

The Impact of Institutional Strategies in the Innovation Process on the Community Behavior and Local Government in Magelang City

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ABSTRACT

Magelang City is one area that is part of the Central Java Province, Indonesia. The development process in Magelang City has the same model as other regions in Central Java Province. One important aspect in the development process is the existence of institutions that carry out development. The issue of the development process is innovation that has an impact on society and regional apparatus. The purpose of this study is to determine the impact of the institutional strengthening process strategy on the innovation process that affects the community and local government in the City of Magelang. This study uses secondary data from the Magelang City Research and Development Agency from 2000 to 2019. Analysis of the qualitative description into the research method in this study is linked to regulations in Indonesia. The result is the institutional strategy implemented by the City Government of Magelang has a significant impact on the innovations implemented and influences the behaviour of the community and local government in the City of Magelang. In line with the results, the City of Magelang in institutional development has a model in accordance with central government regulations and gained recognition as an independent performing institution.

Keywords: *strengthening institutions, innovation, society, local government*

1. INTRODUCTION

Magelang City is one area that is part of the Central Java Province, Indonesia. The development process in Magelang City has the same model as other regions in Central Java Province. One important aspect in the development process is the existence of institutions that carry out development. Institutions consist of cognitive, normative, and regulative structures and activities that provide stability and meaning to social behaviour. Institutions are transported by various carriers' cultures, structures, and routines and they operate at multiple levels of jurisdiction'. This 'omnibus' definition immediately demonstrates the complexity of institutional theory in terms of its pervasiveness of institutions at distinct levels of analysis, the distinct features of various carriers and a variety of potential institutional forces [1]. Institutional theory has been applied at various levels of analysis. Scott [1] has distinguished six levels: world system, societal, organizational field, organizational population, organization, and organizational subsystems. All of these levels have been used in institutional analysis, but the organizational field has been identified as the most significant level of analysis for institutional theory. Institutional development is currently done through a process of change that can be interpreted as innovation. The relation with innovativeness, a key concept to organizational success is considered. Also, the process of gathering knowledge by means of network learning is studied. The interaction with different actors that possess

technical or non-technical knowledge can be of importance to speed the acquisition of this intangible resource. The relations between these constructs and performance are evaluated. Because these processes can assist managers to maintain an effective fit with their environment and increase performance [2]. Attention has been paid to an organization's ability to identify, capture, create, share or accumulate knowledge because it is becoming the most important element in production and a source of competitive advantage [3].

In line with this, institutions are generally formed on the basis of regulations, which from time to time always change according to the implementation of development. Institutions that handle innovation in Indonesia in accordance with Government Regulation number 38 of 2017 concerning Regional Innovation are Institutions that handle research and development matters. Government Regulation number 38 of 2017 is a translation of Law Number 23 of 2014 concerning Regional Government. The law is explained in articles 386 through 390 of regional innovation. Institutional changes that have been made in the City of Magelang are believed to have a metamorphic process that has an impact on the performance of the institution. This study focuses on the institutional change process of the Magelang City Research and Development Agency which was conducted from 2002 to 2019. Furthermore, an analysis of the impact of institutional strategies in the innovation process on the behavior of the community and local government in the City of Magelang. The study qualitatively describes secondary data sources and primary data consisting of institutions that have been formed, strategies in encouraging institutional strengthening, the results of innovation, its relationship with current developing regulations.

2. LITERATURE REVIEW

2.1. Institutions

Tacit knowledge in Rehman [3] is an experimental and context specific interpersonal knowledge which enables the organizations' employees to share their experiences, intuitions and cognitions together for problem solving. It may provide massive benefits to organization in the form of product quality and services, improvement in existing processes, reduction in transaction cost, first mover advantage in case of earlier launch of products and technological innovation which lead to superior performance [3]. Rehman [3] argues that tacit knowledge in terms of technical and non-technical know-how resides in the minds of engineers, marketers and operational managers bring competitiveness as a source of value creation for firms. Rehman [3] point out that sharing of tacit knowledge is an important determinant of firm's performance. Rehman [3] also state that tacit KS practices enhance firm's financial performance when it is linked to cost reduction, customer management, sales and outsourcing.

Further elaboration of the relationship between the state of institutional system, more specifically institutional elasticity, the state of innovation and diffusion and trend in functionality. International comparison of the institutional elasticity and its effect on innovation and diffusion of technology. Demonstration of the significance of institutional elasticity and its contribution in maximizing the effects of policy [4].

Each formal standards organization promotes and structures collaboration, and the system as a whole is premised on collaboration as well. Even unique company standards must achieve some acceptance and influence in the market, and among competitors, if they are to be useful, and this implies something akin to collaboration. That is, the very notion of standardization implies that decisions have been made, implicitly or explicitly, about what will be considered 'acceptable' to firms and governments whose interests otherwise diverge. Standardization would seem to meet one of the criteria for successful learning institutions in the new economy [5].

Vermeulen [1] elaborate on another type of institution: organizational institutions. Research that focuses on these institutions is mainly focused on the institutional environment that affects organizations. Regulative, normative and cognitive institutions shape and guide the behavior of individuals within organizations. Interorganizational institutions are the next type of institutions. Research on this type of institution focuses on relations between and networks of organizations. It tries to shed more light on the dynamic interplay between institutionalized structures. The role and importance of collective actors is stressed in attempts of institutional resistance or change [1]. Collectivities such as communities play a dominant role in the way their members behave and respond to changes in the environment. For institutional challengers to be successful, it is often argued that a collective effort is needed to bring about change [1]. The mobilization of groups is considered a necessary condition for successful institutional change efforts [1].

2.2. Regulation

Innovativeness refers to a firm's tendency to engage in and support new ideas, experimentation, and creative processes that may result in new products, services, or technological processes [6]. In the context of entrepreneurship denotes the degree of "newness" the business puts in the market. As mentioned by Paradkar, Knight, & Hansen, 2015 "start-ups that are ultimately successful compete with rival firms by creating entirely new benefits for customers or by significantly improving extant ones". Also, innovative performance is seen in the literature as one of the most important drivers of other aspects of organizational performance and fosters the formation of organizational learning dynamics [6]. Firm innovativeness is conceptualized from two perspectives. The first views it as a behavioral variable, that is, the rate of adoption of innovations by the firm. The second views it as a willingness to change [6]. This capacity can make better use of existing resources, improve efficiency and potential value, but also bring new intangible assets into organization. The ability to innovate is recognized as one of the determinant factors for organizations to survive and succeed [6]. More innovativeness can be a significant enabler to create value and will help to respond to customers' needs, in developing new capabilities that allow to achieve and sustain better performance or superior profitability in the increasingly complex, competitive and rapidly changing environment [6]. The literature presents innovation capability as one of the most important determinants of firm performance supported by many empirical studies [6]. Innovative companies, creating and introducing new products and technologies, can generate better economic performance and are sources of economic growth [6].

There is growing interest in civil society as an overlooked site from which grassroots social innovations may emerge, with significant potential to contribute to the transition to more sustainable production and consumption systems. We offer a conceptual model of the role that values may play in grassroots innovations as they seek to emerge from niche to regime. Applying psychological value scales in a large scale survey of participants in UK online free reuse groups, we find that while values of self-transcendence (benevolence and universalism) are emphasized by a majority of the participants to a significantly greater extent than in the UK population as a whole, a large minority (40%) actually emphasize self-transcendence values to a lesser degree than the UK population [7].

Moreover, those participants who do emphasize self-transcendent values are not mono-dimensional in their value sets, but also hold other values that are of significance to the wider population. While this is to be expected, there is surprisingly little work on the role of values in relation to concepts of socio-technical transition and even more specifically in relation to grassroots innovations as a feature of transitions. Yet in the pro-environmental psychology literature, values and norms are key constructs in explaining behaviour, albeit with empirically inconsistent relationships for which reason we also refer to the practice literature as attentive to posited structural, as well as psychological influences on behaviour [7].

Grassroots innovations usually have a solution-focused approach to local problems, involving both technological and social innovation [8], and motives for the development of “new products and services that address social needs”, which “help to build more sustainable, cohesive and inclusive societies” [8].

In Indonesia, regulations relating to the process of innovation, actor innovation, forms of innovation still require great attention in terms of the readiness of the institutions that deal with, understanding the needs of the Institute for the dynamics of the innovation process and the sustainability of R&D institutions as coordinators of innovation. Regulations that provide innovation processes in Indonesia began in 2002, with the issuance Law No. 18 of 2002 concerning the National System of Research, Development, and Application of Science and Technology, then in 2014 Act No. 23 of 2014 concerning Regional Government was born, which listed innovations in Article 209 (1); Article 219 (1) and (2); Article 374 (4); 386 - Article 390. Law Number 23 of 2014 concerning Regional Government focus on innovation supplemented by Government Regulation Number 38 of 2017 concerning Regional Innovation and technically translated into Regulation of the Minister of Home Affairs number 108 of 2018 concerning assessment, awarding and / incentives area.

In Government Regulation number 38 of 2017, a regional innovation process is listed which has the function as 1) a collection of regional innovations that are inputted by Regional Governments throughout Indonesia in an application (Regional Innovation Index) which is used as a Regional Innovation data center that can be utilized for various assessment purposes and the development of regional innovation; 2) Regional Innovation Reporting Facility as mandated by laws and regulations so that each Regional Innovation is reported to the Minister both regarding trials and implementation of Regional Innovations; 3) Regional Innovation Measurement Instrument to find out the development of innovation in the Region so that it can produce guidance maps according to the characteristics and problems in the Region and 4) Information and Learning Tools to share experiences and information about Innovation for Regional governments in developing innovation.

2.3. Innovations

Innovation is considered crucial for firm survival. Firms need to invest in new products and services before their competitors do. It is argued in much of the innovation literature that those firms that refrain from taking innovative actions will not remain viable in the long term [1]. Innovation has been a consistent buzzword in the academic literature and has been receiving attention for over 70 years starting with the groundbreaking work of Schumpeter (1939, 1942) [1].

The following overview represents a short summary of definitions concerning innovation that serve as a point of departure for the present study. According to Rogers (1962: 13) in [1] ‘an innovation is an idea that is perceived as new by an individual’. Later, Rogers extended this early

definition into ‘an idea, practice, or object that is perceived as new by an individual or another unit of adoption’ (1995: 11). Zaltman et al. in [1] define an innovation as ‘any idea, practice, or material artifact perceived new by the relevant unit of adoption’ (1973: 10). This means that an innovation does not necessarily have to be a novelty to the world, a country or an industrial sector but solely to a company, a business unit or even an individual. The rationale for defining innovation in this way is explained by Rogers (1995) in [1]. He claims that it is the perception of the individual of the ‘new’ idea that will influence his or her behavior when he states that ‘It matters little, so far as human behavior is concerned, whether or not an idea is objectively new as measured by the lapse of time since its first use or discovery. The perceived newness of the idea for the individual determines his or her reaction to it. If the idea seems new to the individual, it is an innovation’ (1995: 11). Barnett defines innovation as the invention of something new, and according to Mansfield an ‘innovation represents an organization’s “first use ever” of a new product, service, process, or idea’ [1]. [1] defines innovation as ‘a social problem solving process of a non-routine kind’, while van de Ven (1986: 591) simply says that ‘an innovation is a new idea’. Following the definition of Zaltman et al. mentioned above, West and Farr (1990: 9) elaborate on an innovation as ‘the intentional introduction and application within a role, group or organization of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organization or wider society’. West and Altink (1996) note that innovation is intentional and the success of the innovation is not only measured by its economic benefits (other benefits could be personal growth, increased satisfaction and improved cohesiveness). Besides this, innovation is not restricted to technological change and can also be found in procedures or processes and ‘requires an application component’ (1996: 5). The final aspect is about the novelty of the innovation, where the main focus is on the idea being new to the relevant unit of adoption. Although these definitions differ to some extent, they share at least one similar feature: an innovation always implies something new or perceived new, non-routine or a discovery and in most cases the newness relates to the unit of adoption [1].

3. RESULTS AND DISCUSSION

The Research and Development Institution of the City of Magelang, began in 2002 on the basis of the Regional Regulation of the City of Magelang Number 17 of 2000 concerning the Magelang City Development Planning Agency. In this regional regulation the Research and Development authority is within the Development Planning Agency, which is in the form of division. The Research and Development Division in the structure of this Institute is in accordance with the regulations led by personnel with echelon III level. In 2008 based on Magelang City Regulation number 4 of 2008 concerning Regional Work Units, the institution that handled research and development became an Office led by personnel with echelon III level. But in this institutional research and development affairs

become an institution that has autonomy in carrying out its main tasks and functions. This institution survives with the name of the Office of Research, Development and Statistics of the City of Magelang until the end of 2016. Furthermore, in 2017, based on the Regional Regulation of Magelang City number 3 of 2016 concerning Regional Organizations, the Office of Research, Development and Statistics graduated to become a Research Agency and Development. This institution is led by personnel with echelon II level. Within a period of 15 years during the change and

strengthening of R&D institutions, the innovation process was carried out consistently and continuously. Consistency and sustainability are supported by the availability of budget, infrastructure support, the dynamics of innovation interaction between government and society. Table 1 provides information on the journey of R&D institutions that have a correlation with the dynamics of central government regulations, as it is known that the central government has a role as a coach for local governments.

Table 1 The institutional milestone of research and development with the results of the innovation process

Year	Regulation	The institution	Number of employees	Participant	Participant's Work
2004				9 persons	9 products
2005	Magelang City Regulation [10]	R&D Division	6 employees	1 person	1 product
2006				9 persons	9 products
2007				20 persons	13 products
2008	Magelang City Regulation [11]	Office of RD and Statistics	14 employees	20 persons	19 products
2009				15 persons	12 products
2010				21 persons	18 products
2011				45 persons	29 products
2012				36 persons	24 products
2013				83 persons	35 products
2014				19 persons	17 products
2015				17 persons	15 products
2016	23 persons	19 products			
2017	Magelang City Regulation [12]	R&D Agency	25 employees	50 persons	39 products
2018				48 persons	32 products
2019				35 persons	30 products
Total				451 persons	321 products

Source: Research and Development Agency, 2019

The beginning of the regional innovation process in the City of Magelang was based on Law No. 18 of 2002 concerning the National System of Research, Development, and Application of Science and Technology. The law is explained in Articles 18 and 20, mandating the Government and Regional Governments to: 1) Foster motivation and provide stimulation and facilities, and create a climate conducive to the development of Science and Technology (Science and Technology); 2) Formulate the direction, priorities, and strategic policies of science and technology development. Then in article 24, it is also stated that: 1) Every citizen has the same right to participate in carrying out the activities of mastery, utilization, and promotion of science and technology in accordance with laws and regulations; 2) Every citizen who conducts research, development, and application of science and technology has the right to obtain proper appreciation from the government, regional government, and / or the community in accordance with the resulting performance. The innovation process is carried out with the Community Creativity and Innovation activity (called Krenova), this activity becomes interesting not only for the community, but for the central government and regional government, besides this activity is in synergy with the dynamics of regulations in Indonesia. The innovation process has grown significantly over the past 15 years driven in part by the availability of R&D institutions, advances in theoretical analysis, partly by increasing interest in innovation as a source of competitive advantage, and partly by the need for new policies to address regional inequalities and divergences.

Relevant about innovation process in City of Magelang, [9] Writing during the late nineteenth and early twentieth centuries, Marshall was one of the first economists to analyze the role of innovation in a local or regional context. For almost a century this aspect of Marshall's work was largely neglected, but during the last three decades there has been a marked revival of interest in Marshall's work on industrial districts and innovation. A central motivation for his analysis of the localization of industry was the question of the relative efficiency of large firms compared with agglomerations of small firms and the closely related issue of the relative importance of internal economies of scale and external economies.

The process of innovation developed in 2017 with participants coming from offices within the Government of the City of Magelang, by producing 49 works until 2018, in which in the process the government issued Government Regulation number 38 of 2018 on Regional Innovation [13]. A regulation that provides space in the implementation of regional innovation which is divided into three forms, governance, public services and other innovations. In line with the dynamics of the regional innovation process, the City Government of Magelang has succeeded in having institutions that increasingly have performance in accordance with references from the Central Government, even the City of Magelang is able to overtake the central government regulations with the innovation process carried out. The sustainability of the innovation process is marked by the strengthening of institutions from 2002 to 2019. This is supported by various important things in between 1) regional superior product policy; 2) strengthening

supporting factors (leadership, potential of regional human resources, regional institutional competencies, innovation ecosystem); 3) innovation HR development scheme; 4) innovation financing scheme; 5) innovation area development (science and techno park, innovation product center area); 6) flow support supporting innovation intermediation (incubation, promotion services, technology transfer, technopreneurship-entrepreneurship); 7) innovation capacity building institutions (government, university, regional, private research and development); 8) innovation financing institutions (banking, investors, entrepreneurs); 9) institute for encouraging interaction of innovation actors (intermediary institutions, consortia, business technology centers, business development services); 10) institution for competitiveness and innovative product market (industry association, KADINDA, entrepreneur, industry-trade office); 11) beneficiary institution - innovation users (cooperatives, clusters, MSMEs, community); 12) knowledge diffusion capacity (acquisition, adaptation, absorption) between innovation actors; 13) quality of innovation flow; 14) quality synergy and innovation network and 15) the quality of interactive learning strengthens regional innovation systems.

4. CONCLUSIONS

Strategy implemented by the City Government of Magelang has a significant impact on the innovations implemented and influences the behavior of the community and local government in the City of Magelang. In line with the results, the City of Magelang in institutional development has a model in accordance with central government regulations and gained recognition as an independent performing institution.

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