

# Business Model Innovation in the Digital Network Era and Its Impact on Human Resource Empowerment

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**ABSTRACT:** The 4.0 industrial platforms is a complex topic. Standards and norms for industrial sectors need to be combined with specific technical specification support. The presence of the internet and new mobile devices with new applications has significantly changed today's purchase behaviors. Leading companies have created an entirely new business model by utilizing new online technologies. Some companies have identified business model innovations with new products and services for customers. New business models for the digital era network have created more revenue and profit by meeting customer demand. One method of identifying business model innovations is to analyze the existing business model, find the pattern of human resource empowerment in the model, and formulate it. With this approach, it is possible to enrich existing business models with new features and elements. The implementation of new business model innovations ultimately has a significant impact on the success of a company and empowers the human resource.

*Keywords:* Business Model, the Internet and technology, Human Resource Empowerment.

## 1 INTRODUCTION

Business model innovation is the allocation of new products and services to customers (Mitchell and Coles, 2003). Mitchell and Coles said that business model innovation is a change of at least one component to get a new composition of elements of the business model. Business model innovation is an optimization process in which elements of different business models are changed. Next, describe the business model innovation as a wholly new but border business model with an old business model. It focuses on other objectives and follows different rules for its implementation. New regulations, technological changes, and market shifts can be potential triggers for the demand for new business model innovations (Cavalcante et al., 2011). Osterwalder and Pigneur (2010) defined business model innovation as "a mechanism for creating more revenue and profits as customer demand".

One method for identifying business model innovations is by analyzing existing business models, finding patterns in the model, and formulating them abstractly. This approach will enrich existing business models with new features and elements. Ultimately, the implementation of business model inno-

vations can have a high impact on a company's success (Fleisch et al., 2014).

The independent variables used in this study were service quality, information quality, and system quality (extracted from the D&M IS Success Model), and performance expectancy, export expectancy, hedonic motivation, social influences, price values, habits, and facilitating conditions (extracted from UTAUT2 model), which will have an impact on the use of M-Banking (dependent variable). Afterward, this study will test the usage impact as an independent variable on customer satisfaction and loyalty of M-Banking users on students in Surabaya.

### *1.1. Approaches for Developing New Business Ideas*

Many different theoretical constructs can be found in the literature. The following presents two frameworks that are widely used to develop and test business ideas.

#### *1.1.1 Business Model Canvas*

The business model canvas was developed by Osterwalder and Pigneur (2010). The model is one of

the most commonly used approaches in developing new business ideas, in theory as well as practice. The business model canvas consists of nine different components, namely value propositions, main activities, key partners, main resources, customer relations, distribution channels, customer segments, cost structures, and revenue streams (as shown in Figure 1). The model has benefits of describing each component in detail and be able to see the relationships among components. The limitation of the canvas business model is the scope of limited action.



Figure 1: Business Model Canvas (Osterwalder and Pigneur, 2011)

1.1.2 Business Model Navigator

The business model navigator was developed by Gassmann et al. (2014). This study shows that nine out of ten new business models are developed by combining existing business models. Gassmann et al. (2014) identified 55 business model patterns that can be used to develop new business models. The process of developing a business model navigator based on four dimensions, namely Who, What, How, and Value, that makes up all together in triangle. The main elements of the business model navigator are customers, value chains, and revenue (Gassmann et al., 2014).

The model is separated into several phases of the procedure. Figure 2 shows the different steps from the initiation phase, the ideation phase, the integration phase to the implementation phase.

The first stage of 'initiation' accurately analyzes business ideas and their environment. Issues examined based on triangle described earlier and the process of 'Who - What - How - Value'. The second stage is idea creation. The aim is to transform the current business model into a new innovative business model by adapting 55 business model patterns from Gassmann et al. (2014). The third stage is the 'integration' stage. The aim is to achieve integrated consistency of internal and external conditions. Ac-

ording to Gassmann (2014), the implementation phase is the most difficult one due to rejection from the market, staff, and partners. Together with Stanford University, Gassmann et al. (2014) found three steps cycle approach simplifying the implementation process. This includes steps for testing, adaptation, and market recognition that can be used to test potential business models.

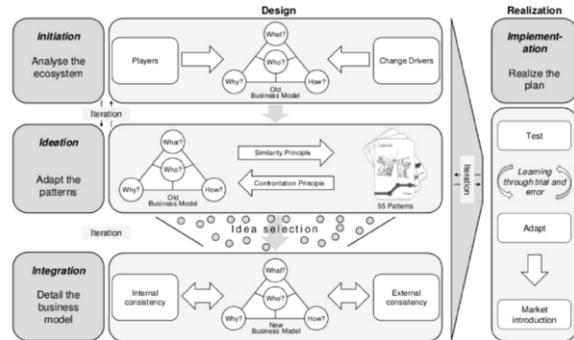


Figure 2: Business Model Navigator (Gassmann et al, 2014)

1.1.3 Digital Business Model

The first publication of the digital business model emerged in the 1990s. Venkatraman (1994) said the business models are considered as digital when digital technology has a significant impact on business operations as well as revenue. At present, almost every sector of the automotive, aviation, energy, retail, and other industries uses IT technology because of the increasing number of products and services sold through online platforms, and increasing demand in understanding digital business models. However, for many years, it was not clear when the business model was called digital. Al-Debei et al. (2008) defined that if the company's core business is digital, the company is assigned to the IT/digital industry (Al-Debei et al., 2008). Some digital business models have been applied in the digital world until now. Digital implementation in manufacturing industries will shift and create new collaborations (Kagermann et al., 2013).

1.2 Business Model Transferability

Today, many competitors are trying to imitate successful business models and transfer them to new business sectors. The question is: what circumstances can transfer of business models from one business sector to another be successful?

Each business sector has individual characteristics that must be considered in the new business model. The business model related to the customer dimension, unique value proposition, value chain,

and profit mechanism. In fact, a successful business model also depends on other factors such as human beings, organizational values, and culture.

To make a successful business model transfer to another business sector is not easy and requires persistence and specialized expertise to make it successful (Dottore et al., 2010).

Figure 3 presents three different variants of the internet-based business model. The following paragraphs will explain in detail (Fleisch et al., 2014).

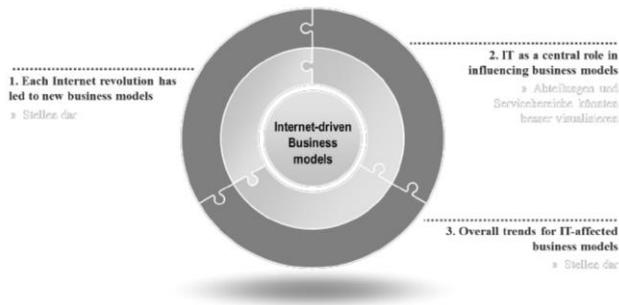


Figure 3: Digital Business Model (Gassmann et al., 2014)

### 1.3 The Internet Revolution has Produced a New Business Model

The pattern of the first business model generated from Information Technology happened in the years between 1995 to 2000. These patterns used the first generation of the internet, often called *Web 1.0*, to strengthen the business and reach new customers and markets.

Gassmann et al. (2014) defined *Web 1.0* as a supporting business infrastructure, which helps companies to offer products and services through new channels. Examples of possible business models today are e-commerce or open-source software. In 2005, a new era of the Internet (*Web 2.0*) emerged with a significant difference was that users were also responsible for content. Thus, new business models such as crowdsourcing, crowdfunding, or long-tail, so-called social media, were created and emerged in traditional markets.

Fleisch et al. (2014) identified three primary roles of the internet influencing business models by analyzing 55 business models from Gassmann et al. (2014):

1. No effect: The internet is totally irrelevant to the business model and does not affect the business model. The example is '*Ingredient Branding*' business model
2. Information technology as added value: Several business models were known and used before the introduction of the Internet, but were

not easy to implement or control. However, since IT implementation, the complexity of this business model has been drastically simplified.

3. Information Technology as a prerequisite: Without using IT, a business model cannot be imagined. Fleisch et al. (2014) defined it explicitly as a digital business model, for example, E-Commerce.

According to Rutsch (2014), almost every business model affected by IT follows at least one of the following trends:

1. Service-oriented: Due to the increasing demand for customer support, IT is often used by companies to keep in touch with customers, before and also after a transaction. At present, the majority of customers prefer the complete product package, including the product plus additional services.
2. Customer integration: By using the Internet, companies can easily integrate customers into the value creation process to increase customer satisfaction by transferring tasks from producer to client.

### 1.4 Opportunities and Challenges in Industry 4.0 and the Internet

Recent publications illustrate the various opportunities and challenges of digital in industry 4.0 will result in a lost job, especially for small and medium enterprises. On the other hand, this new technology can also generate new jobs, income, and profits. The Siemens company, for example, estimates it has saved a few percents of materials through new optimizations and sophisticated simulation software.

The software is doing the simulation of machine tools before operating the machine. This results in cost and time savings. The study of Industry 4.0 from the consulting firm estimates an overall efficiency increase of 18 percent in all companies and industries. There is no obvious prediction about what will happen in the future, but one thing is clear that the world will change significantly (Brynjolfsson and McAfee, 2014).

### 1.5 Organizational Empowerment

Research related to the definition and strategy of organizational empowerment has different views. Having different types of organizational members, staff can have different understandings of empowerment so as to form different perspectives as an integral part of empowerment evaluations (Ashcraft & Kendrowicz, 2002). In general terms, empowerment prac-

tices include participatory work practices, fair decision making, and an appreciation process for organizational staff (D'Enbeau & Kunkel, 2013).

Lee (2001) described two different organizational approaches to empowerment, one being a case management approach, and the second as a process that is communicated and enforced through various levels of organizational interactions and procedures. The emerging approach to organizational rhetoric looks at the rhetorical implications of fragmented discourses and symbols embedded in organizational practices when constructing meanings and structures that can limit and enable workers in organizations.

Understanding organizational discourse and empowerment practices as a strategic representation are to explore how this performance serves to legitimize viewpoint and institutional logic (Suddaby, 2005).

## 2 DISCUSSION

### 2.1 *Technological Challenges and Potentials*

Various challenges for companies occur while implementing digital business models. One of the challenges is determining the right balance between product and service offerings. The more business changes to digital technology, the higher the product provides service because the digital part of the product is always service. Another challenge is the use of product development variables. Although it takes years, a long process, and high investment to develop innovative new products, digital services can be built in a short period of time, and the process of development is fast. In addition, most product failures can be corrected with digital updates (digital), almost without charge, and in a short time, often based on time sequence (Fischer, 2014).

Technology functions both as an aspect of material rhetoric (technological rhetoric), as well as being self-developed rhetoric (technological rhetoric). Technology can facilitate community development and inclusive participation for employees. This is because *online*, traditional boundaries can be challenged to facilitate cross-cultural connections and collaboration (Castells, 2010). In addition, rejection and job identity can use technological logic for common purposes to provide potential ideas, deliberate and debate, and work together and communicate to create real social change. Individual and political organizations use the internet effectively to mobilize funds and generate awareness and increase the availability of information (Nisbet & Scheufele, 2004). *Online communication* allows more diverse

strategies and varies easily be used by organizations as might be considered.

Challenges in networking communities, individuals can "respond" *online* by force, forcing some reforms such as changes in production, elimination of chemicals, or other activities that can be rejected (Bennet, 2003).

### 2.2 *Utilizing Technology in Empowering Human Resources*

The industry is undergoing significant changes in structure because technology and future expectations require a set of human resource empowerment and workgroup skills that can reach the entire world and across cultures. The ability to create a system and anticipate shifts in technology and the trend of the industry requires adaptable human resources, and inspire others to think differently in completing the new and complex challenges.

The generation that revolutionized the industry from manual assembly lines to robots also changed the way in empowering human resources, so that new changes will require new ways for empowering human resources. Millennial generation views technology as a tool to develop and implement new technologies to improve work processes, so it needs to support the empowerment of digital-based resources.

The application of technology tools will increase the flow of work and technological advancement in developing the product. Technology and products that have not been thought are the future of millennial generation that will assess, develop, produce, implement, test, and improve this technology. The task of the millennial generation is to employ, train, assess, develop, and promote a workforce that is responsible for supporting the next generation. The motivation of employees, supported by an increase in technology, can improve the productivity of the organization and the ability to maintain employment.

In the current millennial era, the need for more human resource skills development emerges, such as dealing with conflict and motivation leads to the need to examine the best ways of using technology to improve skills. Microlearning is an example of integrating technology not only in industrial and business processes but also in developing human resource empowerment. Microlearning, in the form of short lessons, focuses on the main actions that can be accessed through mobile devices. Access to this empowerment is needed to resolve the situation quickly with success can be predicted, so that helps organizations to prepare more efficient and effective millennial human resources. In addition, efficient

and effective managers support the environment desired by others. Increasing the talent of human resources helps solve essential challenges of the industrial revolution 4.0, as well as producing quality workforce to meet the needs of a growing and changing the industry to produce new technology for the future.

Further study will be needed to determine whether the use of digital tools in human resources empowerment that will improve the skills and human resource empowerment results are better than the traditional model. Technology development tools provide added value for empowering human resources. Human resource empowerment can also use social media. The millennial generation workforce is also connected in a way that has never been seen before. Over the past few years, the company has a strong prohibition on using social media in the workplace, but now there are new reasons not to block or prohibit social media for promoting the company. In addition, employees have a habit of posting almost everything that happens online. The company encourages employees to use social media to help promote the company; this action has indirectly achieved two things: the company management trusts employees implicitly and increases the number of people who reach the company's message exponentially.

### 3 CONCLUSIONS

Utilization of technology can be used as a medium to make employees dedicated to improving company performance and reputation, achieving employee performance interests that have a significant impact on company development. The basis for empowering human resources in a company is the relationship of trust between the company and employees who need each other in improving competence and performance. The importance of the symbiotic relationship of mutual support can be done with the use of technology. It also shows the company trust to the employees by providing opportunities for employees through social media for leadership, appreciating insight and advice, and representing the company positively in public.

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