



# Mediating Role of Co-creation Strategy on the Relationship between Business Model Innovation and Corporate Reputation: A Case Study on Indonesian Telecommunication Firms

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**Abstract:** Industry 4.0 drives the changing phenomenon throughout all industries driven by digital technology. Digital technology has become an enabler in the innovation of business models. New capabilities are required to be developed, especially for incumbent firms, since new entries have more agility in establishing new business models to create value. Even though the incumbent firms have strong reputation, they need to develop new distinct capabilities to create value in the long run. The fastest way to develop new capabilities is through collaboration also known as co-creation. Co-creation is a form of economic strategy to bring mutual values from different parties as a mediating role in creating business model innovations. Since there are limited study on co-creation strategy in relation to corporate reputation and business model innovation, this paper aims to assess the mediating role of co-creation strategy on the relationship between business model innovation and corporate reputation. The unit of analysis is taken from Indonesian telecommunication firms with sample of 35 firms out of 445 firms using purposive sampling method. Smart PLS (Partial Least Square) is used as the analytical approach and solution in the study. Research results reveal that corporate reputation has an indirect effect on business model innovation, but a direct effect on co-creation strategy. Co-creation strategy also plays significant effect to business model innovation. Co-creation strategy is a moderator variable between business model innovation and corporate reputation. The paper provided insight that the enhancement of corporate reputation should be directed towards building co-creation strategy which will then help strengthen business model innovation article.

**Keywords:** Industry 4.0, corporate reputation, co-creation strategy, business model innovation

## 1. Introduction

Digital and cellular technology has significant influence in shaping the changes in Industry 4.0. Industry 4.0 drive all industries to become globalised, a transformation from the informational industry into conceptual era (Pink, 2005). The changing of the era and industry impact on changing of market and customer behaviour (Aral, Dellarocas, & Godes, 2013; Macdonald, Wilson, Martinez, & Toossi, 2011; Priem, Guido, & Butler, 2013). Customers require products to be delivered quickly, simple, and priceless, as they also look at the overall service rather than the product itself. With the advancing digital technology, established firms need to learn and digitise their processes to shorten the decision-making process and offer more personalized goods to customers (Henfridsson, Mathiassen, & Svahn, 2014).

Industry 4.0 has two faces; the first face is related with customers or opportunities to create new revenue and market through business model innovation. The second face is the efficiency of cost due to the digitisation and learning process (Kagermann, 2015), which changes affect the changes in the ecosystem (Akram, 2013; Teece, 2012). Key factors for the success of firms in facing industry 4.0 are innovation, collaboration, integration and interoperability with ecosystem of production (Bauer, Hämmerle, Schlund, & Vocke, 2015; Kiel, Müller, Arnold, & Voigt, 2017). Incumbent firms are required to develop new capabilities in the business model to anticipate hyper-competition, dynamic markets, and changes in customers and the ecosystem. The fastest way to develop new capabilities in a business model is through collaboration or co-creation with other entities. Co-creation is an economics strategy to create co-value with other entities. The external parties involve in the development of value in the internal value chain. Co-creation will also accelerate and enable incumbent firms to transform into the new paradigm in business, hence having the capability to be more adaptive in supporting changing of ecosystem due to impact of industry resolution 4.0 (Ibarra, Ganzarain, & Igartua, 2018).

Co-creation is a joint creation of value by companies and customers where customers are allowed to co-construct the service experience that would be suitable to them (Prahalad & Ramaswamy, 2004). In developing co-creation with other entities, the more innovative the firms are the more valuable the co-creation model would be. One of the key innovations in industry 4.0 is business model innovation. The aim of co-creation and innovation of business models is value creation, especially in the digital era (Amit & Zott, 2010, 2012; Zott & Amit, 2017). The changing of markets due to the changing of customers are the reason the incumbent firms fail to maintain a sustainable position (Christensen & Bower, 1996). Telecommunication is the industry where the incumbent is significantly disrupted by new entries (Bradley, Loucks, Macaulay, Noronha, & Wade, 2015). Indonesian telecommunication faces a challenge in providing the digital infrastructure (Das, Gryseels, Sudhir, & Tan, 2016; IMD, 2017) but some opportunities related to the growth of innovation in start-up companies and other business models (IMD, 2017). Most new entries are over the top (OTT) firms that focus on the internet of the things (IoT). Some cases of OTT start-ups in Indonesia include Go-jek, Tokopedia, and Traveloka develop new products and services through economy sharing and co-creation with communities. Empirical research on the role of co-creation strategy was conducted by International Business Machines (IBM) on their 2015 CEO Survey. The findings show that 69% of CEOs agree that earning the highest achievement of innovation requires support from the CEOs to enable the firm to form collaboration for in creation co-creation value with partners. This indicates that the leader of a firm has a significant role in developing innovation and co-creation (Wasono, Furinto, & Rukmana, 2018).

Giesen et al. (2007) suggests in his study on business models, that network plays are the most common form of business model innovations for incumbent firms. In developing co-creation, the trust towards each partner is important since co-creation is formed based on personalised and unique experiences of customers (value-in-use), ongoing revenue, learning and enhanced market. Customer experience is one of the antecedents of corporate reputation (Walsh, Mitchell, Jackson, & Beatty, 2009). Despite the important role of co-creation, studies on the role of co-creation strategy on the relationship of business model innovation and corporate reputation is still limited (Coombes & Nicholson, 2013). Therefore, this paper aims to discuss the role of co-creation strategy on the relationship between business model innovation and corporate reputation. The study is expected to contribute to the management practice of incumbent firms in managing digital transformation and for the academics to contribute in finding the proper path analysis in the transformation into becoming a digital service for an established company. Hence, established companies are required to digitise the system (Kagermann, 2015), share the economy (Matzner et al., 2018), virtualise (Monios & Bergqvist, 2015) and also integrate with the existing operation process of digital capabilities (Berman, 2012).

The paper will start with an introduction, thus exploring the theoretical bases of the current study by describing past research and construct variables. This paper continues with the methodology used, research model and hypothesis. The findings section also discusses the management analysis and opportunity for further research. Last, the paper closes with a conclusion, implication and further study for future improvement.

## **2. Literature Review**

### **2.1. Corporate Reputation**

Based on those literature review, in this study the development of corporate reputation antecedents should be related to the long-term activities and actions of firms, especially in relation with the development of intangible value in conjunction with to customers journey such as customer relation in combination with trust, customer satisfaction in related to product quality and customer loyalty to create the brand reputation (Walsh et al., 2009; Lourenco et al., 2014). Therefore, this paper uses the dimension of corporate reputation consisting of customer loyalty, trust, product quality and brand reputation.

Corporate reputation is accumulative of historical activities and transaction and a snapshot of the image of corporation in a particular time. The development of corporate reputation requires long term process including the feedback and opinions about an entity, typically as a result of social evaluations on a set of criteria's (Walsh et al., 2009). In digital disruption innovation era, Corporate reputation is found as the one of the incumbent strength compared to the new entries beside the other capabilities such as capital and customer base (Bradley et al., 2015). Corporate reputation could also influence social and community values and strengthen the competitive advantage as part of sustaining its competitive advantage (Gardberg & Fombrun, 2002). Furthermore, all those activities in creating corporate reputation has been found as one of a significant impact on the value creation of the firms (Lourenço, Callen, Branco, & Curto, 2014) especially in relation with their intangible values such as organisation and customer value to generate more income (Walsh et al., 2009).

## 2.2. Co-Creation Strategy

The basic concept of co-creation strategy is derived from marketing theory as a collaboration strategy with customers in developing co-creation value for respective firms. Co-creation actively involves in full development process to end users and other relevant parties (Prahalad & Ramaswamy, 2004; Sawhney, Verona, & Prandelli, 2005; Sheth, Sisodia, & Sharma, 2000). With co-creation strategy concept, customers as part of value chain process compare to the traditional management views where the partners and consumers to be outside of the value chain. The development of co-creation has been extended not only involving customers but other stakeholder such as partners, competitors, and other external entities. Those changing paradigm has impacted to the innovation term that shift from closed innovation to open innovation involving customer and other external partners in developing innovation (Chesbrough, 2012).

The co-creation strategy can be used as a strategy for the firm to transform the capability and value proposition to collaborate with customer and other parties in creating as a new source of value (Kambil, Friesen, & Sundaram, 1999). We argue that the concept of value creation is not only applied for marketing theory but can be extended into value creation strategy in anticipating hyper-competition based on is the new 7S McKinsey framework (D'aveney, 1994) and value chain. In the new 7S McKinsey framework, the strategy is divided into three categories: strategy, capability and tactical. The construction of co-creation strategy is then constructed as co-creation vision, capability and tactic. Co-creation vision focuses on directions from senior leaders while co-creation capability on developing people, process and technology to support the implementation of vision. Whereas, co-creation tactic ranges from design until promotion process as a co-design, co-production, co-delivery, to co-promotion (DeFillippi & Roser, 2014; Roser, DedFillippi, & Samson, 2013). Based on the literature study, the dimension of co-creation strategy in this study use the dimensions of co-creation strategy, co-creation capability and co-creation tactics.

## 2.3. Business Model Innovation

Business model innovation describes how an organisation could create, deliver and capture value. The construct and modification of business model is what is called business model innovation. Business models are broad and used in the value chain of businesses including in business processes and integrated with existing business processes (Frankenberger, Weiblen, Csik, & Gassmann, 2013). Business models are a part of implementation strategy in the context of sustainability for the incumbent firms (Massa & Tucci, 2014). In the digital ecosystem, business model innovation emerges as an alternative to process and product innovation (Eksell & Harenstam, 2017), where managers and entrepreneurs create additional value in a specific time (Amit & Zott, 2001, 2010, 2012; Zott & Amit, 2017). Business model innovation as part of digital transformation by rearranging the business activities with greater value than previously through optimising new digital technologies (Berman, 2012; Li, 2018; Prem, 2015.) business models as a new holistic, integrated and systematic way for organisations to provide the operation of innovations in order to create value in a dynamical environment through collaboration with internal and external stakeholders (Abdelkafi, Makhotin, & Posselt, 2013; Amit & Zott, 2012; Zott & Amit, 2017). Amit and Zott provide a holistic definition of business model innovation, hence in this study, the dimensions used refer to the concept defined in their study (Zott & Amit, 2010) which includes content innovation, structure innovation, and governance innovation.

## 2.4. Hypotheses Development

Sanchez *et al.* (Sánchez & Sotorrío, 2007) has found in their empirical study on the relation corporate reputation and value creation related with collaboration and co-creation. His study shown that the corporate reputation has significant relation to value creation through collaboration with customers. while the study from Zarkada and Polydorou (Zarkada & Polydorou, 2013) argues that the corporate reputation of the firm that uses social media has significant impact in increasing customer experience and enhancing co-creation value. The studied reveal that, the use of digital technology provides the firm opportunity to collaborate with customer and external to create co-creation value. another study done by Dijkmans et al. has found similar finding in use of digital technology and social media (Dijkmans, Kerkhof, & Beukeboom, 2015). This finding supports the formulation of the hypotheses as follow:

**Hypothesis 1:** Corporate reputation has significant influence on co-creation strategy in the Indonesian telecommunication industry.

The study conducted by Schaltegger et al. (2012) demonstrates the role of corporate reputation and brand in leveraging the sustainability of competitiveness included in business model innovation. Another study also shows that business model innovation could increase the rank of corporate reputation (Aspara, Lamberg, Laukia, & Tikkanen, 2013) and also has impact on the company value (Lourenço et al., 2014). Based on these past studies, it can be hypothesised as following:

**Hypothesis 2:** Corporate reputation has a significant influence on business model innovation in Indonesian telecommunication industry.

Akram (2013) pointed out in his study that within the digital ecosystem, technology architecture is important in the platform design to leverage the innovation of products, services and business models, which also requires collaboration in order to achieve superior performance. When the component factor of co-creation value which is the internal configuration fit with business model innovation and external factor fit with customer and provider business model, the co-creation has significant impact in supporting business model innovation (Nenonen & Storbacka, 2009). Boons et al. (Boons, Montalvo, Quist, & Wagner, 2013) demonstrated that the development of business model is part of building towards sustainability in the context of co-creation with society and businesses in order to achieve societal and economic profits. From a business model perspective, sustainable innovation requires joint efforts with customers. Hence the formulation of hypothesis can be defined as follow:

**Hypothesis 3:** Co-creation strategy has a positive relationship with business model innovation in Indonesian telecommunication industry.

### 2.5. Research Model

Based on the strategic formulation framework (Wheetlen, 2013) where the formulation of co-creation strategy is derived from internal factor which is corporate reputation and the implementation of strategy is defined as the business model innovation, the model of research can be shown in Figure 1. Based on the hypothesis of corporate reputation’s direct relationship with co-creation strategy and business model innovation and the indirect relationship of co-creation strategy and business model innovation.

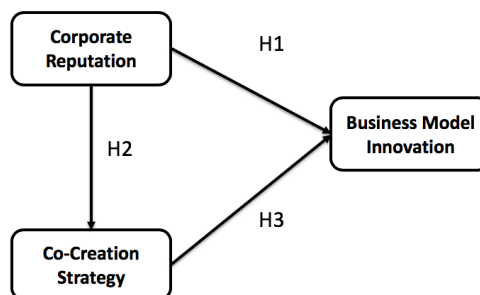


Figure 1. A Research Model

### 3. Methodology

The study is an empirical study where the unit analysis is the telecommunication firms in Indonesia the senior leader of the management is the observed unit. The population is made up of a combination of all elements that have a series of similar characteristics. The total population is m 445 companies. It consists of 312 Internet Service Provider (ISP) companies and network providers, 34 satellite firms, 27 tower providers, and 72 Telkom subsidiaries and affiliates. According to Cohen (Cohen, 1992) the recommended minimum sample size is 33 respondents for the model with an endogenous construct has 2 arrows directed, 5% Probability error, 80% statistical power and minimum R2 = 0.25. The sample size is made up of 35 representations of telecommunication firms in which 95% of them are senior leaders at General Manager levels or higher which is higher than minimum requirement of samples.

Table 1: Distribution respondents

Segment	Board/C Level	VP Levels	GM Level	Mgr. Level
Network Provider	3	16	3	1
Service Provider	2	1	3	0
Partners	4	0	1	1
<b>TOTAL</b>	<b>9</b>	<b>17</b>	<b>7</b>	<b>2</b>

Notes: Board / C level: the highest level of senior management with the title of “Chief”, VP (Vice President) =Senior management who report to “Chief” or C-level, GM (General Manager): Senior Management who report to VP level, Mgr. (Manager): Senior manager who report to General Manager

Purposive sampling method is used to collect the sample. Data was collected using an online questionnaire that was distributed through Messenger, WhatsApp, Telegram and email. Due to the limitation of data sample, PLS is used as the statistical tool for analysis.

## 4.0 Results and Discussion

### 4.1. Evaluation of Measurement Model (Outer Model)

The outer model test has aim to assess the relationship between latent variables and their indicators. The outer model measurement consists of the following test as follow:

- Convergent Validity to assess the constructs validity. The valid result is measured based on Average Variance Extracted (AVE) with expected value is higher than 0.5, and Cronbach Alpha is higher than 0.6
- Composite Reliability to assess the scale of reliability. The high reliability can be shown where the Data of composite reliability is higher than 0.7.
- Discriminant validity to assess the construct validity not to related. The valid indicators shown that the figure on diagonal bold numbers are bigger than horizontally listed numbers.

**Table 2: Construct Validity and Reliability Test**

	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Brand Reputation	0.879	0.882	0.917	0.736
Co-Creation Vision	0.951	0.953	0.976	0.953
Co-creation Capability	0.758	0.762	0.892	0.805
Co-creation Tactical	0.878	0.881	0.925	0.805
Content Innovation	0.956	0.959	0.971	0.919
Customer Loyalty	0.815	0.818	0.890	0.729
Governance Innovation	0.829	0.848	0.920	0.853
Product Quality	0.713	0.728	0.874	0.776
Structural Innovation	0.813	0.860	0.891	0.735
Trust	0.822	0.823	0.882	0.652

Table 2 shows that all variable has the AVE value > 0.5, Cronbach Alpha > 0.6 and composite reliability > 0.7. This is indicating that research variables have high reliability and good composite validity for all variables and dimensions.

**Table 3: Discriminant Validity**

No	Dimension	1	2	3	4	5	6	7	8	9	10
1	Brand Reputation	0.858									
2	Co-Creation Vision	0.516	0.976								
3	Co-creation Capability	0.207	0.627	0.897							
4	Co-creation Tactical	0.404	0.650	0.666	0.897						
5	Content Innovation	0.245	0.734	0.762	0.732	0.959					
6	Customer Loyalty	0.503	0.747	0.614	0.594	0.671	0.854				
7	Governance Innovation	0.488	0.731	0.552	0.678	0.752	0.537	0.923			
8	Product Quality	0.764	0.598	0.341	0.408	0.329	0.754	0.455	0.881		
9	Structural Innovation	0.368	0.886	0.677	0.619	0.856	0.754	0.737	0.512	0.857	
10	Trust	0.575	0.702	0.633	0.630	0.695	0.805	0.546	0.684	0.724	0.808

Results of discriminant validity tests are represented in Table 3, where the diagonal bold numbers indicate the square root of AVE. Only digital culture has the horizontal listed is slightly higher than diagonal, but the rest of the dimensions have good discriminant validity. The value of convergent validity is the value of the loading factor of the outer path analysis. T-value > t-table (2.04) and p-value < 0.05 means that each indicator is a valid measurement tool in measuring latent variables.

**Table 4: Outer Path Analysis**

Outer Loading	Path	Mean	Standard Deviation	T Statistics	P Values	Result
Brand1 <- Brand Reputation	0.890	0.873	0.090	9.933	0.000	Valid
Brand2 <- Brand Reputation	0.848	0.842	0.108	7.817	0.000	Valid
Brand3 <- Brand Reputation	0.791	0.779	0.097	8.166	0.000	Valid
Brand4 <- Brand Reputation	0.898	0.892	0.059	15.250	0.000	Valid
CC1 <- Co-creation Capability	0.906	0.914	0.043	21.188	0.000	Valid
CC2 <- Co-creation Capability	0.888	0.870	0.117	7.604	0.000	Valid
CII <- Content Innovation	0.949	0.939	0.037	25.426	0.000	Valid
CI2 <- Content Innovation	0.964	0.963	0.017	56.550	0.000	Valid
CI3 <- Content Innovation	0.963	0.958	0.022	42.964	0.000	Valid
CT1 <- Co-creation Tactical	0.904	0.905	0.059	15.262	0.000	Valid
CT2 <- Co-creation Tactical	0.947	0.948	0.019	50.802	0.000	Valid
CT3 <- Co-creation Tactical	0.837	0.862	0.051	16.263	0.000	Valid
CV1 <- Co-Creation Vision	0.975	0.973	0.013	75.317	0.000	Valid
CV2 <- Co-Creation Vision	0.977	0.976	0.011	91.474	0.000	Valid
Gove1 <- Governance Innovation	0.909	0.913	0.035	25.903	0.000	Valid
Gove2 <- Governance Innovation	0.938	0.938	0.020	46.507	0.000	Valid
Loyalti1 <- Customer Loyalty	0.838	0.829	0.067	12.480	0.000	Valid
Loyalti2 <- Customer Loyalty	0.909	0.911	0.029	31.010	0.000	Valid
Loyalti3 <- Customer Loyalty	0.812	0.821	0.058	14.056	0.000	Valid
Product1 <- Product Quality	0.859	0.855	0.062	13.832	0.000	Valid
Product2 <- Product Quality	0.902	0.905	0.024	38.277	0.000	Valid
SI1 <- Structural Innovation	0.917	0.908	0.045	20.290	0.000	Valid
SI2 <- Structural Innovation	0.939	0.934	0.028	33.893	0.000	Valid
SI4 <- Structural Innovation	0.693	0.711	0.111	6.240	0.000	Valid
Trust1 <- Trust	0.786	0.778	0.095	8.271	0.000	Valid
Trust2 <- Trust	0.872	0.865	0.060	14.510	0.000	Valid
Trust4 <- Trust	0.786	0.777	0.102	7.739	0.000	Valid
Trust3 <- Trust	0.784	0.792	0.058	13.600	0.000	Valid

Table 4 shows that all constructs have a path coefficient score with t-statistics of > 1.96 and p-value = 0.000 < 0.05, which means that all constructs have significant association with their dimensions.

#### 4.2. Structural Model (Inner Model)

In calculating the score of blindfolding, Q2 was obtained for co-creation strategy = 0.266 and business model innovation = 0.451. If Q2 is greater than zero, it indicates that the structural model has adequate predictive relevance. It is also seen that the model formed is robust, so that hypothesis testing can be done.

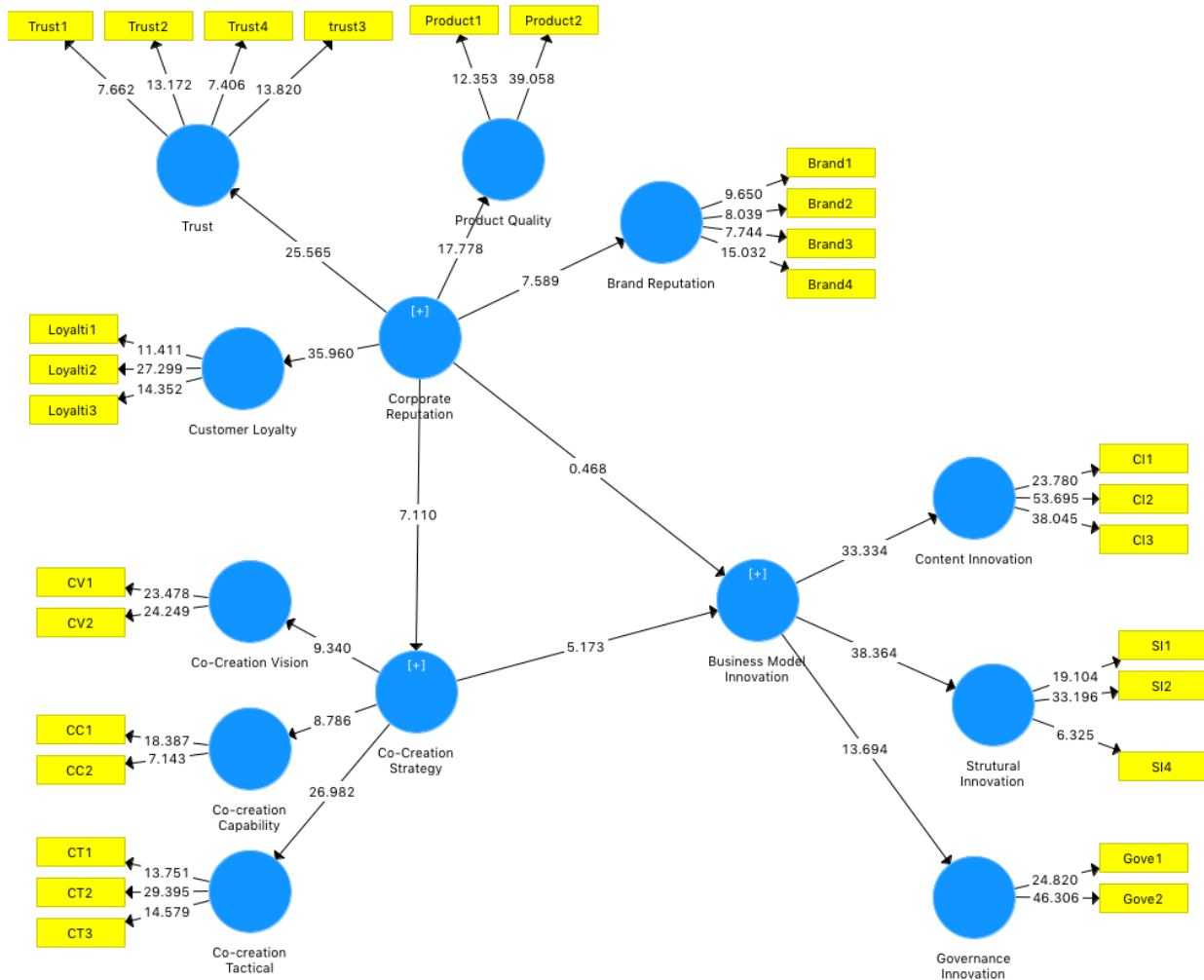


Fig 2. Complete Path Diagram of Research Model

### 4.3. Hypothesis Testing

Below are the results of hypotheses testing:

Table 5: Testing of Hypothesis

Hypothesis	Path Analysis	Path	Standard Deviation	T Statistics*	P Values	Result
<b>Direct Effect Test</b>						
H1	Corporate Reputation -> Co-creation Strategy	0.722	0.097	7.371	0.000	Supported
H2	Corporate Reputation -> Business Model Innovation	0.075	0.155	0.462	0.630	Not Supported
H3	Co-creation Strategy → Business Model Innovation	0.825	0.161	5.117	0.000	Supported
<b>Indirect Effect Test</b>						
H3	Corporate Reputation -> Co-Creation Strategy -> Business Model Innovation	0.595	0.139	4.298	0.000	Supported

\* Significant at  $\alpha=0.05$  (T statistics > 1.96)

Based on Table 5, it is known that within the degree of confidence of 95% ( $\alpha=0.05$ ), where  $T>1.96$  or  $p<0.05$ , it shown that corporate reputation has a significant influence on co-creation strategy and co-creation strategy has significant influence on business model innovation, while corporate reputation has no direct significant influence on business model innovation.

Partially, results from the direct effect test shows that the relationship between corporate reputation and co-creation strategy has a path coefficient score of 0.722 with t-statistics = 7.371 and p-value = 0.000. This means that H0 is rejected and H1 is accepted. It also proves that corporate reputation has a significant impact on co-creation strategy.

The relationship between corporate reputation and business innovation has a path coefficient score of 0.075 with t-statistics = 0.462 and p-value = 0.630. This means that H0 is accepted while H2 is rejected; indicating that there is no significant impact of corporate reputation on business model innovation.

The relationship between co-creation and business innovation has a path coefficient score of 0.825 with t-statistics = 5.117 and p-value = 0.000. This means that H0 is rejected and H1 is accepted, proving that co-creation has a significant impact on co-creation strategy.

The indirect effect test shows that the mediating role of co-creation has a path coefficient score=0,595 with t-statistics = 4.298 and p-value = 0.000. This means that H0 is rejected and H1 is accepted. Meaning, that co-creation has a significant impact as mediating role on relationship between business model innovation and corporate reputation.

This finding supports the previous study from Zarkada and Polydoro (2013) where in digital era, the co-creation has strengthened on relationship with corporate reputation when the social media has actively involved in building customer experience and value creation. When the corporate reputation is the major benefit for incumbent firms, it has implication for incumbent to use their strong capability in corporate reputation in establishing co-creation and collaboration through optimising digital technology. The optimising the use of reputation has brought significant impact to co-creation and accelerate the development of value creation (Sanchez, 2007). The strong corporate reputation is beneficial for the firm to attract the high-end customers and qualified external stakeholders to involve in developing value chain. Co-creation also puts the external party to be more involved in value chain to develop business model innovation. Meanwhile, from a customer or stakeholder point of view, they can see the value benefit in part of the system for value creation. The customers or other parties can influence to generate value together with firms. The corporate reputation is more dominantly formed by trust, product quality customer loyalty, and brand reputation which supports the study by Dijkmans et al. (2015) and, Zarkada and Polydoro (2013).

Other results demonstrate the role of co-creation as the mediating role in the relationship between business model innovation and corporate reputation. Co-creation has played a significant role on the incumbent firms to optimise corporate reputation as part of distinct internal capabilities and combine with external capabilities from customers and external parties to develop a business model. This path is more valuable rather than using corporate reputation directly to build business model innovation. This happens since the path relationship of co-creation and business model is higher than corporate reputation. Co-creation tactic more dominantly forms co-creation compared to co-creation strategy and co-creation capabilities. This finding supports the findings in the previous study done by Akram (2013), Nenonen and Storbacka (2009) and, Boons et al. (2013).

The findings support previous study to optimise not only corporate reputation of the incumbent firms but can be extended to optimise capital and customer base benefit (Loucks et al., 2016) through co-creation strategy with customers and stakeholders. The ability to collaborate with customer and other party will impact in development distinct capabilities for each party as a core competence to develop a business model innovation and to mitigate the risk of being disrupted by them.

## 5. Conclusion

Based on the results, it can be concluded that co-creation strategy can be predicted well by corporate reputation through internal integration and external adaptation processes. However, it is not the same for business model innovation. Co-creation Strategy, which is a form of collaboration to bring value together with different entities, is also a good predictor for business model innovation. This is the reason why co-creation strategy plays an important role in moderating the relationship between business model innovation and corporate reputation.

These findings have practical implications for the management of companies in facing digital transformation in industry 4.0 that the development of business model innovation based on optimising strong corporate reputation combined with the co-creation strategy with customers and other parties rather than direct relationship. Future studies can be explored expanding the sample and industry as well as to markets outside of Indonesia. Longitudinal studies should also be done to ensure that the mediating role of co-creation in the relationship of corporate reputation and business model innovation continues to contribute value to the firm.

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