



# The Influence of Digital Customer Experience and Electronic Word of Mouth on Brand Image (Survey to Digital Customer of Telecommunication Industry in Indonesia)

Sukardi Silalahi<sup>a</sup>, Popy Rufaidah<sup>b</sup>, Ernie Tisnawati Sule<sup>c</sup>, Umi Kaltum<sup>d</sup>,  
<sup>a</sup>Doctoral Science in Management, Faculty of Economics and Business, Universitas Padjadjaran, Jl Dipati Ukur No. 46 Bandung, 40132, West Java, Indonesia, <sup>b,c,d</sup>Faculty of Economics and Business, Universitas Padjadjaran, Jl Dipati Ukur No. 46 Bandung, 40132, West Java, Indonesia,

Discussion of brand image has been conducted in many studies. In contrast, this research aims to examining the influence of digital customer experience and electronic word of mouth on brand image. This research used the equation of Structural Equation Modelling (SEM) by involving 1,000 respondents spread across 10 major cities and the three largest operators in Indonesia. The unit of analysis in this research was telecommunications companies in Indonesia, while its observation unit was digital customers of cellular telecommunications companies. The results showed that digital customer experience and eWOM had an influence on brand image; digital customer experience had the highest influence on brand image compared to eWOM; and eWOM had a weak influence on brand image. This research has implications for the management of telecommunications companies in Indonesia; the efforts to improve the brand image of digital products can be conducted through the development of digital customer experience, especially by developing a digital image experience.

**Key words:** *Brand image, digital customer experience, digital product, electronic word of mouth.*



## Introduction

Nowadays, some efforts towards digitalized services continue to be sought by companies involved in the cellular telecommunications industry in Indonesia. However, the efforts they have shown still have no significant impact on achieving income value. Based on data released in the 2017 Telkomsel Annual Report, 2017 Indosat Annual Report, and 2017 XL Annual Report, the revenue of the telecommunications industry regarding new digital services reached consecutive figures of 8.5%, 3.8%, and 8.4% for Telkomsel, Indosat, and XL digital service products, respectively. This data is also in accordance with the profile data of the Telecommunications Industry in Indonesia, where the proportion of revenue from consecutive digital services starting in 2016, 2017, and 2018 was 9.7%; 9.1%; and 20.7%.

According to Gartner (2018), digital customers are intended as users of digital services (web, mobile, and social media) to digitally enjoy content, connect with brands, and complete transactions. Accordingly, digital customers are internet users who use access through an online connection. Based on research conducted by Gartner institutions, it has been predicted that the largest contributor to the growth of the world telecommunications industry will come from the mobile data business, while relatively high contributors of growth will come from industries around telecommunications where telecommunications will act as an intermediary for services such as mobile payments, mobile games, mobile advertising, and machine-to-machine (M2M) services. Increased penetration of internet users continues to be sought by various cellular telecommunications operators in Indonesia. As such, it is very important to identify what is needed by internet users.

Studies have shown that brand image has a strong influence in facing disruptive eras in industries related to telecommunications (Ashley & Tuten, 2015; Hudson, Roth, Madden, & Hudson, 2015; Killian and McManus, 2015; Hansen & Sia, 2015; Lipiäinen & Karjaluo, 2015; Godey, Manthiou, Pederzoli, Rokka, Aiello, Donvito, and Singh, 2016; Hudson, Huang, Roth & Madden, 2016; and García-Aviles, Carvajal-Prieto, De Lara-González, & Arias-Robles, 2018). The study conducted by García-Aviles, Carvajal-Prieto, De Lara-González, and Arias-Robles (2018) states that brand image needs to be strongly supported through the implementation of innovation. Industries need to measure the innovation index more deeply to increase knowledge about changes happening to the brand image.

Lee and Wu (2011) state that brand image consists of consumer knowledge and beliefs regarding various product and non-product attributes of a brand. Brand image symbolizes the personal symbolism that consumers associate with a brand consisting of all descriptive and evaluative information related to the brand (Iversen & Hem, 2008; Lee & Wu, 2011).



Observation show that the phenomena of building brand image, for cellular digital services, is happening this time. Digital cellular product customers still believe that operators do not provided impressive services, so they are still considered unprofessional. This is reflected in the length of time in responding to customer complaints, and connections that are still often interrupted. Service innovation is relatively the same between operators. Digital cellular products also have relatively no complete superiority compared to their competitors, because on average they provide similar services, so that product attributes are unable to be attached to certain brands. In addition, when customers use certain cellular service products, they still pay attention to the service features of other cellular services that are more attractive as a comparison, making them vulnerable to move to more attractive brands.

Meanwhile, research conducted by Nielsen in 2017 identified that brand image is a zone of strength as future capital to increase penetration of internet users in Indonesia. Every brand owned by a cellular telecommunications operator is basically seen as unique, from its customers' perspectives. However, the results of the data released by Nielsen in the second quarter of 2018 illustrated how the brand image of all cellular telecommunication operators in Indonesia is still far below the legacy service in the form of voice and SMS services.

Data released by Telkomsel (2017) shows high churn rates of digital and non-digital customers in Indonesia. Klaus's (2011) study discovered that to reduce a customer's churn rate, one of the most important factors to be considered, by cellular telecommunications companies, is increasing attention to the customer experience (Jabarullah et al., 2019).

Chauhan and Manhas (2014); Zafarullah, (2018) explains that customer experience comes from a set of interactions between customers and companies that cause reactions. Meanwhile, the observations show that the customers are still unsatisfied in using digital service features. There are customers who still consider that the services and benefits provided are not in accordance with the rates. Trust in digital services was still not high because there were still disruptions or obstacles in the use of services due to disruptive internet access, stability problems, complaints on operator services (in dealing with problems faced by customers), and less-involved customers in the operator services.

The existence of problems in the digital customer experience is considered to affect the company's brand image and can make customers switch to other operators. These allegations are reinforced by the findings of the research conducted by Ike-Elechi and Tan (2009), Ernawati (2017), Nogati (2015), and Sirapracha and Tocquer (2012) showing the influence of customer experience on brand image.



On the other hand, the phenomenon of customer experience connected with electronic word of mouth (eWOM) has been revealed. Voyer and Ranaweera (2015) define word of mouth (WOM) as interpersonal and informal communication that lasts between two or more people, they do not represent commercial selling sources that will get direct results from sales of something.

Meanwhile, in relation to eWOM on cellular digital services in Indonesia, the customers consider that it is necessary to check the correctness of information shared from their partners, especially those from search engines. Customers still need to check the quality of information submitted by their colleagues and the relevance of the information shared by their colleagues by themselves, through a WhatsApp group or other social media. In addition, customers still do not fully trust the information that their partners share before checking back through the various media they use.

Meanwhile, the results of previous studies explain that eWOM became an infrastructure facility for customers in obtaining information. Information shared through eWOM was considered able to improve brand image (Chan and Ngai, 2011; Jalilvand and Samiei, 2012; Prangadita, 2012; and Riyandika, 2013).

Based on the description above, this study aims at examining the influence of digital customer experience and electronic Word of Mouth on the brand image of digital products of telecommunications companies in Indonesia.

## **Literature Review**

Millard's (2006) study states that customer experience is the difference between what customers think they are going to get and the actually experience they receive. Research in the following year, Meyer and Schwager (2007) found that customer experience is a subjective response that customers have when interacting (either directly or indirectly) with the company. Furthermore, Chauhan and Manhas (2014) explains that customer experience comes from a set of interactions between customers and companies that causes a reaction.

The experience felt by customers demonstrates customer involvement at different levels rationally, emotionally, sensory, physically, and spiritually (Gentile et al., 2007; Njegovanovic, 2018). Based on the explanation in previous research, customer experience can be defined as the subjective response that customers have when interacting (either directly or indirectly) with a company, which must be managed to be a source of sustainable competitive advantage in the company.



A research on the dimension capability of digital customer experience was delivered by Silalahi and Rufaidah (2017), showing that the dimensions of digital service experience, namely (1) digital image experience, (2) digital touchpoint experience, and (3) digital broadband experience, were capable to form CE. Statistically, this study proved the application of the three dimensions to explain CE very well.

Based on the aforementioned previous studies and this research analysis unit (digital customers of cellular telecommunications companies in Indonesia), this research chose Silalahi and Rufaidah's (2017) dimensions, namely (1) digital service experience dimension, (2) digital image experience, (3) digital touchpoint experience, and (4) digital broadband experience to measure digital customer experience variables. The use of these four dimensions is really suitable with the conditions of cellular telecommunications companies in Indonesia.

In the current digital era, WOM is developing into Electronic Word of Mouth (eWOM), which is described as positive or negative statements made by potential customers, actual customers, and former customers about products or companies through the internet (Henning-Thurau, Gwinner, Walsh & Gremler, 2004).

Dellarocas (2003) defines Word of Mouth as one of the oldest marketing mechanisms in the history of marketing science, which was facilitated significantly with the presence of internet networks due to technological developments. Therefore, customers today can share their opinions about a product, service, brand, or company easily into the outside world by using the internet. In other words, this broadens the Word-of-Mouth networks (Dellarocas, 2003) into electronic Word of Mouth (eWOM). The research of Jimenez and Mendoza (2013) shows that eWOM has an influence on consumer behaviour before consumers decide to buy a product or service.

Furthermore, according to Cheung and Lee (2012), there are many factors that can drive the occurrence of eWOM, but the most significant factors in driving eWOM are ownership, reputation, and willingness to help. Fan et al. (2013) divide eWOM into five dimensions, namely source credibility, eWOM quantity, eWOM quality, consumer expertise, and consumer involvement. Fan et al. (2013) discusses the factors that determine customer perception of the credibility of eWOM. These factors influence purchasing decisions through digital media because customers will first see the credibility of a product based on accepted eWOM.



Based on a study of the various dimensions of eWOM, and in accordance with the unit of analysis of this research, this study adopted Fan et al.'s (2013) dimensions. The use of these five dimensions is considered suitable with the conditions of cellular telecommunications companies in Indonesia (Haseeb et al., 2019).

Ike-Elechi and Tan's (2009) research showed that brand associations held by customers, as forming dimensions of brand image, could arise from direct experience of product use or indirectly through information received in connection with market offerings. This was reinforced by the findings of Ernawati (2017) and Nogati (2015) showing the effect of customer experience on brand image. This is also in line with the findings of Sirapracha and Tocquer (2012) exploring the relationship among customer experience, brand image, and customer loyalty, in telecommunications services in Thailand, and showing that customer experience has a significant effect on brand image and on customer loyalty.

Chan and Ngai (2011) found that eWOM produced important information for consumers. Leading marketers to believe that their sites should produce enough content to improve the brand image. While Jalilvand and Samiei (2012) found that there was a significant influence of eWOM on brand image. In fact, Pranggadita (2012) and Riyandika (2013) describes a positive relationship with eWOM influencing brand image.

Based on the description, the proposed hypotheses are:

H: Digital customer experience and eWOM affects brand image

## **Methodology**

As a verificative research, the unit of research analysis was digital customers of cellular telecommunications companies, and the observation unit was digital customers of cellular telecommunications companies. Observations were done using time horizons in cross section or one shoot technique, meaning that the information or data obtained was the result of research conducted at a certain time, namely 2019.

The population of this research was all digital customers in Indonesia. Based on the results of the documentation study, the digital subscribers of cellular telecommunications companies in Indonesia reached 200 million customers (Nielsen, 2017; Ahmad, 2018). The sample size used in this study referred to the rule of thumb from the Structural Equation Model (SEM) method, as the analysis technique of this research. The number of samples was 1,000 which was proportionally distributed in several major cities and the three largest operators in

Indonesia. Then, the determination of the number of respondents in each city was conducted by dividing the number of customers of certain operators of digital products with a total number of customers in all major cities. This research used a proportional sampling method. Multistage random sampling in this research combined cluster sampling techniques with systematic random sampling to address the availability of sampling frames for customers. The verification analysis or relationship that occurred between one indicator variable with other indicator variables was conducted by using the SEM approach.

## Results and Discussions

Structural equation modelling (SEM) techniques were used in testing the model. SEM consisted of a set of multivariate techniques that were confirmatory rather than exploratory in testing whether models fit data (Byrne, 2011). SEM estimated the latent variables from observed variables. Creation of composites considered the measurement error. The models could be tested against the data using SEM, as a conceptual or theoretical structure or model, and evaluated for fit of the sample data.

### Analysis of structural Model

Analysis of the structural model explained the relationships between latent variables. The Structural model was evaluated by using the Goodness of Fit Model (GoF) that shows the difference between conceptual or theoretical structure or model and the values of the empirical data.

The following table show the result of GoF with SEM.

**Tabel 1:** Goodness of Fit Criteria

Measures		Compatibility Target	Level	Estimation Results	Compatibility Level
1	Chi-Square	$p\text{-value} > 0.05$		1.000	<i>Close fit</i>
2	RMSEA	$RMSEA < 0.05$		0.00	<i>Close fit</i>
3	NFI	$NFI \geq 0.90$		0.97	<i>Close fit</i>
4	CFI	$CFI \geq 0.90$		0.99	<i>Close fit</i>
5	IFI	$IFI \geq 0.90$		0.99	<i>Close fit</i>
6	GFI	$GFI \geq 0.80$		0.82	<i>Good fit</i>
7	AGFI	$AGFI \geq 0.80$		0.87	<i>Good fit</i>

**Source:** Primary data Processing, 2019

The overall analysis of the model reveals that there was a good measure of ‘Goodness of Fit’ (good fit), and very good (close fit). Thus, the goodness of the model was fit.

### *Analysis of measurement model*

The analysis of the measurement model explains the measurement of manifest variables (indicators) for each latent variable. Validity and reliability tests were used to measure the latent variables and the indicators to measure the constructed dimensions. Cronbachs Alpha’s value was used to measure the reliability of dimension in measuring variables. The value of Cronbach’s’ Alpha, bigger than 0.70 (Nunnaly, 1994), indicates that the dimensions and indicators are reliable in measuring variables. Composite reliability and Cronbach’s Alpha > 0.70 shows that all of the variables, in the model estimated, had criteria of discriminant validity and a good reliability. Table 2 shows the result of the outer model for each dimension on indicators.

**Table 2:** Loading Factor of Dimension-Indicator

Dimension	Indicators	Loading Factor	t	Error variants	AVE	CR
DSE	DSE1	0.78	-	0.39	0.55	0.90
	DSE2	0.76	14.38	0.42		
	DSE3	0.79	15.07	0.38		
	DSE4	0.74	13.78	0.45		
	DSE5	0.66	12.07	0.56		
	DSE6	0.75	13.99	0.44		
	DSE7	0.72	13.29	0.48		
DIE	DIE1	0.79	-	0.38	0.61	0.92
	DIE2	0.77	14.76	0.41		
	DIE3	0.77	14.84	0.41		
	DIE4	0.76	14.52	0.42		
	DIE5	0.80	15.60	0.36		
	DIE6	0.78	15.06	0.39		
	DIE7	0.79	15.31	0.38		
DTE	DTE1	0.74	-	0.45	0.60	0.93
	DTE2	0.76	13.53	0.42		
	DTE3	0.77	13.77	0.41		
	DTE4	0.76	13.56	0.42		
	DTE5	0.76	13.53	0.42		
	DTE6	0.79	14.01	0.38		





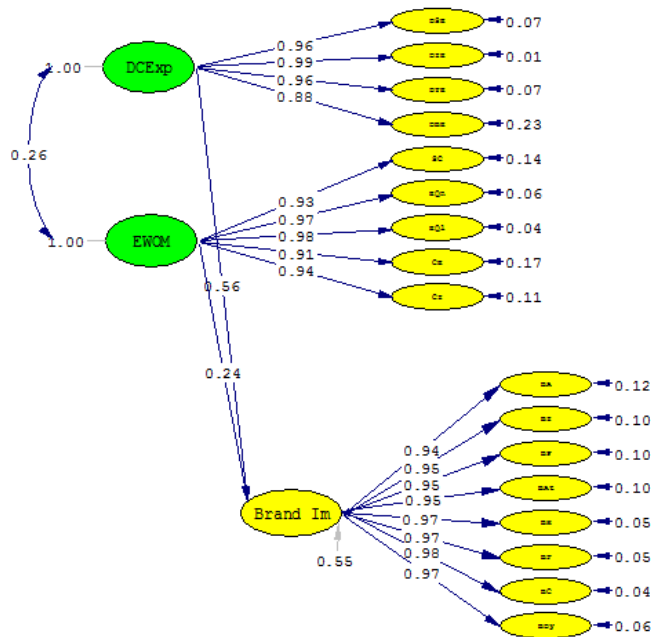
	DTE7	0.80	14.36	0.36		
	DTE8	0.80	14.26	0.36		
	DTE9	0.80	14.35	0.36		
DBE	DBE1	0.83	-	0.31	0.67	0.91
	DBE2	0.84	17.76	0.29		
	DBE3	0.83	17.22	0.31		
	DBE4	0.78	15.83	0.39		
	DBE5	0.82	16.94	0.33		
SC	SC1	0.77	-	0.41	0.56	0.93
	SC2	0.75	13.64	0.44		
	SC3	0.79	14.55	0.38		
	SC4	0.80	14.61	0.36		
	SC5	0.78	14.18	0.39		
EQn	EQn1	0.69	-	0.52	0.58	0.93
	EQn2	0.78	12.60	0.39		
	EQn3	0.67	11.00	0.55		
	EQn4	0.67	10.90	0.55		
	EQn5	0.77	12.50	0.41		
EQI	EQI1	0.80	-	0.36	0.65	0.90
	EQI2	0.82	16.16	0.33		
	EQI3	0.82	16.20	0.33		
	EQI4	0.80	15.73	0.36		
	EQI5	0.78	15.10	0.39		
CE	CE1	0.82	-	0.33	0.67	0.91
	CE2	0.84	17.20	0.29		
	CE3	0.83	17.05	0.31		
	CE4	0.82	16.63	0.33		
	CE5	0.78	15.63	0.39		
CI	CI1	0.78	-	0.39	0.60	0.88
	CI2	0.78	14.54	0.39		
	CI3	0.80	15.15	0.36		
	CI4	0.73	13.52	0.47		
	CI5	0.78	14.65	0.39		
BA	BA1	0.73	-	0.47	0.61	0.94
	BA2	0.76	13.18	0.42		
	BA3	0.78	13.49	0.39		
	BA4	0.77	13.21	0.41		
	BA5	0.75	12.90	0.44		

BI	BI1	0.78	-	0.39	0.65	0.95
	BI2	0.83	15.78	0.31		
	BI3	0.78	14.72	0.39		
	BI4	0.81	15.38	0.34		
	BI5	0.82	15.63	0.33		
BP	BP1	0.81	-	0.34	0.64	0.95
	BP2	0.79	15.49	0.38		
	BP3	0.81	16.04	0.34		
	BP4	0.81	16.08	0.34		
	BP5	0.80	15.93	0.36		
Bat	BAt1	0.79	-	0.38	0.63	0.95
	BAt2	0.76	14.34	0.42		
	BAt3	0.81	15.50	0.34		
	BAt4	0.81	15.58	0.34		
	BAt5	0.79	15.05	0.38		
BH	BH1	0.80	-	0.36	0.66	0.95
	BH2	0.80	15.90	0.36		
	BH3	0.79	15.48	0.38		
	BH4	0.81	16.25	0.34		
	BH5	0.79	15.63	0.38		
BF	BF1	0.82	-	0.33	0.66	0.95
	BF2	0.83	17.26	0.31		
	BF3	0.82	16.82	0.33		
	BF4	0.83	17.15	0.31		
	BF5	0.81	16.77	0.34		
BC	BC1	0.79	-	0.38	0.65	0.95
	BC2	0.79	15.43	0.38		
	BC3	0.81	16.13	0.34		
	BC4	0.81	15.96	0.34		
	BC5	0.80	15.77	0.36		
Bdy	BDy1	0.81	-	0.34	0.77	0.91
	BDy2	0.83	17.17	0.31		
	BDy3	0.81	16.57	0.34		
	BDy4	0.82	16.74	0.33		
	BDy5	0.81	16.60	0.34		

Table 2 above explains that the indicators are valid in which t value > t table (1.98) and a value of coefficient construct reliability (CR) was greater than the critical value (CR ≥ 0.70)

and the average variance extracted (AVE) coefficient was greater than the critical value (AVE ≥ 0.50). This shows that the latent constructs have valid and good reliability.

**Figure 1.** Path Diagram of Structural Model



Based on the research framework, the following structural model was obtained:

$$\eta_1 = 0.56\xi_1 + 0.24\xi_2 + \zeta_1$$

$\eta_1$  = Brand Image

$\xi_1$  = Digital Customer Experience

$\xi_2$  = Electronic WOM

$\zeta_i$  = Residual

### Hypothesis Testing

The results of partially testing are explained in the Table 3:

**Table 3:** Hypothesis Testing

Hypothesis	$\gamma$	t value	R <sup>2</sup>	Conclusion



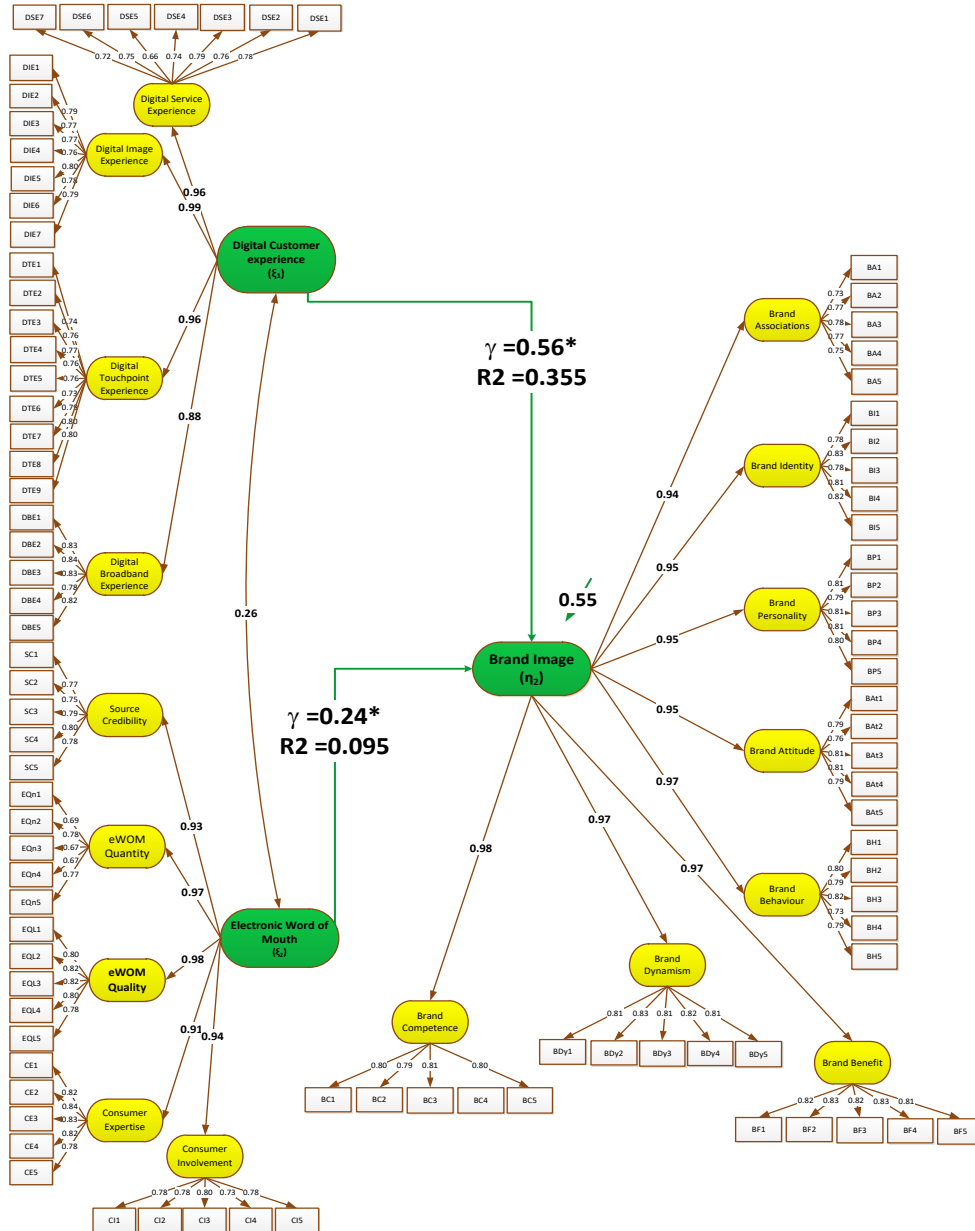
<b>1</b>	<i>Digital Customer Experience</i> → Brand Image	0.56	9.64*	0.355	Hypothesis accepted
<b>2</b>	<i>Electronic WOM</i> → Brand Image	0.24	4.91*	0.095	Hypothesis accepted

\* significant at  $\alpha=0.05$  (t table =1.98)

Table 3 above shows that there were influence of the *Digital Customer Experience* and *Electronic WOM* on Brand Image, where t value > t table, with the coefficient of determination  $R^2$  of 0.45 or 45% of the two exogenous variables. *Digital Customer Experience* had more dominant influences ( $R^2 = 35.5\%$ ).

Based on the results of hypothesis testing, the research finding are as follows:

**Figure 2. Research Finding**



\*significant at  $\alpha=0.05$

The results of the research showed that digital customer experience and eWOM had an effect on brand image. Digital customer experience had the highest influence on brand image compared to eWOM.



Digital customer experience had four dimensions, namely digital service experience, digital image experience, digital touchpoint experience, and digital broadband experience. From these four dimensions, the digital image experience had the highest coefficient of influence of 0.99, followed by digital service experience and digital touchpoint experience of 0.96, and then followed by digital broadband experience of 0.88 in forming digital customer experience. This shows that the digital image experience has the highest influence in reflecting the digital customer experience in increasing brand image, followed by digital service experience and digital touchpoint experience, and then digital broadband experience.

Digital image experience was the dominant aspect of digital customer experience that was able to shape the brand image of a telecommunications provider. This aspect illustrated the customer experience: (1) service innovation provided by providers in giving a positive impression to customers, (2) provider care to customers through digital services in giving a positive impression, (3) digital service creativity, and (4) provider service competitive advantage in terms of technology utilization. The digital image experience also illustrated the reliability of (1) digital services according to consumer experience, (2) the level of customer compatibility with digital services, and (3) the level of positive impressions from the best experience that customers wanted to get. All of these aspects provided a valuable digital image experience for customers, and were able to reflect the digital customer experience, which had an impact on increasing the brand image of a provider, from the customers' point of view.

The results of the above tests stated that digital customer experience affected brand image and in accordance with of the research findings of Ike-Elechi and Tan (2009), Ernawati (2017), Nogati (2015), Sirapracha and Tocque (2012) showing that customer experience had a significant effect on brand image.

eWOM also had an influence on brand image, but the effect was weak compared to digital customer experience. Therefore, this finding refuted the findings of Chan and Ngai (2011), Jalilvand and Samiei (2012), Pranggadita (2012) and Riyandika (2013) stating that eWOM has a significant influence on brand image.



## **Conclusions and Recommendations**

The results show that digital customer experience and eWOM has an influence on brand image. Digital customer experience has the highest influence on brand image compared to eWOM. Digital image experience has the highest influence in reflecting digital customer experience in increasing brand image, followed by digital service experience and digital touchpoint experience, and then digital broadband experience. Meanwhile, eWOM has a weak influence on brand image.

The results also indicate that the increase in brand image of digital products of cellular telecommunications companies in Indonesia is more dominantly built by digital customer experience. Therefore, the proposed recommendation for the management of telecommunications companies in Indonesia is to improve the brand image of digital products by developing digital customer experience and digital image experience.

Moreover, digital image experience can be improved by: (1) giving a positive impression to customers through service innovation, (2) providing care to customers through digital services through digital service creativity to create positive impression, and (3) providing service competitive advantage through technology utilization. Digital image experience can be built by the development of trustworthy digital services according to consumer experience, customer compatibility with digital services, and the creation of positive impressions from the best experience that customers want to get. All of these aspects provide a valuable digital image experience for customers, and are able to reflect the digital customer experience, obtained by customers from certain providers, that has an impact on increasing the brand image of a provider in the eyes of its customers.



## REFERENCES

- Ashley, C., Tuten, T. 2015. Creative strategies in social media marketing: An exploratory study of branded social content and consumer engagement. *Psychology and Marketing*, 32(1), 15-27.
- Ahmad, S. D. (2018). Legal Protection Carried Out by the Financial Service Authority in a Dispute between Consumers and Insurance Companies in Indonesia. *International Journal of Social and Administrative Sciences*, 3(1), 55-61.
- Chan, Y., Ngai. 2011. Conceptualising electronic word of mouth activity: An input-process-output perspective. *Marketing Intelligence and Planning*, 29(5), 488 - 516.
- Chauhan, V., Manhas, D. 2014. Dimensional analysis of customer experience in civil aviation sector. *Journal of Service Research*, 14(1), 75-98.
- Cheung, C. M. K., Lee, M. K. O. 2012. What drivers consumers to spread electronic word of mouth in online consumer opinion platforms. *Decision Support System*, 53(1), 218-225.
- Dellarocas, C. 2003. The digitalization of word of mouth: promise and challenges of online feedback mechanisms. *Journal of Management Science*, 49(10), 1407-1424.
- Ernawati, N. 2017. Pengaruh customer experience dan brand image pada kepuasan dan dampaknya terhadap loyalitas. *Management Analysis Journal*, 6(1).
- Fan, Y., Miao, Y., Fang, Y., Lin, R. 2013. Establishing the adoption of electronic word-of-mouth through consumers' perceived credibility. *International Business Research*, 6(3), 58-65. doi: 10.5539/ibr.v6n3p58.
- García-Avilés, J. A., Carvajal-Prieto, M., De Lara-González, A., Arias-Robles, F. 2018. Developing an index of media innovation in a national market: The case of Spain. *Journalism Studies*, 19(1), 25-42.
- Gentile, C., Spiller, N. dan Noci, C. 2007. How to sustain the customer experience: An overview of experience components that co-create value with the customer. *European Management Journal*, 25(5), 395-410.
- Godey, B., Manthiou, A., Pederzoli, D., Rokka, J., Aiello, G., Donvito, R., Singh, R. 2016. Social media marketing efforts of luxury brands: Influence on brand equity and consumer behavior. *Journal of Business Research*, 69(12), 5833-5841.





- Hansen, R., Sia, S. K. 2015. Hummel's digital transformation toward omnichannel retailing: Key lessons learned. *MIS Quarterly Executive*, 14(2).
- Haseeb, M., Hussain, H. I., Ślusarczyk, B., & Jermstittiparsert, K. (2019). Industry 4.0: A solution towards technology challenges of sustainable business performance. *Social Sciences*, 8(5), 154.
- Hennig-Thurau, T., Gwinner, K.P., Walsh, G., Gremler, D. D. 2004. Electronic word-of-mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the internet?. *Journal of Interactive Marketing*, 18 (1), 38-52.
- <https://www.gartner.com/it-glossary/digital-customer>, Gartner 2018, accessed 4<sup>th</sup> August 2018 at 2.58 pm.
- <https://www.nielsen.com/ssa/en/insights/reports/2017.html>, accessed 11<sup>th</sup> August 2018 at 12.21 pm.
- Hudson, S., Huang, L., Roth, M. S., Madden, T. J. 2016. The influence of social media interactions on consumer–brand relationships: A three-country study of brand perceptions and marketing behaviors. *International Journal of Research in Marketing*, 33(1), 27-41.
- Hudson, S., Roth, M. S., Madden, T. J., Hudson, R. 2015. The effects of social media on emotions, brand relationship quality, and word of mouth: An empirical study of music festival attendees. *Tourism Management*, 47, 68-76.
- Ike-Elechi, O., Tan, Z. 2009. Exploring the impact of brand image on customer loyalty and commitment in China. *Journal of Technology Management in China*, 4, 2, 132-144.
- Jabarullah, N.H., Shabbir, M.S., Abbas, M., Siddiqi, A.F. & Berti, S. (2019) Using random inquiry optimization method for provision of heat and cooling demand in hub systems for smart buildings, *Sustainable Cities and Society*, 47, 101475.
- Jalilvand, M. R., Samiei, N. 2012. The effect of electronic word of mouth on brand image and purchase intention.
- Jimenez, Fernando R., dan Mendoza, Norma A. 2013. Too popular to ignore: The influence of online reviews on purchase intentions of search and experience products. *Journal of Interactive Marketing* 27(3), 226-235.



- Juthamard, S., Gerard, T. 2012. Customer experience, brand image and customer loyalty in telecommunication services. *International Conference on Economics, Business and Marketing Management IPEDR*. 29.
- Killian, G., McManus, K. 2015. A marketing communications approach for the digital era: Managerial guidelines for social media integration. *Business Horizons*, 58(5), 539-549.
- Laporan Tahunan Indosat Tahun 2017. <https://indosatooredoo.com/id/investor-relation/informasi-keuangan/laporan-tahunan>, accessed 1<sup>st</sup> March 2019 at 11.25 am.
- Laporan Tahunan Telkomsel Tahun 2017. <https://www.telkomsel.com/about-us/investor-relations>, accessed 1<sup>st</sup> March 2019 at 11.26 am.
- Laporan Tahunan XL Tahun 2017. <https://www.xl.co.id/en/about-us/investor-room/annual-sustainability-reports>, accessed 1<sup>st</sup> March 2019 at 11.26 am.
- Lee, Hsiang-Ming, Lee, Ching-Chi, Wu, Chou-Chen. 2011. Brand image strategy affects brand equity after M dan A. *European Journal of Marketing*, 46(78), 1091-1111.
- Lipiäinen, H. S. M., Karjaluoto, H. 2015. Industrial branding in the digital age. *Journal of Business and Industrial Marketing*, 30(6), 733-741.
- Meyer, C., Schwager, A. 2007. Understanding customer experience. *Harvard Business Review*, 85, 137.
- Millard, N. 2006. Learning from the WOW factor – How to engage customers through the design of effective affective customer experience. *BT Technology Journal*, 24(1), 11-16.
- Nina M. I., Hem, L. E. 2008. Provenance associations as core values of place umbrella brands: A framework of characteristics. *European Journal of Marketing*, 42(5/6), 603-626, doi: 10.1108/03090560810862534.
- Nogati, D. C. 2015. *Pengaruh Citra Merek Dan Customer Experience Terhadap Minat Beli Ulang Pelanggan Bolt!*. Universitas Negeri Jakarta.
- Nunnally, J. C., Bernstein, I. H. 1994. The assessment of reliability. *Psychometric Theory*, 3, 248-292.



- Njegovanovic, A. (2018). Hilbert Space/Quantum Theory of the Financial Decision and Role of the Prefrontal Cortex with a View to Emotions. *International Journal of Social and Administrative Sciences*, 3(1), 42-54.
- Pranggadita, B. 2012. Pengaruh Electronic Word Of Mouth Terhadap Brand Image: Studi Kasus Pada Keripik Pedas Maicih (Survey Terhadap Pelanggan Sekaligus Follower Twitter Maicih). <http://jurnal.unpad.ac.id/ejournal/article/view/583>. accessed 5<sup>th</sup> February 2018.
- Riyandika, M. 2013. *Analisa Pengaruh Electronic Word of- Mouth, Argument Quality, Message Source Credibility Terhadap Brand Image dan Dampaknya pada Purchase Intention*. Universitas Bina Nusantara. Jakarta.
- Silalahi, S., Rufaidah, P. 2017. *Measuring Digital Customer Experience*.
- Voyer, P. A., Ranaweera, C. 2015. The impact of word of mouth on service purchase decisions: Examining risk and the interaction of tie strength and involvement. *Journal of Service Theory and Practice*, 25(5), 636-656.
- Zafarullah, M. (2018). VAT and Accounting Issues and Solutions in UAE. *International Journal of Social and Administrative Sciences*, 3(1), 35-41.