

# The Quadruple Helix Model: Enhancing Innovative Performance Of Indonesian Creative Industry

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**Abstract:** The creative industry in Indonesia has contributed positively to the national economic growth. Creative industry grows from the creativity and innovation performance of the business actors. The challenge of creative industry is how to completely understand the creative and innovative processes in business management. Therefore, it requires an approach that combines the synergy between academicians, entrepreneurs, government, and society in a quadruple helix model. The objective of this research is to develop a creativity model through a quadruple helix model in improving innovation performance of the creative industry.

**Keywords:** quadruple helix model, creativity, innovation performance, creative industry

## 1 INTRODUCTION

Creativity and innovation have always played a key role in the economy. Currently, in the developing countries, the tangible asset-based economic paradigm have shifted into an intangible asset-based economic paradigm that includes creativity and innovation. Since the 2000s, Indonesia has entered the era of creative industries. The development of the creative industry had made it as the backbone of the Indonesian economy. Several studies have empirically proven the role of creativity in improving innovation performance in Small and Medium Enterprises (SMEs). However, the studies that focus on analyzing the role of creativity in improving innovation performance in the creative industry are still limited. The creative industry has a significant role in increasing national economic growth and is expected to become a new national economic power for the future. Referring to data of creative industry contribution to Gross Domestic Product (GDP), the creative industry average growth was 4.38% in 2015 with a value of 852 trillion rupiahs. In 2016, the creative industry contributed 7.38% to the total national economy of Indonesia (Indonesian Creative Economy Agency, 2016). For the period of 2014-2015, the export value of the creative industry also increased with an average annual growth of 12% worth 194 trillion rupiahs. It is expected that by the year of 2025, the creative industry can contribute 11% to the GDP. The supporting data on the development of creative industry in Indonesia shows significant increase in creative industry exports. Porlezza & Colapinto (2012) state that creativity and innovation have an overlapping definition. Creativity is related to the originality of new ideas. New things related to the ideas, images, symbols, design, and cultural expression should be considered a national asset in multiple ways. Furthermore, there are 8 drivers of the creative industry, i.e., demand, greater diversity, a level playing field, education and skills, networks, public sector, intellectual property, and building greater business capacity. Creative industries are industries producing products and services that can provide added value for the creativity and knowledge.

They can be sourced from the ideas, arts, and technology that managed to create prosperity (Müller et al., 2009). Unlike conventional industries, which rely on capital, raw materials, and location, the creative industries focus on creativity and knowledge. Rosenbusch (2011) found that innovative characteristic has a positive effect on innovation performance of the SMEs. The activities in the innovation process can drive innovative performance improvements in the creative industries. However, the challenge faced by the business actors in the creative industry is especially about how to comprehend and manage the implementation of innovation process in producing products and services. The creativity-based goods and services production will affect significantly on either the success or the failure of running a business in the creative industry (Hotho & Champion, 2011). Therefore, all business actors engaging in creative industry should have a comprehensive understanding of the importance of creativity in producing high performance innovation. Discussions on creativity and innovation performance in the creative industry applying a quadruple helix model are still limited and unclear. The Indonesian government is making serious efforts to improve the quality of human resources in the creative industry in order to create innovative, creative, and proactive human resources. These efforts aim to create an innovation-based economy. Thus, it requires support from the related parties to cooperate in a quadruple helix model. According to Porlezza & Colapinto (2012), in a quadruple helix model, the synergy between sectors is emphasized on the innovation process. Aziz et al. (2017) also explains the inter-sectoral linkages in a quadruple helix model applied in the SMEs that operate in the creative industry which is focused on innovation management by identifying the key success factors. To improve innovation performance and to win the competition in creative industry, creativity aspect should become the first priority. However, the majority of the business actors in creative industry cannot completely deliver good creativity and innovation performance to meet market demand that will finally improve business performance. Therefore, in line with the mission of Indonesian government to create an excellent business innovation performance, the purpose of this research is to provide a conceptual framework that focuses on the creativity aspect as an effort to improve innovation performance in the creative industry in Indonesia.

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## 2 LITERATURE REVIEW

### Creative Industry

In general, the existence of creative economy is to support economic growth, create new employment opportunities, and decrease the poverty level in Indonesia. Various sub-sectors of the creative industries in Indonesia are very prospective to be developed. Its main strengths are the creativity of the human resources and the diversity of the cultural assets. Conceptually, the creative economy is an economic activity that focuses on the activity of thinking and the creativity of human beings. Creative economy relies on creative industry business which is a new industry based on innovation and creativity so that the business actors should always innovate and develop their products or services. According to the Creative Economy Agency of the Republic of Indonesia (2016), creative industries are grouped into: (1) advertising, (2) architecture, (3) art and antiques market, (4) handicrafts, (5) designs, (6) fashion, (7) video, film, and photography, (8) interactive games, (9) music, (10) performing arts, (11) publishing and printing, (12) computer and software services, (13) television and radio, and (14) research and development.

### Creativity

Creative industry can be defined as an industry that mainly focuses on creativity, skill, and talent that has the potential to improve public welfare through the offering of intellectual creations (Simatupang, 2008). Oldham and Cummings (1996) define creativity as a result, an idea, and a way that should meet two conditions: first, it has to be new or original, and second, it has the potential to be used in the organization. Creativity is also the result, the idea, and so forth that produced at an individual level. In line with that opinion, Amabile (1996) mentions that creativity is the creation of new ideas that are useful in all aspects of human activity and in everyday life. The idea must be a brand new idea that is different from what has been found before and that it should be useful for solving problems and creating opportunities. Furthermore, Csikszentmihalyi (1999) interprets creativity as a systemic process that consists of the people who initiate the ideas, the gatekeepers who represent the field or society, and the culture or domain within which creativity occurs.

### Enhancing Innovative Performance

In the creative industry, innovation performance plays an important role in business sustainability. In today's uncertain global market, every business should focus in giving fast response to market demands and technological changes (Malekifar et al., 2014). The key factor to respond changes in demand and technology is innovation followed by the efficiency and effectiveness of the use of resources. The success of the implementation of innovative ideas will achieve superior innovation performance (Halim et al., 2015). According to Parkman & Helder (2012), the keywords in the creative industry is the performance of innovation owned by business actors. The innovative characters of the business actors will help them survive in the industry and manage the barriers such as the limitations of human and technological resources. A meta-analysis research by Rosenbusch (2011) on 42 empirical studies in 21,270 firms found that innovation performance affects the

outcomes produced such as patents or innovative products or services. Porter (1980) states that product innovation, process, service, and business model owned by creative industry are the main capitals to gain business opportunity and win the competition in the creative industry. The researchers have undertaken a number of studies to address the issues of how to manage the ideas and the creative process to produce new products and services and how to develop the supporting technology (Madhousei et al., 2011). The importance of innovation performance in creative industry leads to the needs of measuring innovation performance that appropriates with the business actor in creative industry. It is expected that the development of new innovative products will lead to the improvement of innovation performance.

### The Role of Quadruple Helix Model

The concept of quadruple helix is the development of the triple helix concept by integrating the role of academician, entrepreneur, government, and civil society in the activity that based on creativity and knowledge (Oscar, 2010). Etzkowitz & Dzisah (2008) stated that triple helix is based on the premise that the university plays an enhanced role in development together with the government and industry, the two traditional leading institutional spheres. Higher education institutions are virtually everywhere and their flexible nature opens them to fill a variety of roles, well beyond traditional missions. While in the concept of quadruple helix, producing creativity and innovation capability requires the participation of four sectors, namely government, academician, entrepreneur, and society. Mulyana (2014) proposes the concept of quadruple helix as a solution for the development of creativity, innovation, and technology for the creative industry. According to Fernando (2012), creativity and innovation are related to each other in supporting innovation performance. Nowadays, innovation and research benefit from the evolving and overlapping relationships between academician, government, and industry: innovation is a more systemic process, with an accent on effective coordination of a system in which high skills are diffused in different areas (Porlezza & Colapinto, 2012). In a quadruple helix model, Carayannis and Campbell (2009) state the importance of the policies and practices of government, university, and industry to be interacted each other intelligently, effectively, and efficiently. Praswati (2017) found that the concept of quadruple helix contributes to the innovation process in the industry, university, government, and, civil society, and that the four sectors would interact with each other to accelerate the transfer of innovation. Hudani & Dhewanto (2015) state that the quadruple helix model is a conceptual framework of the collaboration between university, industry, government, and community. Every actor has a role and an identity, i.e., university acts as the researcher (science), the government acts as the policy maker (policy), the industry acts as the producers (economy), and the community acts to fit the gap between those three parties (connector). The 4 pillar organizations are distinguished from other organizations by the fact that they work to increase innovativeness and competitiveness. First, they provide a forum in which related institution can learn from one another. Second, they connect institutions to knowledge resources and opportunities outside their immediate purview. Third, they

facilitate the collaborative development of new products, services, processes, and capabilities involving universities and government in addition to private sector firms. And finally, in some cases, nonprofit organizations on behalf of their private sector stakeholders (Dalziel, 2005). Ranga & Etzkowitz (2013) found that the importance of the relationships between actors in the helix system has now grown an era of innovation where the linkages between actors, i.e., academician, government, business sector plus civil society will result in the new ideas of high level of innovative products and services. Furthermore, related to the Quadruple Helix (QH) innovation theory, Afonso et al., (2017) state that an innovation economy is based on four helices, i.e., academician, citizens, firms, and government, and their interactions. We believe that the QH conceptualised relationship between these four helices and their joint impact on economic growth deserves to be conveyed and demonstrated mathematically. We develop a one-sector idea-based growth model with complementarities between intermediate goods and services, and productive public expenditure. With an idea-based growth model, we can identify innovation as the main source of economic growth.

#### **A Framework for Understanding Innovative Performance**

According to Mulyana (2014), the concept of quadruple helix is related to the collaboration between the intellectuals (university), business sector, government, and civil society that supports the growth of creativity of the creative industry entrepreneurs. Furthermore, Dewi (2009) explained that the support, cooperation, and interaction between intellectuals (university), business sector, government, and civil society are the driving forces that generate the creativity, ideas and knowledge. Supported by Etzkowitz (2008), the concept of triple helix that changed into the quadruple helix concept will invent new creativity, ideas, skills, and knowledge. Xiaobo (2013) has conducted a research on the influence of government and university supports on creativity transfer. Ranga & Etzkowitz (2013) also explain that creativity is born through the involvement of intellectuals (university), business, society, and government that provide regulations to support the creation of creative and innovative behavior of the business actors. The university has a significant role in supporting the growth of creativity (Etzkowitz, 2008) because academicians contribute positively to the development of creativity and innovation and in the process of knowledge transfer to business people in the creative industries. Mulyana (2015) found that the quadruple helix model has an important role in improving creativity in the creative industry, but, it is still incapable to improve the innovation performance in the creative industry of fashion sub-sector in Semarang. This research proposes the following proposition:

#### **Proposition 1: the quadruple helix model has an influence on creative industry creativity**

A study by Young & Jung (2010) found that creativity has an influence on innovation performance in Korean firms with the creation of an Organizational Creativity Index (OCI). Creativity encourages business actors to take advantage of the business opportunities that can be the basis of innovation for the business growth (Bilton, 2007).

Changes in the current economy have shifted from the knowledge-based activities to the activity that based on creativity, innovation, entrepreneurship and imagination (Van den Broeck et al. 2008; Oke et al. 2009). Furthermore, creativity contributes in heightening the innovative performance through its ability to extend existing strength while also shaping new skills (Teece et al., 1997; Lokshin et al. 2009). A research by Fillis (2010) stated that entrepreneurship creativity can influence the increase on intangible asset which includes innovation performance. Thus, this research proposes the following proposition:

#### **Proposition 2: creativity has a positive effect in improving the innovation performance of the creative industry**

### **3 DISCUSSION AND CONCLUSION**

This research provides a framework about how to improve innovation performance through the increased creativity by applying an approach and interaction of a quadruple helix model. In this framework, creativity is an important element in improving the performance of innovation in the creative industry in Indonesia. This framework recommends the creation of innovation performance in the creative industry in order to enhance creativity and competitive advantage through the contribution and interaction between university, business, government, and civil society. The creativity of the creative industry entrepreneurs will create new products and services that are difficult to be imitated by competitors. It is expected that by understanding the performance of innovation in the creative industry, the business actors can immediately adapt to the market changes or consumer preference and the technology development to survive in the fierce business competition. The ability to manage and improve creativity will be very influential in developing creative industry in order to improve innovation performance. Business actors in the creative industry can utilize their creativity as the basic capital to improve innovation performance for the business sustainability. Creativity can generate new ideas for the products and service in the form of qualified and competitive value-added product offerings to gain consumer heart. To maximize innovation performance resulting in business development, the elements of a quadruple helix model are needed to encourage the creativity of the business actors. The facts show that the excellent business creativity will lead to an excellent capability to produce more innovative and superior value-added products. According to the preliminary study, it can be concluded that a superior business performance in the creative industry is produced from an excellent creativity supported by good contribution and interaction between university, business, government, and civil society in a quadruple helix model. The empirical findings show that innovation performance requires an open minded character and a continuous knowledge-sharing attitude so that the creativity could lead to the new superior and competitive products and services. This research suggests future research to employ qualitative and quantitative methods in order to gain more detailed and comprehensive findings. Referring to Halim et al. (2015), an innovation culture will lead to an innovation performance that provide profitable results for the small business development in the creative industry.

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