative is used in describing the role of reformer agents, and qualitative approaches are used to decrypt the institutional conditions of agricultural startups in the agricultural industry era 4.0, for methods to strategize strengthening the role of change agents.

We conducted the study in Indonesia, especially Malang Raya, East Java, which one the central startup agriculture is growing up in this province. The emergence of agricultural startups in Malang Raya has been since 2016 and developed until now accompanied by BEKRAF (Tourism and Creative Economy Agency). BEKRAF can launch a new agricultural startup to become a marketing and technology medium for smallholders. We purposively selected three districts, namely Malang City, Batu City, and Malang Regency for this study, based on their prior participation in the startup activity and dissemination activities with BEKRAF from 2019 to present. This research uses the sequential mix method of sequential mix method. Research begins with quantitative methods to test specific theories or concepts, followed by qualitative methods by exploring several cases and individuals according to the circumstances of the research location (Creswell 2015). Quantitative is used in describing the role of reformer agents, and qualitative approaches are used to decrypt the institutional conditions of agricultural startups in the agricultural industry era 4.0, for methods to strategize strengthening the role of change agents.

Study population and data collection

The study targeted different agents of change, farmer, and consumer. Specifically, actors in a startup business, extension, production (farmer), empowerment at the farmer, policy enforcement agencies are identified, and representatives of each actor category are included in the study. The data was collected

between June 2020 until September 2020 and included four focus group interviews in each city, an actor survey, and secondary data collection and from google from that post on Twitter and Facebook. Using purposive random sampling, we inventoried a total of 144 actors related to case study agriculture startup. The involved an actor survey of 144 actors and secondary data collected from the internet (their website or blog articles) on eight other actors. For instance, the website of the Tanihub, Among Tani, Abang Sayur Organik, and MSMB Indonesia provides a mission statement that we considered as their aim. We surveyed three different ways: (a) meet directly with respondents and informants who can be found; (b) through the zoom application with parties that cannot be found but can be contacted through this application; and (c) by charging via online google form to respondents who cannot be found and cannot use the zoom application. In total, we conducted 144 surveys out of the 144 actors we initially identified as relevant, and we conducted eight agents of change that could be able to identify as relevant.

We use multiple sources to collect some related data: (a) In-depth semi-structured telephone interviews with 40 participants, and face to face with 6 participants, (b) Researcher's reflection notes on each participant's persistence recorded immediately after that interview, (c) Electronic follow-up interviews with each participant to secure additional information on the emerging themes, (d) Agent of change transcripts files to validate the information obtained during the interviews and to get additional details related to the cases, (e) Elicitation materials, such as photos, objects, and other important personal things, provided by each participant related to their respective persistence in startup agriculture, (f) Participants' responses to the open-ended and multiple-choice questions on the survey in the first, quantitative phase and analysis at the spreadsheet.

The interview protocol was designed based on the survey results and qualitative research questions with online interview at zoom and google meet and interview. The eight selected participants teaching in different subject startups were individually interviewed about their knowledge about startup agriculture. The average interview time was 40 minutes. All interviews were tape-recorded and transcribed. The data was analyzed using Atlas.ti 9 (qualitative data analysis software).

Data collection in this study through the Condensation Data, Data Display, and Data Conclusion Drawing/Verification stages (Emzir 2018). Analysis of data used in describing circumstances with systematic and accurate words regarding facts, properties and relationships between phenomena encountered using qualitative descriptive analysis. Guidelines on research using Milles and Huberman (2014) that qualitative analysis remains using words typically composed in expanded text. Based on our conceptual framework, our

11

Table 1. Overview of survey population in Malang Raya Area

| Survey Mode | 7 face-to-face interviewers | 1 zoom interviewers | 144 online survey |
|-----------------|---|---------------------|-------------------------|
| Level of actors | 2 founder startup, 1 CEO startup, 4 employment of startup | 1 CEO startup | 28 konsumen, 116 farmer |

data analysis focused on analyzing roles agent of change startup and conditions startup.

RESULTS AND DISCUSSION

The Role Agent of Change at Agricultural Startup

The rapid development of agricultural startups in Malang Raya area requires the support of several actors. Such support can be the role of actors who can change startups in a better direction. The actor's role can make agricultural startups more focused on achieving goals (Kozier, Erb, Audrey, & Shirlee, 2010). This agents of change can run an institutional structure meaning the agents of change can conduct activities on institutional startups based on the potential of startups. It is the potential that exists within this startup that can form a pattern of relationships that give each other advantages and a responsibility. The agents of change must have rights and obligations with always regarding his ability.

Reformer agents in Malang Raya area have mostly been able to run the structure according to the needs of startups. The agents of change has been able to put his potential to carry out the structure of his role according to the needs. The agents of change has been able to put its capabilities in a startup. The company's employment authority more easily enhances the role of reformer agents in startups. Reformer agencies have been able to make concrete contributions in addressing various problems in the field related to consumers, partner farmers and even startup institutions themselves. Some of the roles of reformer agents carried out so far in Malang Raya area are roles that have an impact. The impact is arising by providing excellent development on agricultural startups in Malang Raya Area.

Startup business supporters

Based on Table 2, reformer has a role as a business supporter agricultural startup has an average score of 72.42 % meaning in general startup reformer agency Malang Raya Area often plays a role in supporting businesses to provide a large role for three actors in startups namely startup institutions, farmers and consumers. Persistent reformer agents (81.94%) product development innovations. The innovation of product development varies significantly from the development of agricultural products to process fresh products in the form of vegetables into chips and healthy krupuk. Start reducing the use of plastic by replacing paper with environmentally friendly packaging. Through the innovation of product development, reformer agents often improve (76.25%) profit and often increase income

Table 2. Startup business supporters

| Role Variable | Role Components | Interval Score | Average Score | Level of Role (%) |
|---------------------------------------|--|----------------|---------------|-------------------|
| Agricultural Startup Business Support | Provide increased benefits for various parties | 0-5 | 3.81 | 76.25 |
| | Increase the revenue of various parties | 0-5 | 3.60 | 72.08 |
| | Providing product development innovation | 0-5 | 4.10 | 81.94 |
| | Contribute to state tax contributions | 0-5 | 3.42 | 68.33 |
| | Average | | | 72.42 |

Table 3. Getting funds/capital

| Role Variable | Role Components | Interval Score | Average Score | Level of Role (%) |
|-----------------------------------|--|----------------|---------------|-------------------|
| Ensuring funds or venture capital | Ensuring the availability of the company's underlying capital | 0-5 | 3.51 | 70.14 |
| | Looking for investors from consumers in both farmers and companies | 0-5 | 3.26 | 65.28 |
| | Ensuring additional capital gains from other parties | 0-5 | 3.35 | 67.08 |
| | Mejalin cooperation to obtain capital venture (injection of funds) | 0-5 | 4.23 | 84.58 |
| | Average | | | 71.77 |

Table 4. Catalyst

| Role Variable | Role Components | Interval Score | Average Score | Level of Role (%) |
|---------------|--|----------------|---------------|-------------------|
| Catalyst | Simplify the marketing process in social media | 0-5 | 4.01 | 80.14 |
| | Increasing the social impact on farming communities | 0-5 | 4.08 | 81.53 |
| | Community technology innovation boosters | 0-5 | 3.53 | 70.69 |
| | Keep an eye on the course of the product marketing chain | 0-5 | 3.45 | 69.03 |
| | Expanding CSR in the community | 0-5 | 3.44 | 68.89 |
| | Online virtual payment/payment system developers | 0-5 | 3.84 | 76.81 |
| | Providing social assistance to partner farmers, as well as consumers | 0-5 | 4.08 | 81.53 |
| | The idea of creating packaging innovations | 0-5 | 3.88 | 77.64 |
| | Average | | | 75.78 |

(72.08%); the profit is that farmers do not have to throw away or sell their products at a low price, the price sold to startups remains stable, and startups can sell to consumers based on business to business in the form of restaurants, restaurants, and factories. The role of reformer agents often contributes also to the development of state taxes (68.33) through agricultural startups in Malang Raya.

Initially, before the arrival of agricultural startups. The agricultural industry that contributes state taxes rests solely on farmers. Currently, more state tax contributions are donated by agricultural startups. So the tax output for agricultural development activities is increasingly implemented. Farmers feel the tax's impact with improvements in irrigation, farm card programs, and other assistance programs that benefit farmers. Initially, the startup's business support rested solely on the funding of venture capital, but the limited human resources to obtain business capital have not yielded results. After there is a agents of change with various innovations, resulting in changes the better business support in the startup Malang Raya Area.

Getting funds/capital

Based on **Table 3**, the agents of change has a role in obtaining funds/venture capital with an average role of 71.77 %. Reformer agents often play a role in establishing cooperation to obtain (84.58%) capital venture. In 2020, foreign companies (USA) will be 17 million US\$ This assistance was successfully obtained from the role of reformer agencies in introducing agricultural startup businesses abroad. Reformer agencies are used to conducting exhibition activities to attract some investors who can develop agricultural startups. Several national and international exhibitions

are also often followed by the expectation of many investors who want to give an injection of business funds. Reformer agents create a new paradigm in an institution. Reformer agencies understand how future development plans are so that reformer agents often have a role in ensuring availability (70.14%) of the company's principal capital. The availability of the company's underlying capital was obtained by additional capital from other parties (67.08%). The party is often invited by reformer agents to develop agriculture in Indonesia jointly. Through the invitation, the agents of change was able to play a role in it. Reformer agencies have a recurring role in finding investors from consumers in both farmers and companies (65.28%). Consumers are given the option of capital investment to cool farmers with a variety of investment models.

The investment contributes to the capital funding of partner farmers. Partner farmers can apply for business capital at startups with guidance provided by the startup. One of these activities is at tanigrup's startup, tanifund. Farmers are given funds to develop agricultural production. Some farmers in Malang Raya area have had a positive impact. A partner farmer group in Batu Area is the Melon Al Huda Farmer Group, which gets help to develop cantaloupe-type melons with greenhouses. The group successfully cultivated and developed this type of melon and met the startup's needs for melon products.

Catalysts

The agents of change **Table 4** has a role as a catalyst in agricultural startup Malang Raya area with an average role of 75.78 %, meaning in general, the agents of change often has a role as a catalyst in agricultural development startups. A agents of change with a

Table 5. Troubleshooter

| Role Variable | Role Components | Interval Score | Average Score | Level of Role (%) |
|----------------|---|----------------|---------------|-------------------|
| Troubleshooter | Agricultural human resources developers | 0-5 | 3.68 | 73.61 |
| | Discover new talent in app development | 0-5 | 3.20 | 64.03 |
| | Increase app level | 0-5 | 3.90 | 77.92 |
| | Cutting the marketing chain | 0-5 | 3.92 | 78.47 |
| | Increase market consumer coverage | 0-5 | 4.01 | 80.28 |
| | Product quality improvement | 0-5 | 3.91 | 78.19 |
| | Average | | | |

catalyst role will make it easier for startups to change agricultural patterns that have been detrimental to the farmer's side. Through the reformer agency, farmers will be foxed to follow agriculture in the current era adjacent to technology.

Persistent reformer agents (81.53%) social impact on farmers and very often (81.53%) social assistance to partner farmers and consumers. Reformer agencies have initiatives to make much social impact on farmers. Some of these impacts are realized through social change, namely spraying farmland using drones that only require androids and do not use human power. Besides, land processing that can usually take one day in land management can now be faster through applications on MSMB Indonesia startups. Many of the social assistance of agricultural startups in the Malang Raya area during the covid-19 outbreak is occurring, namely providing basic groceries to consumers affected by the outbreak and lending facilities by partner farmers affected by the covid-19 outbreak. With the covid-19 outbreak's impact, reformer agencies are also persistent (80.14%) role in simplifying the marketing process in social media.

Reformer agents also have recurring roles (77.64%) as the founder of making innovations packaging vegetable and food products. The vegetables that are packed in the warehouse will be adjusted to the product's durability level. One of them is organic rice products wrapped with airtight innovations to prolong organic rice's shelf life. Current startup products can be paid for quickly without having to go through cash. Frequent reformer agents (76.81%) play a role in developing virtual payment systems/online payments. The use of digital wallets both ovo, link aja, and gopay has been applied to agricultural startups so that some consumers no longer need to be too fussy in the use of shopping transactions through money. This makes it frequent (70.69%) to develop technology in the community to start switching to easy and solutive agricultural transactions following the current situation.

The increase in transaction processes in the people also resulted in reformer agents having too frequent (69.03%) oversee product marketing chains at the farmer-to-consumer level. The extended market chain outage created a new paradigm in the marketing system in Malang Raya Area, thus providing more profit at the farmer level. In addition to focusing on agricultural startup, farmers also often (68.89%) have their approach top with social responsibility given through CSR

development in the community. CSR is in the form of agricultural assistance or training kits of urban communities so that it is expected that many millennial urban farmers can join in startups to become farming partners in the future.

Troubleshooter

The agents of change **Table 5** has a role as a problem solver in the agricultural startup Malang Raya area with an average role of 75.42 %, meaning in general, the agents of change often has a role as a problem solver in developing agricultural startups. The emergence of various difficulties and limitations on startups causes actors in startups to quickly obtain a resolution in the form of problem-solving. The problem-solving process rests not only on startups but on partner farmers and consumers. Reformer agents play a role in these three businesses. The more the agents of change strengthens the role, the more the three businesses also get various advantages.

The needs of farmers in the absorption of agricultural products sustainably and with minimal risk encourage the strengthening of the reformer agent's role. The push makes the agents of change have to ripen the Steps to finish as well as possible. One of the reformer agent's steps is very often (80.28%) to increase the market's consumer coverage. Reformer agencies carry out market coverage by cutting the market chain (78.47%). Cutting this market chain is the best way for the reformer agency to accelerate the absorption of farmers' products by maintaining the selling price of products at the farmer level. The price of agricultural production has been volatile due to farmers' lack of value to determine the price. The agents of change at the startup among farmers and organic vegetable brother gives price decisions in real-time at the partner farmer level to directly get the market justice system. That role makes reformer agents increasingly trusted by startup agencies, partner farmers, and consumers to be a startup force.

Frequent reformer agents (78.19%) role in improving the quality of products available to farmers through process assistance in the field. The best quality with good grading will produce good quality for consumers to consume. Products with good quality will make it easier for products to be marketed through the application; in marketing through this app, frequent reformer agents (77.92%) influential in increasing the application level to facilitate farmers in their use. Improving the application

Table 6. Liaison

| Role Variable | Role Components | Interval Score | Average Score | Level of Role (%) |
|---------------|---|----------------|---------------|-------------------|
| Liaison | Connect startups with partners and consumers | 0-5 | 3.57 | 71.39 |
| | Increase consumer confidence, and farmers | 0-5 | 4.02 | 80.42 |
| | Connecting startups with capital providers both in farmers and in the community | 0-5 | 3.98 | 79.58 |
| | Average | | | 77.13 |

Table 7. Leader

| Role Variable | Role Components | Interval Score | Average Score | Level of Role (%) |
|---------------|---|----------------|---------------|-------------------|
| Leader | Good relationship with all parties | 0-5 | 3.94 | 78.75 |
| | Embracing all consumers, farmers and co-workers in the process of empowering farmers | 0-5 | 3.79 | 75.83 |
| | Apply the principle of free speech and give criticism | 0-5 | 3.89 | 77.78 |
| | Provide free time for polls or surveys to farmers and consumers | 0-5 | 4.01 | 80.28 |
| | Create a productive work environment, and make consumers comfortable shopping and make a sense of security in farmers | 0-5 | 4.10 | 82.08 |
| | Make members, farmers and consumers have a sense of kinship | 0-5 | 4.06 | 81.25 |
| | Average | | | 79.33 |

according to the user's face will make it easier for farmers to adopt a virtual marketing model. In the development of this app, the agents of change also has a role in discovering (64.03%) new talent in application development. Such development will be easily achieved if the reformer agent's human resources are also of quality. Reformer agencies play a role (73.61%) in developing agricultural, human resources today. Such roles are a must-have as technology is proliferating.

Liaison

Based on **Table 6** the agents of change has a role as a liaison in the agricultural startup Malang Raya area with an average role of 77.13 % meaning, in general, the agents of change can have a role as a liaison in developing agricultural startups. In general, agricultural startup reformers in Malang Raya area have the task of connecting startup institutions with farmers, consumers, and capital providers. The task can be performed if the role of the agents of change is appropriate to be applied to the line of work in the agricultural startup.

Capable agents of change (71.39%) connect startups with partners and consumers—the process of connecting communications on these three parties through persuasive solicitation. Agricultural startup reformer agents in Malang Raya area have a habit of introducing agricultural startups through social media, print information media, and introducing startups by giving away on social media pages. Easy-to-get consumer types of information on social media are utilized by reformer agencies to improve startup networks in consumers. The give away gift-giving strategy is also one way to connect agricultural startups with consumers in Daerah Malang Raya. Consumers are concerned that startups that pay attention to their customers will be easy to remember and become a priority for wanting to shop there. The strategy of the agents of change through the liaison role, the reformer agent, is very capable of improving (80.42%) consumer, and farmer confidence.

The increase could make it easier for startups to meet capital providers (79.58%) in the community. The

increase in the ease of providing business capital for these farmers triggers many partner farmers who are increasing their production from the harvest period to the penny period. Agricultural startups provide the investment with a profit-sharing system after the harvest period is complete, the transparent distribution of the proceeds through the idea of a agents of change becomes one of the public's trust to invest the funds. This in Malang Raya area becomes a very innovative solution for the people who are trying to farm but do not own land, through the funds the community can farm and get results through the farmer's startup partners in Malang Raya.

Leader

The agents of change **Table 7** has a role as a leader in agricultural startup Malang Raya area with an average role of 79.33 % meaning, in general, the reformer agency can have a role as a leader in developing agricultural startups. Reformer agents in Malang Raya area are competent (82.08) to play a role in creating a productive work atmosphere, and making consumers comfortable shopping and making sense of security in farmers. Rodriguez, Molnar, Fazio, Sydnor, & Lowe (2009) states that an individual's behaviour is always related to his or her natural environment. When the environment around the individual can support individual activities, then performance in an organization will be okay. The reformer agent, as a leader in the project, should be able to create a working atmosphere that suits the needs of partner farmers.

In Malang Raya Area, the reformer agency always provides comfort to partner farmers by implementing startup operational standards that are accompanying and empowering partner farmers by providing comfort. A comfortable environment will shape the communication model in making social changes. The changes that occur can change the norms of farmers who are more open-minded in conducting agricultural activities. Through the role of reformer agents as highly capable leaders (81.25%) members, farmers and consumers have a sense of kinship. Through the sense

Table 8. Strategic planner

| Role Variable | Role Components | Interval Score | Average Score | Level of Role (%) |
|-------------------|---|----------------|---------------|-------------------|
| Strategic planner | Providing services to farmers and consumers | 0-5 | 3.94 | 78.75 |
| | Providing quality service | 0-5 | 3.79 | 75.83 |
| | Plan carefully about future plans | 0-5 | 3.89 | 77.78 |
| | Identify problems in general | 0-5 | 4.01 | 80.28 |
| | Manage time and tasks in his work | 0-5 | 4.10 | 82.08 |
| | Average | | | |

Table 9. Implementation of strategies

| Role Variable | Role Components | Interval Score | Average Score | Level of Role (%) |
|------------------------------|--|----------------|---------------|-------------------|
| Implementation of strategies | Dissemination of up-to-date information about agriculture | 0-5 | 3.84 | 76.81 |
| | Helping farmers and consumers maximize the use of technology in farming and marketing activities | 0-5 | 3.82 | 76.39 |
| | Supporting increased capital in farmers and supporting prices that are easily reachable to consumers | 0-5 | 3.91 | 78.19 |
| | Supporting increased income in farmers | 0-5 | 4.19 | 83.75 |
| | Dissemination of up-to-date information about agriculture | 0-5 | 4.04 | 80.83 |
| | Average | | | |

of kinship, it gives a free speech at the farmer level because the agents of change is competent (80.28%) provide free time for polls or surveys to farmers and consumers.

This leisure time becomes one of the farmer's events to provide his feedback and advice on startups through a reformer agent. Capable agents of change (77.78%) have a role in providing space for the giving of opinions to partner farmers. Farmers of startup partners in Malang Raya find it easy to submit their proposed opinion to startups because it is always accompanied by a agents of change regularly, the agents of change for at least two weeks always visiting partner farmers to see the problems in Malang Raya Area. Reformer agents are capable (78.75%) establish consumer confidence through good relations with all parties so that reformer agencies can embrace (75.83%) all consumers, farmers and colleagues in the process of empowerment in farmers. Farmers and consumers need reformer agencies to conduct business activities and agricultural transactions. The variety of activities will be easy to control and always supervised so that there is no loss when partner farmers and consumers conduct transaction activities.

Strategy planners

The agents of change **Table 8** has a role as a strategic planner in the agricultural startup Malang Raya area with an average role of 79.33 % meaning, in general, the reformer agency can have a role as a strategic planner in developing agricultural startups. The role of the agents of change in planning the strategy is capable (82.08%) time and tasks in his work. Time and tasks must be carried out effectively and efficiently. Agricultural startup agents of change in Malang Raya area has good time management so that it can complete tasks quickly and according to target. The target stipulated by the startup is completed by making the most of working time so that the agents of change wastes no free time.

Reformer agents at agricultural startup Malang Raya Area play a role in identifying (80.28%) problems in

general in farming groups and consumer needs. These results are used in the preparation of short-term strategy, which should be done appropriately. The collection of these problems in the field related to agricultural production constraints caused by pests, constraints on the delivery of agricultural production that cause fruit and vegetable yields to wither quickly. The reformer agency noted these obstacles to be identified so that it is quickly addressed so as not to harm partner farmers and agricultural startup institutions in Malang Raya Area. This is an ability (78.75%) services to farmers and consumers. The service performed by this agents of change is responsive. The agents of change is always quick to accompany the difficulties of partner farmers. The event is a workshop or training for partner farmers with a period of 6 months and even three months. The implementation of this training is the initiation of the agents of change obtained through capability (77.78%) careful planning of plans. So the agents of change is always capable (75.83%) providing quality services to partner farmers and consumers.

Assisting the strategy process

The agents of change table has a role as a strategic planner in agricultural startup Malang Raya area with an average role of 79.19 % meaning, in general, the reformer agency can have a role to help the strategy process in developing agricultural startups. Many institutions have initial plans, but in reality, the draft strategy has not been able to be implemented. Agricultural startups through the current reformer agency always carry out the implementation of the strategy that has been compiled. The reformer agency carries out the process following the principles of comfort and safety of partner farmers and consumers. This principle is vital for the implementation of transparent startups. Farmer partners in Malang Raya area are one example that the seriousness of the reformer agency in this role gives the impact of farmers as open as willing to adopt various technologies brought by agricultural startups.

Table 10. Organizing

| Role Variable | Role Components | Interval Score | Average Score | Level of Role (%) |
|---------------|---|----------------|---------------|-------------------|
| Organizing | Upholding professionalism in leading | 0-5 | 3.93 | 78.61 |
| | Serving the needs of partner farmers and consumers | 0-5 | 4.07 | 81.39 |
| | Able to be in a working team to meet the needs of consumers and farmers | 0-5 | 3.99 | 79.86 |
| | Encouraging farmers and communities to advance agriculture | 0-5 | 3.92 | 78.33 |
| | Establishing farmer cooperation with consumers | 0-5 | 3.90 | 77.92 |
| | Have a responsibility to partner farmers and consumers | 0-5 | 3.90 | 77.92 |
| | average | | | 79.00 |

Table 11. Science transfer

| Role Variable | Role Components | Interval Score | Average Score | Level of Role (%) |
|------------------|---|----------------|---------------|-------------------|
| Science Transfer | Introduction to the application of cultivation technology in the form of the use of drip irrigation, sprinkles, and other technologies to farmers and consumers | 0-5 | 3.47 | 69.44 |
| | Cultivation technology taught to increase agricultural production | 0-5 | 3.58 | 71.53 |
| | Transfer of capital technology from consumer to farmer | 0-5 | 3.85 | 77.08 |
| | Application of capital technology to increase capital value to farmers and profit to consumers | 0-5 | 3.92 | 78.33 |
| | Transfer of marketing technology | 0-5 | 3.40 | 67.92 |
| | Accelerate sales of farmers' products and facilitate the fulfillment of consumer needs | 0-5 | 3.67 | 73.47 |
| | Average | | | 72,96 |

Highly capable reformer agents (83.75%) participate in supporting the increase in income in farmers. Such support is like organic rice farmers who usually market their products through the middle man with minimal profit. Through the role of this reformer agent, organic rice sold is more profitable, 40% than sold in the middle. The agents of change does branding products so that products from farmers have more selling value; the branding process is implemented by disseminating educational information at the partner farmer level. Highly capable reformer agents (80.83%) disseminating up-to-date information about agriculture to partner farmers aims to strengthen the value of existing agricultural products. Through the strengthening of value in this farmer's products, the agents of change will also be able to (78.19%) supporting increased capital in farmers and supporting prices that are easily reachable to consumers. Through the increase in farmers' income when compared to the price in the consumer market gets a very high difference, higher market price sold by the middle man. Reformer agencies are also capable (76.81%) disseminate up-to-date information about agriculture. Through the dissemination of this information, the agents of change is able (76.39%) to help farmers and consumers maximize the use of technology in farming and marketing activities.

Organizing

The agents of change **Table 10** has a role to play in organizing in agricultural startups Malang Raya area with an average role of 79.00 % meaning in general reformer agents often has a role as an organizer in agricultural startups. Reformer agencies have a role to play in serving the needs of partner farmers and consumers (81.39%). The implementation of the work of the reformer agency requires the reformer agency always to meet the diverse needs of partner farmers and consumers. Both psychological needs and food and

production needs. Fulfilment of this need will be easy if the agents of change has the main focus to make this happen. The main focus that should be done by the reformer agency is to be able to be in the working team to meet the needs of consumers and farmers (79.86%), and reformer agents must uphold professionalism in the lead (78.61%).

Organizing in a startup is not easy. There are many considerations to think carefully about. Besides, the accountability of employers and co-workers should also be considered. Reformer agencies have a responsibility to partner farmers and consumers (77.92%). Such responsibilities are a burden that must be carried out as possible by the reformer agent. The burden carried by reformer agents, for example, is organizing in equating the planting in one potential area. Reformer agents should be able to carry out this task as best they can even with the diverse minds of farmers. Besides, reformer agencies must also establish farmer cooperation relationships with consumers (77.92%).

Science Transfer

The agents of change **Table 11** has a science transfer role in agricultural Startup Malang Raya area with an average role of 79.00 %, meaning, in general, the agents of change increases the role as an organizer in agricultural startups. The role is to increase the transfer of capital technology from consumers to farmers (78.33%) and increase the application of capital technology to increase the value of capital to farmers and profits to consumers (77.08%). Transferring science in using gadgets and the internet as a medium to apply for capital funds assistance to startups is an essential role of reformer agents in Malang Raya Area. The process of applying for this fund is not given interest as in the financial institution of the capital provider, Startup provides financial assistance with a profit-share system for the finance of the fund namely the consumers and

Table 12. Motivator

| Role Variable | Role Components | Interval Score | Average Score | Level of Role (%) |
|---------------|--|----------------|---------------|-------------------|
| Motivators | Able to meet market needs | 0-5 | 3.65 | 73.06 |
| | Able to meet the needs of a sense of security in production and transacting | 0-5 | 3.70 | 74.03 |
| | Able to create farmer relationships with consumers as well as with various companies | 0-5 | 3.54 | 70.83 |
| | Accompanying the fulfillment of targeting needs together | 0-5 | 3.89 | 77.78 |
| | Reward the hard work of farmers and active consumers | 0-5 | 4.05 | 80.97 |
| | Encouraging fulfillment of self-embodiment in the form of potential development in farmers and fulfillment of needs in consumers | 0-5 | 4.06 | 81.25 |
| | Average | | | |

the public. Reformer agents should be able to provide knowledge to farmers to obtain such capital.

This learning process in farmers, both groups and individuals with reformer agents is carried out simultaneously with other partner members so that social learning occurs in both parties. The learning process in transferring this science needs to be supported with the seriousness of the partner farmers. Reformer agencies transfer much science to partner farmers. In Malang Raya area, partner farmers have been able to detect the acidity of soil to be processed for agricultural land using detection technology from MSMB Indonesia. Cultivation technology taught to increase agricultural production (71.53%) with this technology the impact will increase the acceleration of sales of farmers' products and facilitate the fulfillment of consumer needs (73.47%) because the specifications of vegetables produced by farmers already meet the criteria. The process of accompanying farmers by reformer agents is carried out through several stages, namely introducing, applying and evaluating. The reformer agency in Malang Raya area never ceases to make the introduction of the application of cultivation technology in the form of the use of drip irrigation, sprinkles, and other technologies to farmers and consumers (69.44%) with the aim of farmers having a desire to implement such technology. This technology will facilitate the cultivation process precisely and efficiently. Citrus growers in Dau have applied drip irrigation to produce oranges sold on TaniHub. The application of the technology began when agricultural startup reformer TaniHub provided information on drip irrigation technologists in WhatsApp groups of partner farmers, so they were interested in implementing because the watering that has been done has taken a long time and requires much energy.

Not only cultivation information but reformer agents also increased the transfer of marketing technology (67.92%). Transferring marketing technology is very difficult to do considering farmers in Malang Raya Area are mostly farmers with age above the adult category. So the process of absorbing technology takes a very long time. However, through adult learning implemented by reformer agencies facilitates the adoption of such marketing technologies. Partner farmers over the age of 50 are now also able to operate android to connect with consumers and reformer agencies. Even the use of

android technology in farmers through startups is inseparable for now.

Motivator

The agents of change **Table 12** has a motivator role in agricultural startup Malang Raya area with an average role of 76.32 %, meaning in general, the agents of change increases the role as a motivator in agricultural startups. Reformer agents act as motivators by significantly improving the fulfillment of self-embodiment in the form of potential development in farmers and fulfillment of needs in consumers (81.25%). This self-embodiment is done through mentoring by training every farmer in the cultivation of its products. In Malang Raya Area there are partner farmers who cultivate kale using hydroponic farming systems. The agents of change provides learning about hydroponic cultivation with a good model. Farmers with a young age have the potential to cultivate agriculture with technology so that the agents of change motivates to develop that potential.

Reformer agencies also significantly increase farmers' motivation through awarding for the hard work of farmers as well as active consumers (80.97%). The award is in the form of capital access for farmers and the awarding of bonuses in the form of rebates to consumers. To ease this access to capital through reformer agencies, farmers are given the priority that is indeed accomplished will be given the ease of access first with a higher amount of capital than other farmers. Reformer agencies increased in accompanying the fulfillment of joint targeting needs (77.78%). The fulfillment of this need is following the growing appetite of people who choose startups as their most popular kitchen supply, especially with the covid-19 outbreak that does not allow people to interact much outdoors. The startup is rated by consumers as supported by a reformer agency capable of improving the fulfillment of security needs in production and transactions (74.03%). During the covid-19 outbreak up to the current new normal farmers with assisted reformer agents were able to increase in meeting the needs of the market (73.06%), not only that but according to consumers who buy products at agricultural startups in Malang Raya area able to increase the need for a sense of security in production and transacting (74.03%).

Table 13. Empowerment

| Role Variable | Role Components | Interval Score | Average Score | Level of Role (%) |
|---------------|---|----------------|---------------|-------------------|
| Empowerment | Raising awareness and desire to advance agriculture | 0-5 | 3.87 | 77.36 |
| | Accompanying the process of changing the use of various agricultural technologies | 0-5 | 3.31 | 66.11 |
| | Make room to access counseling pages on the internet | 0-5 | 3.44 | 68.75 |
| | Make it easier to access capital and other funding | 0-5 | 3.67 | 73.47 |
| | Strengthening farmers to avoid crop failure through financial assistance from consumers | 0-5 | 3.88 | 77.64 |
| | Providing direction to prevent production constraints on farmers and consumers | 0-5 | 3.88 | 77.64 |
| | Raising farmers' awareness of building cooperation with other farmers and consumers | 0-5 | 3.66 | 73.19 |
| | Building cooperation and solidarity of farmers and consumers | 0-5 | 3.43 | 68.61 |
| Average | | | | 72.85 |

Empowerment

The agents of change **Table 13** has a role as empowerment in agricultural startup Malang Raya area with an average role of 72.85 % meaning, in general, the agents of change can have a role of empowerment in agricultural startups. The role of empowerment in farmers by reformer agencies has the aim of reducing the risk of decreased production due to cultivation systems, pests and marketing constraints. Reformer agencies were able to encourage farmers to avoid crop failure through financial assistance from consumers (77.64%).

This way of avoidance of crop failure through the purchase of means and infrastructure that can be used to avoid various pests of disturbing. In addition to the fulfilment of facilities and infrastructure, reformer agencies can provide direction to prevent production constraints on farmers and consumers (77.64%). These precautions are suitable for farmers' needs and abilities. Before farming using technology, many farmers still use traditional businesses by relying on hereditary experience so often experience crop failure. Through the farmer reformer agency began to understand the development of the knowledge given in his group teaching farmers in order to try to farm so that it succeeded. Increased knowledge in farmers with indicators began to think of quality and sustainable products produced. The action was realized by holding integrated plant management training to ensure sustainable land and production. Thus able to raise awareness and desire to advance agriculture (77.36%).

This form of farmer awareness after the role of the reformer agency is the increasing awareness of farmers in building cooperation with other farmers and consumers (73.19%) and able to build cooperation and solidarity of farmers and consumers (68.61%). The emergence of social media as a medium in building cooperation between farmers is also facilitating the role of reformer agents. Significant discussions with limited time can be conducted through the platform on WhatsApp, and telegram. Between farmers can discuss with the agents of change besides through this role the farmers are also directed by the agents of change to be able to learn through the website so that farmers are

given space to access the extension page on the internet (68.75%). Through these activities, the reformer agency was able to accompany the process of changing the use of various agricultural technologies (66.11%). The change is evidenced by the use of surveillance drones on farmers in Malang Regency where this technology is used to capture farmers' land with soil colour sensors where the soil sensors can produce soil fertility criteria as well as the area of production to be produced. This technology is a testament to the migration of traditional farmers to modern agriculture. The presence of reformer agents as a printer of scale success of this farming group proves that it is time for farmers to long animate as millennial farmers. Reformer agencies have a special effort to change people's mindset that farming is cool. Farming can use the latest technology, farming is not tiring, and farming is profitable. The success of this startup reformer agency can be interpreted as proof that the industrial revolution 4.0 in the agricultural world has begun. Farmers inevitably have to migrate and make technology the central axis of agriculture in Malang Raya Area.

Creative and innovation developers

The agents of change **Table 14** has a role as empowerment in agricultural startup Malang Raya area with an average role of 71.64% meaning, in general, the reformer agency can have an empowerment role in agricultural startups. Reformer agencies were able to remove the properties of farmers to start using technology and make it easier for consumers to find their needs (77.22%). The agents of change in completing the elimination of the colossal nature takes not fast but with the communication and interaction capabilities of the agents of change as an actor who can change the mindset of farmers easily make that. Farmers have at least never seen, heard and felt the ease of technology, growing to add to this desire already done by the reformer agent. Reformer agencies can provide people with the introduction of online transaction technology (77.22%). With the use of a system approach, the reformer agency sees the community as a system by analyzing the various components in the system analyzing the needs of each component and analyzing the relationship between the needs whether supporting

Table 14. Creative and innovation developers

| Role Variable | Role Components | Interval Score | Average Score | Level of Role (%) |
|-------------------------------------|---|----------------|---------------|-------------------|
| Creative Development and Innovation | Strengthening the selling value of farmers and the buying value of consumers | 0-5 | 3.85 | 77.08 |
| | Removing the nature of farmers to start using technology and making it easier for consumers to find their needs | 0-5 | 3.86 | 77.22 |
| | Providing people with an introduction to online transaction technology | 0-5 | 3.86 | 77.22 |
| | Change the marketing process more easily with the latest marketing technology | 0-5 | 3.78 | 75.69 |
| | Apply a wide range of appropriate technologies such as drill wells, irrigation sprinkles. | 0-5 | 2.70 | 54.03 |
| | The use of agricultural technology is familiar to farmers and consumers. | 0-5 | 3.58 | 71.67 |
| | For a long time, farmers have left the middle to sell products. | 0-5 | 3.49 | 69.86 |
| | Establish android usage on farmers and consumers as a marketing tool | 0-5 | 3.38 | 67.64 |
| | Make it easy to record all transaction activities. | 0-5 | 3.55 | 70.97 |
| | Create an app user to calculate calculations manually and approximately | 0-5 | 3.75 | 75.00 |
| Average | | | | 71.64 |

Table 15. Education developers

| Role Variable | Role Components | Interval Score | Average Score | Level of Role (%) |
|----------------------|---|----------------|---------------|-------------------|
| Education developers | Able to change farmers and consumers in making decisions, able to organize themselves | 0-5 | 3.77 | 75.42 |
| | Reassure people of the self-image of farming success | 0-5 | 3.78 | 75.56 |
| | Create learning methods with discussion models and cases | 0-5 | 3.92 | 78.47 |
| | Strategize according to the experience gained | 0-5 | 3.94 | 78.89 |
| | Making farmers and communities in readiness to learn new technologies | 0-5 | 3.65 | 72.92 |
| | Make people understand a lot about agricultural products. | 0-5 | 3.95 | 79.03 |
| | Growing the disciplined soul in farmers and consumers through the transaction process | 0-5 | 3.77 | 75.42 |
| | Foster a good work ethic | 0-5 | 3.78 | 75.56 |
| | Average | | | |

each other or opposites. This system shorts make the agents of change capable (77.08%) farmers' selling value and the consumer's purchase value.

Reformer agents can change the marketing process more easily with the latest marketing technology (75.69%). This marketing process is replaced by a digital system even current transactions do not need to spend money in the form of physical but can use digital money, besides facilitating the marketing process is very useful. The agents of change can get app users to calculate calculations and approximately (75.00%) manually. The manual miscalculation makes it easier for farmers to get a definite and valid profit because in real-time farmers already see the total profit, tanifund application provides easy calculation both in farmers with investors how profits are earned during investing.

Reformer agencies can implement the use of agricultural technology familiar to farmers and consumers (71.67%). The use of handphone technology is currently not only in the consumer line but also farmers, and this is because the role of the agents of change in changing the transaction system must be through mobile phones so that farmers also follow the rules of the startup. Through the use of this technology makes it easy to record all transaction activities (67.64%). The application of this technology occurs due to the role of reformer agents so that for a long time, farmers have been able (69.86%) left middleman to sell products. Hesitant agents of change (54.03%) in

applying a wide range of appropriate technologies such as drill wells, irrigation sprinkles at the farmer level. This is because the application of this very much technology requires funds and costs that are not following the profit obtained.

Education developers

The agents of change **Table 15** has a role as an educational developer in agricultural startup Malang Raya area with an average role of 76.71 % meaning, in general, the reformer agency can have the role of education developer in agricultural startups. Capable agents of change (79.03%) make the community understand a lot about agricultural products. Various agricultural products are introduced through one hand, such products in the form of organic products, traditional processed products of various regions of the archipelago, tropical fruits, and various products that are rarely known by the public at large. Reformer agencies were able to compile (78.89%) strategy according to the experience gained. This strategy is used by reformer agencies to create a variety of training that is up to date following the development of the present era. Training with this up to date system makes farmers more familiar with modern agricultural systems. Through this experience, the reformer agency was able (78.47%) learning methods with discussion and case models.

Learning methods devised by reformer agents are easily absorbed by partner farmers so that the agents of change is able (75.56%) convince people of the self-

Table 16. Overview factor the role agent of change

| No | Indicator | Weight (1-5) | Relative Weight (0-1) | Rating (1-4) | Relative Weight x Rating |
|--|--|--------------|-----------------------|----------------------------|--------------------------|
| Power Aspect (Internal) | | | | | |
| 1. | Education with a background in agriculture and technology (IT). | 4.6 | 0.32 | 3.3 | 1.06 |
| 2. | Experience in solving problems and building farms around. | 4.5 | 0.20 | 3.6 | 0.72 |
| 3. | Sustainable innovation in developing startup institutions | 3.8 | 0.16 | 3.1 | 0.50 |
| 4. | Agricultural and technological skills | 3.6 | 0.13 | 2.7 | 0.35 |
| 5. | Persuasion capabilities in farmers and consumers | 2 | 0.19 | 2.4 | 2.62 |
| | Total | 18.5 | 1.00 | | 5.25 |
| Opportunity Aspect (Internal) | | | | | |
| 1. | Utilization of agricultural innovation tools | 3 | 0.23 | 3.7 | 0.85 |
| 2. | The productive age of the agents changes | 4.6 | 0.12 | 3.6 | 0.61 |
| 3. | Farmer problem solving solutions | 2 | 0.20 | 2 | 0.40 |
| 4. | The creation of opportunities arises from the adoption of various innovations such as aquaculture innovations, as well as informatics technology | 4.7 | 0.11 | 2.4 | 0.26 |
| 5. | Creating opportunities through the flying hours of farmers in the field | 2.4 | 0.14 | 2.1 | 0.29 |
| 6. | Solving opportunities arises from the idea of agricultural solutions | 3.8 | 0.20 | 2.6 | 0.52 |
| | Total | 20.5 | 1.00 | | 2.93 |
| | Total | | | S-O= 5.25-2.93=2.32 | |
| Aspirational Aspects (External) | | | | | |
| 1. | Pay attention to the basic needs of farmers in the field | 4.7 | 0.32 | 3.2 | 1.02 |
| 2. | Increase empowerment for partner farmers and companions | 4.9 | 0.20 | 3.9 | 0.78 |
| 3. | Increased revenue to support performance and productivity at startups | 4.4 | 0.16 | 2.1 | 0.34 |
| 4. | Improved ease of user interface, improved warehouse management system, shipping process | 4.8 | 0.32 | 3.7 | 1.18 |
| | Total | 18.8 | 1.00 | | 3.32 |
| Results Aspect (External) | | | | | |
| 1. | Achieving mission vision through change agents is already directed | 4.8 | 0.28 | 3.7 | 1.04 |
| 2. | Its achievements have had a good impact on the development of startups both in terms of revenue. | 4.9 | 0.23 | 3.6 | 0.83 |
| 3. | Awarding positions with various facilities | 3.2 | 0.19 | 2 | 0.38 |
| 4. | Addition of base salary bonus | 3 | 0.08 | 2 | 0.16 |
| 5. | Gift-giving to change agents | 2.7 | 0.23 | 2 | 0.46 |
| | Total | 18.6 | 1.00 | | 2.86 |
| | Total | | | A-R=3.32-2.86=0.46 | |

image of farming success. Besides, through learning methods in farmers, this partnership provides an innovation at the able farmer level (75.42%) change farmers and consumers in making decisions, able to organize themselves. Estuary in the decision-making is strengthening the strength of farmers in determining the price of production without having to go through the price game at the middle level to a very long distribution line. At the consumer level, consumers can have the power to choose the products they need without having to go to the market as usual.

Capable agents of change (75.56%) foster a good work ethic in partner farmers. This good work ethic facilitates startups in meeting the needs in consumers, in organic rice farmers in Abang Sayur Organik a good work ethic produces rice production that can meet production targets during one sales period so that consumers do not use other platforms in shopping for organic rice. There is a work ethic because the role of this agents of change is capable (75.42%) to grow the disciplined soul in consumer farmers through the transaction process.

AGENTS OF CHANGE ROLE STARTEGY

In the old paradigm, many people only saw startups as an industry that utilized technology with a profit-oriented and tended to forget even to negate other

aspects such as prioritizing growth but did not see the sustainability aspect of an object for an extended period. Hence, its impartiality led to prominent entrepreneurs rather than peasant communities. So the farming community is only placed as an object, not as a subject. The need to develop strategies for reformer agents in carrying out their duties so that the mission-vision of agricultural startups is to empower farmers in Indonesia.

Determination of aspects (SOAR) strength, opportunity, aspiration, and threats based on the actual circumstances of the Startup Agent of change in Malang Raya Area. To determine internal factors and external factors in strengthening the role of change agents in startups used SOAR analysis, which in obtaining information through observation, as well as semistructured interviews. In this study, the strategy of strengthening the role of change agents was analyzed dynamically with analogy models of elements of a communication model and formulated strategies through SOAR analysis (strengths, opportunities, aspirations, and results). SOAR is a positive approach to strategic thinking and planning that enables an organization to build its future through collaboration, mutual understanding, and a commitment to action (Stavros, 2014).

Strategy Data Collection

Strategy data is obtained through observations and semistructured interviews on change agents in Malang

Table 17.

| | | |
|--|---|--|
| C Internal | Strength a) Education with a background in agriculture and technology (IT). b) Experience in solving problems and building farms around. c) Persuasion capabilities in farmers and consumers | Opportunities a) Utilization of agricultural innovation tools b) The productive age of the agents of change c) Solving opportunities arises from the thought of agricultural solutions |
| External | | |
| Aspiration a) Pay attention to the basic needs of farmers in the field b) Increase empowerment for partner farmers and companions c) Improved ease of user interface, improved warehouse management system, the shipping process | SA Strategy 1. Improve the empowerment process in partner farmers through persuasion in farmers and consumers through technology 2. Improve experience in facilitating user interface, warehouse repair, system management, and shipping process | OA Strategy 1. Meet the basic needs of partner farmers by fulfilling agricultural innovation tools 2. The normalizing of the productive life of the change agent as a partner farmer empowerment companion |
| Result a) The achievement of mission vision through the change agent is directed towards b) Its achievements have a good impact on the development of startups both in terms of revenue. c) Awarding gifts to change agents | SR Strategy 1. Strengthen agricultural background and change agent technology to achieve mission vision 2. Gifting change agents to improve persuasion skills in farmers and consumers | OR Strategy 1. Improve the thinking of opportunity-solving solutions in agents of change in achieving mission vision 2. Add a variety of agricultural innovation tools to make an impact on startup development |

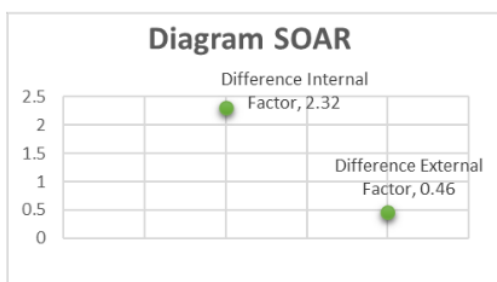


Fig. 1. SOAR Matrix

Raya area. The implementation of observation analysis and interviews is used to determine internal and external factors in the change agent related to strengthening the role of startup change agents. Based on the primary data related to strengthening the role of startup change agents obtained, SOAR data can be grouped into internal factors and external factors such as in the Table. Before finalizing the results of the strategy factor data first obtained the results of the reduction of SOAR data through informants related to the role factors of the agents of change like **Table 16**.

SOAR Matrix Creation

Analysis on the creation of soar matrix is carried out by putting internal factors and external factors that have the highest score (Relative Weight x Rating) and much-needed agent changes in the strengthening of its role, so that it will be obtained three internal strength factors, three internal opportunity factors, three external aspiration factors and three external result factors. Each factor will be crossed so that it will produce SA (Strengths-Aspiration), SR (Strengths-Result), OA (Opportunity-Aspiration) and OR (Opportunity-Result) strategies. The results of the strategy will be considered in making a model of strengthening the role of change agents in startups in the Agricultural Industry Era 4.0.

Diagram SOAR

From the analysis of internal and external factors in **Table 17**, values are found in each aspect as follows.

- Strength factor: 5.25
- Opportunity factor: 2.93
- Aspiration factor: 3.32
- Result factor: 2.86

From the results of processing internal factor data (strength and opportunity) as well as external factors (aspirations and results) it is known that the value of the strength factor is greater than the opportunity with a difference of 2.32 and the aspiration value is greater than the result value with a different of 0.46.

Judging from soar analysis diagram for strengthening the role of change agents are in quadrant I, which is a strategy that should be implemented is to support aggressive growth-oriented strategy. Then the suitable strategy is the SA strategy. Based on soar analysis diagram, the most suitable strategy in the growth of support role agent of change is in SA strategy (Strengths – Aspirations), so the strategies obtained are:

1. Improve the empowerment process in partner farmers through persuasion in farmers and consumers through technology.
2. Improve experience in facilitating user interface, warehouse repair, system management, and shipping process

CONCLUSION

This research is the first research in Indonesia which measured the role of agent of change, the potential agent of change that have a role to giving impact in smallfarmer’s Indonesia agriculture. Some of the roles of reformer agents performed so far are impact-incurred roles. These impacts arise by providing excellent development on agricultural startups. As for the role of reformer agents in consumers, farmers and startups, among others, business supporters by 72.42%, ensuring 71.77% funding, catalysts of 75.78%, problem solvers of

75.42%, liaisons of 77.13%, leaders of 79.33%, strategic planners by 79.19%, 79.19% strategy process, 79.00% organizing, 75.78% science transfer, 75.42% motivator, 77.13% empowerment, 79.33% creativity and innovation development, 79.19% education developer, 79.19% average role performed by reformer agencies fall into the category of good so as to strengthen the institutional capacity of startups Agriculture. Through SOAR analysis obtained the results of the reformer agent strategy in strengthening the institutional startup in the agricultural industry era 4.0 there are two outlines namely (a)

improving the empowerment process in partner farmers through persuasion in farmers and consumers through technology, (b) improving the experience in facilitating user interface, warehouse repair, system management, and shipping process.

15

ACKNOWLEDGEMENTS

The authors would like to thank all those who agreed to be interviewed.

REFERENCES

- Abegaz, D. M., & Wims, P. (2015). Extension agents' awareness of climate change in Ethiopia. *The Journal of Agricultural Education and Extension*, 21(5), 479–495. <https://doi.org/10.1080/1389224X.2014.946936>.
- Agbugba, I., Christian, M., & Obi, A. (2020). Economic analysis of smallholder maize farmers: Implications for public extension services in Eastern Cape. *South African Journal of Agricultural Extension*, 48(2), 50–63. <http://dx.doi.org/10.17159/2413-3221/2020/v48n2a537..>
- Amalia, N. F., Dayati, U., & Nasution, Z. (2017). Peran Agen Perubahan Dalam Pelaksanaan Program Pemberdayaan Masyarakat Pesisir Pantai Bajulmati Kabupaten Malang. *Jurnal Pendidikan: Teori, Penelitian, Dan Pengembangan*, 2(11), 1572–1576.
- Andriamihaja, O. R., Metz, F., Zaehringer, J. G., Fischer, M., & Messerli, P. (2013). Identifying agents of change for sustainable land governance. *Land Use Policy*, 100, 104882. [10.1016/j.landusepol.2020.104882](https://doi.org/10.1016/j.landusepol.2020.104882)
- Beuchelt, T. D., & Zeller, M. (2013). The role of cooperative business models for the success of smallholder coffee certification in Nicaragua: A comparison of conventional, organic and Organic-Fairtrade certified cooperatives. *Renewable Agriculture and Food Systems*, 28(3), 195–211. doi:10.1017/S1742170512000087.
- Carnall, C. A. (2007). *Managing change in organizations*. Pearson Education.
- Cerf, M., Guillot, M.-N., & Olry, P. (2011). Acting as a change agent in supporting sustainable agriculture: How to cope with new professional situations? *Journal of Agricultural Education and Extension*, 17(1), 7–19. DOI: [10.1080/1389224X.2011.536340](https://doi.org/10.1080/1389224X.2011.536340)
- Christian, A. I., & Subejo, S. (2018). Akses, Fungsi, dan Pola Penggunaan Teknologi Informasi dan Komunikasi (TIK) oleh Petani pada Kawasan Pertanian Komersial di Kabupaten Bantul. *JSEP (Journal of Social and Agricultural Economics)*, 11(2), 25–30. DOI: <https://doi.org/10.19184/jsep.v11i2.9233>.
- Compagnone, C., Auricoste, C., & Lémery, B. (2009). *Conseil et développement en agriculture: Quelles nouvelles pratiques?*
- Creswell, J. (2015). *Riset pendidikan: Perencanaan, pelaksanaan, dan evaluasi riset kualitatif & kuantitatif*. Yogyakarta: Pustaka Pelajar.
- Davis, K., & Sulaiman, V. R. (2014). The new extensionist: Roles and capacities to strengthen extension and advisory services. *Journal of International Agricultural and Extension Education*, 21(3), 6–18.
- Dunbar, R. I., Arnaboldi, V., Conti, M., & Passarella, A. (2015). The structure of online social networks mirrors those in the offline world. *Social Networks*, 43, 39–47.
- Duygan, M., Stauffacher, M., & Meylan, G. (2019). A heuristic for conceptualizing and uncovering the determinants of agency in socio-technical transitions. *Environmental Innovation and Societal Transitions*, 33, 13–29.
- Emzir, S. (2012). *Metode Penelitian Kualitatif Analisis Data*.
- Fields, Z., Abdullah, Z. M., Musisi, A. N., & Mitchley, N. K. (2020). Using Collective Creativity and Industry 4.0 Technology to Reduce the Negative Impact of a Pandemic on Entrepreneurs. In *Handbook of Research on Using Global Collective Intelligence and Creativity to Solve Wicked Problems* (pp. 133–155). IGI Global. DOI: 10.4018/978-1-7998-2385-8.ch007.
- Frisch Aviram, N., Cohen, N., & Beerli, I. (2020). Wind (ow) of change: A systematic review of policy entrepreneurship characteristics and strategies. *Policy Studies Journal*, 48(3), 612–644. <https://doi.org/10.1111/psj.12339>.

- Grosvenor, I., & Macnab, N. (2015). Photography as an agent of transformation: Education, community and documentary photography in post-war Britain. *Paedagogica Historica*, 51(1–2), 117–135. <https://doi.org/10.1080/00309230.2014.997757>.
- Ison, R. L., & Russell, D. B. (2000). Exploring some distinctions for the design of learning systems. *Cybernetics & Human Knowing*, 7(4), 43–56.
- Juwita, R. (2019). *Artikel Konsep Dan Peranan Agen Perubahan*.
- Klerkx, L., Hall, A., & Leeuwis, C. (2009). Strengthening agricultural innovation capacity: Are innovation brokers the answer? *International Journal of Agricultural Resources, Governance and Ecology*, 8(5–6), 409–438.
- Kovács, I., & Husti, I. (2018). The role of digitalization in the agricultural 4.0—how to connect the industry 4.0 to agriculture? *Hungarian Agricultural Engineering*, (33), 38–42. DOI: [10.17676/HAE.2018.33.38](https://doi.org/10.17676/HAE.2018.33.38)
- Lampert, B., & Mohan, G. (2019). A Transformative Presence? Chinese Migrants as Agents of Change in Ghana and Nigeria. In *Chinese and African Entrepreneurs* (pp. 147–169). Brill.
- Lauber, K., Ralston, R., Mialon, M., Carriedo, A., & Gilmore, A. B. (2020). Non-communicable disease governance in the era of the sustainable development goals: A qualitative analysis of food industry framing in WHO consultations. *Globalization and Health*, 16(1), 1–15.
- Milles, Matthew, B. and A. Huberman, Michael. (2014). Analisis Data Analisis Buku Sumber Tentang Metode-Metode Baru.
- Mintrom, Michael and Phillipa Norman. (2009). Policy Entrepreneurship and Policy Change. *Policy Studies Journal* 37(4):649–67
- Nguyen, V. (2020). Human capital, capital structure choice and firm profitability in developing countries: An empirical study in Vietnam. *Accounting*, 6(2), 127–136. DOI: [10.5267/j.ac.2019.11.003](https://doi.org/10.5267/j.ac.2019.11.003).
- Nielsen, K., Dawson, J., Hasson, H., & Schwarz, U. von T. (2020). What about me? The impact of employee change agents' person-role fit on their job satisfaction during organisational change. *Work & Stress*, 1–17. DOI: [10.1080/02678373.2020.1730481](https://doi.org/10.1080/02678373.2020.1730481).
- Norton, G. W., & Alwang, J. (2020). Changes in Agricultural Extension and Implications for Farmer Adoption of New Practices. *Applied Economic Perspectives and Policy*, 42(1), 8–20. <https://doi.org/10.1002/aep.13008>.
- Purwani, D. A., Partini, P., & Wastutiningsih, S. P. (2018). TANTANGAN SOCIOPRENEURS YOGYAKARTA DI ERA COMMUNICATION 3.0. *Profetik: Jurnal Komunikasi*, 11(1), 12–25. DOI: <https://doi.org/10.14421/pjk.v11i1.1420>.
- Ralston, P., & Blackhurst, J. (2020). Industry 4.0 and resilience in the supply chain: A driver of capability enhancement or capability loss? *International Journal of Production Research*, 1–14. <https://doi.org/10.1080/00207543.2020.1736724>.
- Ronald, H. (1995). *The Change Agent's Guide*.
- Rusaw, A. C. (1998). *Transforming the character of public organizations: Techniques for change agents* (Vol. 88). Quorum Books Westport, CT.
- Salifu, Gumah, Francis Obeng, and Mustapha Mas-ud. 2016. "Accessibility and Utilization of ICT Facilities by Extension Agents and Farmers in the Northern Region of Ghana." 2(1):17–25.
- Singh, A. K., S. K. Dubey, Uma Sah, and Lakhan Singh. 2016. "Temporal Adaptation of Agricultural Extension Systems in India." *Current Science* 110(7):1169–77.
- Sinkaiye, T., Nwserema, B., & Ajayi, A. (2018). Application of livelihood analysis among farmers in amah community of river state nigeria: implication for extension agents training. *Journal of Agricultural Extension*, 11(01), 87–98.
- Soerjono, S. (1992). *Sosiologi Sebuah Pengantar*.
- Tanjung, H. B. (2020). The Role of Self-Supporting Extension Agent in Institutional Development of Farmers in Sijunjung Regency and West Pasaman Regency. *JERAMI Indonesian Journal of Crop Science*, 2(2), 79–85. DOI: <https://doi.org/10.25077/jjcs.2.2.79-85.2020>
- Tasmin, R., Rahman, N. S., Jaafar, I., Abd Hamid, N. A., & Ngadiman, Y. (2020). The Readiness of Automotive Manufacturing Company on Industrial 4.0 Towards Quality Performance. *International Journal of Integrated Engineering*, 12(7), 160–172.
- Westley, F. R., Tjornbo, O., Schultz, L., Olsson, P., Folke, C., Crona, B., & Bodin, Ö. (2013). A theory of transformative agency in linked social-ecological systems. *Ecology and Society*, 18(3). <http://dx.doi.org/10.5751/ES-05072-180327>.
- Wibowo, H., & Nulhaqim, S. A. N. (2015). *Kewirausahaan sosial: Merevolusi pola pikir dan menginisiasi mitra pembangunan kontemporer*. Unpad Press.

- Widyasthana, G. S., Wibisono, D., Purwanegara, M., & Siallagan, M. (2017). Corporate Venture Capital Variable for Investing on Start-up in Indonesia. *International Journal of Innovation and Research in Educational Sciences*, 4(3), 2349–5219.
- Wiesmann, U. M., Ott, C., Ifejika Speranza, C., Kiteme, B., Müller-Böker, U., Messerli, P., & Zinsstag, J. (2011a). *A human actor model as a conceptual orientation in interdisciplinary research for sustainable development*.
- Wiesmann, U. M., Ott, C., Ifejika Speranza, C., Kiteme, B., Müller-Böker, U., Messerli, P., & Zinsstag, J. (2011b). *A human actor model as a conceptual orientation in interdisciplinary research for sustainable development*.
- Zhang, B. (2020). Human resource change-agent role, state ownership, and employee behavioural flexibility. *Asia Pacific Journal of Human Resources*, 58(2), 268-288. <https://doi.org/10.1111/1744-7941.12213>

www.ejobios.org

ORIGINALITY REPORT

10%

SIMILARITY INDEX

7%

INTERNET SOURCES

4%

PUBLICATIONS

2%

STUDENT PAPERS

PRIMARY SOURCES

| | | |
|---|--|-----|
| 1 | www.ejobios.org Internet Source | 5% |
| 2 | O. Ravaka Andriamihaja, Florence Metz, Julie G. Zaehringer, Manuel Fischer, Peter Messerli. "Identifying agents of change for sustainable land governance", Land Use Policy, 2021 Publication | 1% |
| 3 | Submitted to University of Al-Qadisiyah Student Paper | 1% |
| 4 | www.sagepub.com Internet Source | 1% |
| 5 | ifsa.boku.ac.at Internet Source | <1% |
| 6 | Maxwell Awando, Ashley Wood, Elsa Camargo, Peggy Layne. "Advancement of Mid-Career Faculty Members: Perceptions, Experiences, and Challenges", Emerald, 2014 Publication | <1% |
| 7 | Dunbar, R.I.M., Valerio Arnaboldi, Marco Conti, and Andrea Passarella. "The structure | <1% |

of online social networks mirrors those in the offline world", Social Networks, 2015.

Publication

| | | |
|----|---|------|
| 8 | eprints.ners.unair.ac.id Internet Source | <1 % |
| 9 | www.tandfonline.com Internet Source | <1 % |
| 10 | Submitted to Regent's College Student Paper | <1 % |
| 11 | boris.unibe.ch Internet Source | <1 % |
| 12 | Submitted to Higher Ed Holdings Student Paper | <1 % |
| 13 | Submitted to Universitas Brawijaya Student Paper | <1 % |
| 14 | Sayema Sultana, Norhayah Zulkifli, Dalilawati Zainal. "Environmental, Social and Governance (ESG) and Investment Decision in Bangladesh", Sustainability, 2018 Publication | <1 % |
| 15 | Yanrong Wang, Rui Wang, Zuowen Yao. "Mechanism of action of policy networks on the performance of university-based agricultural extensions", The Journal of Agricultural Education and Extension, 2020 Publication | <1 % |

| | | |
|----|---|------|
| 16 | ejobios.org Internet Source | <1 % |
| 17 | eprints.gla.ac.uk Internet Source | <1 % |
| 18 | hdl.handle.net Internet Source | <1 % |
| 19 | www.aiaee.org Internet Source | <1 % |
| 20 | www.m.growingscience.com Internet Source | <1 % |
| 21 | "Agricultural extension in transition worldwide", Food and Agriculture Organization of the United Nations (FAO), 2020 Publication | <1 % |
| 22 | M. Cerf, M.N. Guillot, P. Olry. "Acting as a Change Agent in Supporting Sustainable Agriculture: How to Cope with New Professional Situations?", The Journal of Agricultural Education and Extension, 2011 Publication | <1 % |

Exclude quotes On

Exclude matches < 3 words

Exclude bibliography On

wahyu1

PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6

PAGE 7

PAGE 8

PAGE 9

PAGE 10

PAGE 11

PAGE 12

PAGE 13

PAGE 14

PAGE 15

PAGE 16

PAGE 17
