DEVELOPMENT OF A COMMUNICATION SYSTEM FOR CREATIVE INDUSTRIES IN JEPARA

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ABSTRACT.

In the era of the rapid development of information technology, knowledge and creativity play a key role in development. The creative industry, a very high-growth sector in Indonesia, has shown its success in providing employment and economic growth. The innovation system, the heart of the creative industry, is increasingly complex because it implies a trend-shifting perspective from a supply economy to a consumer demand-driven economy. Communication systems play an important role in the social process of development. Communication not only conveys the idea of sustainable development but also creates opportunities where sustainability values can be realized. The communication system for the development of the creative industry in Jepara Regency, especially related to the woodcarving industry is currently in a crisis, very weak, and not adaptive to the environmental situation that surrounds it. The purpose of this study is to explore how strong and adaptive development communication responds to the complexity of the creative industry ecosystem in Jepara as a carving city, through the approach of Pentahelix stakeholder theory and Luhmann's social system theory. The method applied in this study is exploratory qualitative and focuses on a theoretical approach that can explain the shifting economic perspective on the system of innovation, production and reproduction of knowledge through the Stakeholder Pentahelix model and the theory of communication systems. As a carving center in Indonesia, Jepara is an interesting case study to analyze from this theoretical approach. The results of this study have shown that Jepara's development communication system is not strong and adaptive in capturing what its people need. The development system in dealing with the complexity of the creative industry environment is still not optimal. The system is not effective in reducing and selecting feedback from the community. So that the production and reproduction of information do not solve the complexity of the environment. In addition, The convergence of theories shows the overlapping relationships between all Pentahelix Stakeholders, the interpenetration of systems, and the designation of prominent media, through science journalism, as an interpretive framework of the convergence of the theory described. For further research, it is hoped that will further explore the complexity of the environment through the Participatory Action Research method, so that the results are more representative of the construction of reality that exists in society.

KEYWORDS: Pentahelix Stakeholders, Communication Systems, Creative industries, Jepara

1   INTRODUCTION

Development based on the creative economy is a new chapter of economic development that explores information and creativity based on human resources as the main production factors in its economic activities. In the development of the creative economy, knowledge and creativity have always played an important role. It has long been recognized that in developed countries the economic base is undergoing a change from the basis of tangible assets to the basis of commercialization of intellectual property and other intangible assets, such as research and development, human resources, computer software applications, design, digital content, brands, organizational systems, etc. Therefore, academic-based entrepreneurship that is literate in science and innovation systems is a relevant asset in the creative economy development model.

In Indonesia, academic knowledge-based entrepreneurship is a relatively new phenomenon. The Silicon Valley concept has become a trend recently, with the construction of the Bukit Algoritma Sukabumi and Nongsa Digital Park (NDP) in Batam. However, there have been many studies that have previously discussed industrial clustering and also creative hubs (Lampel and Germain, 2016) such as M Bloc, Indoestri Makerspace, Bandung Creative Hub, etc. This shows that the academic element plays a very important role in promoting and encouraging innovation. Academic-based entrepreneurship is a blend of the science and business communities so that they will be able to facilitate each other's development and alignment between the two.

Creative industry systems are strategically significant engines of economic growth, job creation, and social cohesion (Pratt & Jeffcutt, 2009). Meanwhile, innovation is a more complex system because it implies a shift in perspective from a supply economy to a consumption-driven economy, which is very much in the current era of information technology products that are co-created with consumers and have proven to be accepted by the market. The Work Foundation, a non-profit foundation on employment in the UK (2007) mentions that there are 8 drivers of the creative industry namely: demand, greater diversity, equal playing fields, education and skills, networks, public sector, intellectual property, and greater business capacity building. These drivers can only be built by strategic stakeholders such as the government, media, academia, and some by industry. As a result, interactions between different stakeholders as well as pentahelix models should be implemented. The development of the creative industry requires collaboration between Pentahelix. Therefore, a process of communication and identification between Pentahelix elements is needed to find out the influence and basis for the importance of the involvement of pentahelix elements to develop the potential of the creative economy in Jepara.

The communication of pentahelix in Jepara is still not optimal. In recent years, many carving industry players in Jepara are quite uneasy about the existence of their businesses, due to increasingly competitive industrial competition, as well as the entry of other industrial sectors in Jepara. Until this research was carried out, many Jepara furniture and handicraft companies had laid off their employees. In addition, the interest of Jepara youth to pursue carving has decreased. Nowadays, the younger generation of Jepara prefers to work as employees in garment factories and begins to abandon carving crafts. The age of the existing carving craftsmen, the youngest is estimated to be 25 years old. Jepara youths prefer to work in garment factories whose work is not complicated and the salary is certain (holy radar, 2021). As happened in the village of Petekeyan, a village where almost all the citizens worked as carving craftsmen. Nowadays, the profession of carving craftsman has begun to be abandoned by his men. Engravers are dominated by women. There is no less than 60 percent of the total 3,800 craftsmen are women who work as housewives. The communication system for the development of Jepara's creative industry, especially related to the woodcarving industry is currently in a crisis, weak and not adaptive to the environmental situation that surrounds it. The low level of literacy, the level of regeneration, innovation, and the declining demand for carved art products are serious problems that must be faced.

So far the study of development communication tends to refer to the process of transmitting messages from actors (communicators) to others (communicants), and also only looks at the preconditions that are the causes and consequences caused by the existence of development communication. However, the logic of transmission is no longer relevant to understanding let alone explaining the complexity of modern society. Development communication is a process of production and reproduction in which information about the development is communicated and interpreted by the community. Two tendencies of the existing studies can affirm the lack of attention to the dimensions of production and reproduction of communication that make up social reality. First, many studies pay attention to the role of development communication strategies (Steyn, 2007; Agunga, 2020; Melkote, 2018; Melkote, 2015) as well as factors for conditions that cause low development literacy (Msibi et al, 2010; Patil, 2019; Muppidi, 2020). Muppidi, for example, shows that factors, media, and participatory communication can be the basis for achieving literacy in the perspective of complexity theory (Muppidi, 2020). Second, studies that pay attention to what implications can be found in communities experiencing misunderstandings of development information (Zulfa, Ichda. 2020; Agusta, 2022; Alamsyah, 2018; Saidah, 2017). Saidah points out that the misunderstanding of development information has caused a person to be unable to optimize his potential as a craftsman of carving arts

(Saidah, 2017). From the trend of previous studies that exist, it can be seen that the process of production and reproduction of communication that brings a domino effect to the problem of information misunderstanding is not considered. The process of production and reproduction of communication can create meaning and have an effect on the construction of reality and discourse that directly determines a person's understanding of knowledge and innovation.

This research complements the shortcomings of the existing study by looking at how the current paradigm shifts in the production and reproduction of knowledge and innovation. The Development Communication System is directly related to the production and reproduction of knowledge and innovation from each *of* Jepara's creative industry pentahelix which can affect the construction of reality. In the Autopoeisis system (Luhmann, 1995), Development Communication is interpreted as a discussion among pentahelix to determine the form of development of the creative industry that suits its own needs (self-reference). It is crucial to know how the pentahelix of the creative industry in Jepara adapts to the complexity of their environment by being oriented from their elements, based on their own needs, and developing systems to respond to their problems (Luhmann, 1995). A deep understanding of the production and reproduction of knowledge and innovation in various dimensions provides a model for problem-solving and a strategic foundation for pentahelix to structure and produce their development communications.

This research is based on an argument that the development communication system is not only influenced by the sensitivity of pentahelix as development actors in responding to complexity, but development communication also has bad implications for society, namely the existence of gaps in literacy and information misunderstandings. The social reality interpreted by pentahelix has widely led to the incompatibility of the public's understanding of the information conveyed. Misunderstanding of information as part of the communication process can occur due to the poor condition of the development communication system, not providing solutions to community problems that occur in real-time. Various contingencies that occur in society due to limited knowledge can also be the basis for prolonged misunderstanding of information. At the same time, widespread disinformation has caused community literacy to not work as it should. Information that fits the needs of the community is defeated by bad information produced and reproduced in various communication channels, especially social media. The climate of innovation at the heart of the creative industry is also not happening.

2   METHOD

Qualitative research methods were used for data collection since qualitative methods offer a variety of empirical procedures designed to describe and interpret the experiences of research informants in the context of specific settings. A qualitative approach is used in this study to reveal the understanding of the creative industry development system, based on the perspective of the autopoiesis development communication system. . This research uses qualitative research method exploratory case studies. A case study is an approach that uses an in-depth investigation of one or more social phenomena and uses a variety of data sources. The case study research process goes through stages: data collection, reduction of raw data on cases that have been organized, classified, and edited, and then descriptive stories about the topic (Patton, 2002).

This research was conducted in Jepara Regency, Central Java Province which has an area of 1,004,132 km2 with a coastline length of 72 km, consisting of 16 sub-districts, 184 villages, and 11 urban villages, as well as 1,015 RW and 4,766 RT. The Jepara district government focuses on Jepara carvings, namely: The wardrobe Carving Center, in Bulungan Village. Reliefs Carving Center, in Senenan Village. Gebyok Carving Center, in Blimbingrejo Village. Bamboo Carving Center, in Suwawal. Minimalist Carving Center, in Petekeyan Village. Sculpture Carving Center, in Mulyoharjo Village. Tile Carving Center, in Mayong Kidul Village

The types of data in this research are primary data and secondary data. Primary data were obtained from in-depth interviews with 7 informants, and participatory observations of the phenomena or activities of the research subjects. Meanwhile, secondary data comes from activity reports, research reports, news in the mass media, websites, journal articles, and so on. Data analysis in this study includes four main stages, namely: data collection, data reduction, data presentation, and conclusion drawing.

The validity of the data in this study was tested by using a credibility test using a source triangulation technique, namely comparing data obtained from various data sources.

3   THEORETICAL FRAMEWORK

In today's era of information technology, economic growth no longer relies solely on traditional production factors such as land, labor, and capital. The production of capital in human resources is a relatively intensive economic activity. Nationally, today's trend has indicated a paradigm shift that introduces new ways of stakeholder collaboration and integration of commercialization, empirical knowledge, and public spaces to develop the economy.

The creative industry is an industry that prioritizes creativity and innovation results. Traditionally, innovations are understood linearly, that is, they are produced by academics in universities or laboratories in large companies that will produce inventions that will subsequently be commercialized. Currently, especially in Jepara, innovation and science are still limited produced by the growing and overlapping relationships between academia, government, and industry. The production and reproduction of information, especially related to the woodcarving industry is currently in a crisis, weak and not adaptive to the environmental situation that surrounds it. Problems such as the low regeneration rate of Jepara engravers are serious problems that must be faced by Jepara creative industry stakeholders.

In essence, innovation is a systemic process, with an emphasis on implementing effective coordination from various development stakeholders. In the context of the creative economy, the innovation system is characterized by cross-cutting interrelationships and dependencies, between creative industries, cultural institutions, producers of content and applications or media, as well as governments and industries. The low level of literacy, regeneration rate, innovation, and declining demand for carved art products in Jepara has been widely reported, as a result of which the government needs to continue to find ways to realize collaboration between creative industry sectors and attract the attention of investors.

3.1   *Pentahelix Stakeholders*

In recent years, the rigid division of roles as communicators of development between stakeholders has begun to fade, moving from a model of stakeholder exclusivity toward an increasingly inclusive Pentahelix model. The Pentahelix model integrates the mission of economic and social development inclusively, for example by transforming traditional Teaching and Research-based academia into an entrepreneurial-based University. Pentahelix which is a development strategy based on inclusive collaboration between academia, business, media, communities, and governments has made the ownership of valuable knowledge assets in one helix not enough, knowledge transfer is increasingly necessary in the face of global competition. This model further explains the relationship in the process of non-linear innovation, since, in a knowledge-based society, innovation is characterized by a literacy model that is well integrated into the ecosystem. (Colapinto, 2011).

An understanding of Pentahelix will lead us to the view that society is an integrated system. Pentahelix is a collaboration of development actors consisting of five elements of stakeholders, namely Academics, Business, community, government, and media. The involvement of governments, businesses, and communities becomes one complex bond and relates to each other in developing development communication programs. Furthermore, academics have a role to give birth to strategic efforts, such as the creation of innovations that begin with neutral steps regarding the advantages and disadvantages of efforts made by the government through its regulation, business strategies carried out by entrepreneurs, as well as positive effects and negative effects resulting from promotion results. Academics are the catalysts in formulating and exerting influence in these strategic efforts. In communicating for development purposes, a collaboration between governments, communities, academia, and businesses cannot be established without the role of the media. The development of potential carving industry clusters in Jepara requires support and cooperation from various related media. this helix relates the production of knowledge and the use of knowledge through the medium and public discourse. In other words, the media is an important asset for the evolution and progress of

the knowledge economy. In summary, Pentahelix stakeholders highlight the interaction between different development actors as engines of creativity and innovation. This analytical model makes it possible to determine the relevant categories for realizing expectations and to describe the process of mutual evolution that leads to an understanding to innovate.

3.2   Development Communication System

Niklas Luhmann, a sociologist from Germany, offers an approach similar to the Pentahelix model, that is, based on the theory of social systems. While Pentahelix is a development strategy based on collaboration between different stakeholders such as academia, community business, media, and government, systems theory also works based on how society is macro-grouped into different functional systems such as economics, politics, culture, or science and shows how the interrelationship relationships between those elements. Society can be seen as functional differentiation when it forms a system of functions in response to solving a specific problem. In a society, the communication process will create meaning from the selection of existing stages. Of the many available information, not all will be disclosed. and of the many revealed not all are also comprehensible. This process will never stop at one point, it will always continue to be an autopoiesis process in the social system. In addition, in the social system of a society built by Luhmann (1995), society is not composed of individuals but consists of communication events.

Modern systems theory has become one of the main paradigms in the social sciences in that a highly organized society can only be analyzed through theories of sufficient self-complexity (Luhmann, 1995). Systems theory can also be applied in development communication to see the relationship between science (science) and society (public), by using the concept of science journalism in society. Thus, science journalism includes events that can be of particular concern to the environment of the scientific system to develop expectations, or problems in other systems, that can be adapted to the scientific system. One of the important consensuses of this conceptualization of science journalism is that journalism is seen not as a disseminator of knowledge but as a producer of knowledge. The observation of society generates the construction of media, which represents a certain type of knowledge about the world that is influenced by the logic of the media (Colapinto and Porlezza, 2011). For example, what is happening now is that the coverage of science by the domestic mainstream media tends to appear a lot because of formal events, not because of further excavation by journalists. On the contrary, the news that appears more is mostly about political matters than science. For this reason, it is not surprising that many policies in Indonesia are not based on research results, but tend to be due to political interests. "

Science journalism is a genre of journalism that is specifically related to breakthroughs and the scientific process of finding science-based solutions. Science journalism as part of the media system plays an important role not only in disclosing scientific findings in society but also in producing knowledge itself. Therefore, the production and reproduction of knowledge through the medium, it is very important to understand the production of knowledge in modern society. With the perspective theory of systems, it is possible to understand the production and reproduction of knowledge not only from the perspective of various institutions such as universities or governments but also how that knowledge is produced and reproduced by society, spread through journalism, and influenced through the logic of the media.

3.3   Convergence of Development Communication systems through Stakeholder Pentahelix

Despite departing from different disciplines and diverse perspectives, the theory of communication systems and pentahelix discussed earlier have the same common thread. Although it uses two different interpretive frameworks in its heuristic approach, there are still explicit similarities between the two. The Pentahelix model is a collaboration between stakeholders to provide the appropriate and necessary infrastructure for the creation of innovation and economic growth. The theory of communication systems also facilitates the illustration of complex and complicated relationships between different elements, where each system has its unique views and goals (autopoiesis).

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Table 1: Convergence Between Differentiation

Stakeholders	Role	System Theory
Academic	Research and development Capacity building Community development	scientific system
Business	Business ecosystem Market access Financial access Code Products & Services (certifications)	economic system
Community	Community engagement Ethical patrons Small-scale businesses and inclusive industries	ethical system
Government	Policies, standards, accreditation, certification Stimulus packages and incentives Investment and access to finance Planning and control	political system
Media	Conventional media, social media Promosi and reputation	media (or public) system

Both the elaboration of the pentahelix approach and the theory of such systems can be explained as follows. The Pentahelix model works based on the classification of development stakeholder differentiation, where this differentiation is also a core aspect of systems theory. The social system is by no means a defined object, but an object that forms its own identity (self-reference) by using the differences between the system and its environment and by establishing its limits to its environment. The system is essentially the difference between the system itself and its environment. Since the system shapes itself through differentiation from its environment, the social system can be characterized and observed as an autopoietic form, self-referencing, self-organization, something autonomous, dynamic, and elastic of a certain meaning. This argumentation has consequences for the functioning of a single system, wherein the boundaries established through differentiation define its meaning as well as its function. This assumption is also in harmony with the pentahelix model. Corresponding from a systemic perspective, different helixes are also autonomous systems. For example, the government corresponds to the political system, the industry corresponds to the economic system, the university corresponds to the scientific system, the community corresponds to the ethical system and the media corresponds to the media or public system. Colapinto and Porlezza (2011) are of the view that the theoretical arrangement of complex systems must combine the perspective of non-linear dynamics with the study of systems that process the meanings that are carried out and interactions with the audience so that they become the exchange of information.

The alignment and consensus of the fundamental assumptions of the two theoretical approaches above can be seen from the process of differentiation that leads to the formation of a system to adapt and solve certain social problems. Systems theory makes it possible to relate the processes of knowledge production and their delivery, and thus analyze the interdependence between different systems (interpenetration), on a larger social scale. The functional differentiation of modern society will increase the interdependence between systems because each of these systems is very unique and specialized.

From the perspective of systems theory, autonomous functioning systems such as those that occur in the creative industry of Jepara, although interdependent but cannot consider each other adequately because their instruments for observing the environment are not complex enough. The same aspect occurs in the perspective of the Pentahelix model, namely how interactions between different helixes are unable to produce knowledge or creativity because each helix has a different perspective on why information is considered relevant. In particular, Etzkowitz and Leydesdorff in Colapinto (2011)

introduced a hybrid organizational model, in which the interaction and cooperation between different helixes encouraged the joint evolution of the actors. Such a (knowledge-based) society requires a special system to integrate or at least harmonize the observations of other systems.

One of the most relevant domains to drive theoretical developments regarding this convergence is to provide a very wide space for the media to play a role in the "public" system. The public system acts as a major observer in society and integrates information and knowledge throughout the existing system. As the dominant public subsystem, the function of journalism is to observe, construct and reduce complexity with the help of its own rules for selecting and framing events. Thus, journalism creates its reality and conveys information not passively, but produces an active model of orientation for society. The Innovation System in the Pentahelix perspective is to associate the production and use of science in particular with the media as an important asset for the evolution and progress of the knowledge economy. Journalism is becoming an important player in a modern knowledge-based society.

Therefore the Pentahelix model and systems theory can be well aligned to combine social theories of an institutional and macro nature when considering topics such as knowledge production, creativity, and innovation. If the media performs its function as a shaper of public opinion, with the increasing number of times such media reports on science, then directly the media not only acts as a mere provider of information but also offers new alternatives in systematic research to find out in more detail the relationship between science and the public, the role of the media in the relationship and also the potential impact on the scientific system.

3.4   *The environmental complexity of the Jepara Creative Industry*

Development The creative industry should talk to the "idea" of participatory development that can hinder urbanization, enable community participation and the development of a more sustainable creative industry and create a more impactful program of creative industry activities. So it is not surprising that in Jepara, the development of the creative industry has created an imbalance of power not only between humans themselves but between humans and their environment. The development of the creative industry occurs at the expense of society and for economic interests, disrespecting local wisdom, culture, and spirituality thus causing imbalances. This can be seen clearly with the reduced interest of the younger generation of Jepara to carve.

Key skills to improving innovation are participation, experimentation, and discussion sharing advice on how to evolve production processes and management. Without innovation, the creative industry will not be sustainable. It is characterized by the low regeneration of carving artists. The government's efforts in dealing with this problem are to create programs to increase the capacity of human resources in the carving industry, then facilitate the formation of professional associations and organizations, the establishment of industrial clustering (Jepara is the only region in Indonesia that has an SME cluster in each village, one village one program), requiring carving lessons at SMK. But the result is still not successful. Pentahelix in Jepara is still overlapping and poorly integrated.

The Development communication system uses industry player feedback to reproduce subsequent information. The system reproduces information in the form of branding discourses of Jepara as a carving city. As well as by implementing a policy of installing carved products in public places and offices. However, in its implementation, the marketing activity that is the flagship of Jepara's creative industry is the sale of mass furniture products that are by market demand. Jepara creative industry players only produce ordered furniture. The system selects industry players' feedback to reproduce the next information, namely information in the form of exhibition facility discourse and also patent registration and design. The requirement to take care of this is that industry players must be active in activities and legal entities and are members of associations. This is the basis for the Government to provide quality to the perpetrators. Therefore, there are still many carving artists who feel marginalized and do not get access to resources. The system has not selected feedback to reproduce subsequent information.

Production and reproduction of information carried out by communication systems Development is a form of adaptation of the system to the environment. The system is already trying to adapt to the complexity of the architecture development environment. The system has produced and reproduced

information related to the complexity of the engraver. However, the adaptation of the Government's communication system still has some problems. The production and reproduction of information carried out by the system are not followed by an implementation that is integrated with what is happening in the field, the development communication system does not integrate with the village system, such as the emergence of the Creative Industry Tourism Village (Dewindif) policy. So that the village system was not successfully suppressed by the existence of the Dewindif communication system. The system does not integrate enough with the village system to create adequate relationships to implement regulations. The system is also weak in integrating with subsystems when reproducing its information. If interrelationships occur well between systems and sub-systems, between the UPTD of Jepara Regency and associations or BUMDes, then cases like this can be addressed. The interpenetration between the two will create a mechanism for a sustainable development communication system.

Second, the system is both closed and open. Luhmann said that the system must create its boundaries so that it is not more complex than the environment. However, the development communication system is more open to other systems, especially the political system. The communication system is weak when interacting with the political system. The development communication system is difficult to reduce and select government policies without any interpenetration of the political system.

Table 2. Complexity Matrix of Jepara's creative industry environment

Complexity	Sub Complexity	Description
Regeneration	Capacity	Takes time to master carving skill
		Art and design skills
	Reward/Appreciation	Economic Access
		Social status
	Trainer Intensity	Lack of carving art Trainer.
		Educational evaluation is still very minimal.
		Limited interaction
		Less incentive
	Trainer Competency	Lack of knowledge of carving techniques
		Lack of art and design knowledge
Marketing	Selling	Competition is increasing
		Prices are not competitive
		Engraving machine technology is growing
		Furniture sales according to market demand
		Carving craftsmen's interest is decreasing
		Use of new media for marketing
	Product Quality	The quality of the carving technique is decreasing
		Less innovative carving designs
		Raw materials are getting harder to come by

4   CONCLUSION

The communication system that develops in producing and reproducing information is less coordinated with its subsystems. This system is weak in penetrating the political system. The development communication system is powerless when the political system has produced information and does not reduce and select information from the political system. The system is also weak in interpenetrating the system of carving industry players. The challenges and demands of the environment that the engraving complexity of the engraver, have not been holistically part of the complexity of developing environmental communication systems.

The development of communication systems does not effectively produce information to cope with the complexity of its environment. The development of communication systems has also been slow in providing answers to the complexities faced by sculptors. The engraver instead generates its information to solve the complexity of its environment. The information generated by the development communication system that does not solve the complexity of the environment will become a new

complexity for him. This information will only add to the complexity of the environment at hand. So that the communication system for the development of Jepara's creative industry developed into a system that is not adaptive

Therefore, this research is to emphasize the role of the media (public) and science journalism in the innovation system in the Jepara creative industry. This study recommends the use of more dominant media as an adaptive effort to respond to environmental complexity through an interpretive framework of convergence between the Pentahelix model and communication system theory for the development of the creative industry in Jepara. In its development, it must also be considered to include the exploitation of new media, including social media, as a means of involvement and liaison to spread culture and production of knowledge reproduction and innovation in the era of information technology, because conventional media has been deemed unable to answer the needs of the global economy. The success of the communication system of creative industry development in Jepara depends largely on soft infrastructures, such as networks, knowledge, human resources, etc. an important additional feature of this soft infrastructure is the availability of digital networks and other types of digital connections.

This model analysis of the Jepara carving industry helps researchers show that economic networks are the main force transforming a region. Academia is emerging as a significant driving force in driving knowledge, innovation, and digital literacy, which are the main sources of intellectual capital for the formation of potential creative economy ventures. In Jepara, the role of Academics and Media still seems marginalized. Knowledge transfer has not occurred optimally. Although the Development of communication systems has produced information to solve the complexity, the complexity of the environment is developing more complexly. The information produced is no longer relevant to the environmental demands and challenges facing industry players. The complexity of the environment is fast-paced, while the reduction of complexity and the production of information on the development of communication systems is slow. The system does not have an evaluation mechanism to assess the established information successfully or not. The system does not know the strengths and weaknesses of the information that has been implemented. This results in the reproduction of information carried out by the development of communication systems becoming directionless. Reproduced information sometimes encounters the same error, which is sometimes not followed by providing a structure to run it.

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