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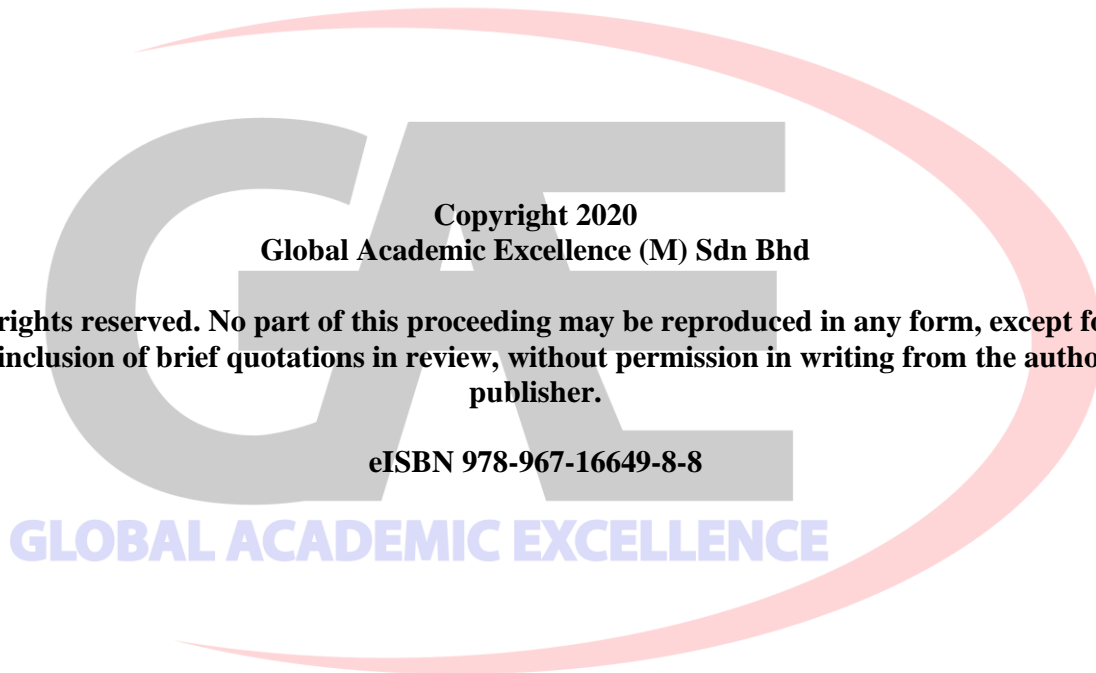
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SATISFACTION: AN INTERMEDIARY IN CREATING BANKING CUSTOMERS' LOYALTY AND CCB

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Abstract: Purpose: The purpose of this study was to examine the direct and indirect effects of Service Organizational Citizenship Behavior (SOCB) and Service Quality on Satisfaction, Loyalty, and Customer Citizenship Behavior (CCB). **Design/methodology/approach:** Study involved 301 bank customers and 30 bank employees selected using purposive sampling techniques. SEM-PLS model analysis was used as a technique for analyzing data. **Findings:** SOCB and service quality have a significant and positive effect on satisfaction. Satisfaction has a positive effect on loyalty and CCB. Loyalty has a significant and positive effect on CCB. **Research implications:** Satisfaction mediates the relationship between SOCB and loyalty, satisfaction mediates the relationship between service quality and CCB, and loyalty mediates the relationship between satisfaction and CCB in the banking sector. **Practical implications:** Attention to SOCB and service quality has an influence on satisfaction, loyalty and customer citizenship behavior (CCB). **Originality/value:** All service industries, including banking, have difficulty getting truly loyal customers and have citizenship (CCB) behavior. To achieve this, efforts must be made including developing service-oriented citizenship (SOCB) and service quality to create long-term personal relationships. The findings illustrate the importance of developing knowledge about SOCB and service quality to employees which ultimately impacts satisfaction and CCB.

Keyword: *SOCB, Service Quality, Satisfaction, Loyalty, CCB.*

Introduction

The large number of banks in Indonesia has created intense competition. In addition to competition between fellow state-owned banks or national private banks, competition is increasingly fierce with the presence of foreign banks and non-banking financial institutions. In order to win the competition, banks must have a good competitive strategy. From the customers' point of view, they are faced with many choices of banks or non-banking institutions that can provide better services.

In the aspect of loyalty, in addition to the acquisition of utilities, the exchange of utilities can also increase customer loyalty, and the customer loyalty will then increase customer citizenship behavior (CCB). Interestingly, the strength of the relationship does not significantly influence customer loyalty. The implication is that an increase in the exchange of utility can increase customer loyalty, and customer utility can increase customer citizenship behavior (CCB) through customer loyalty (Sang-Duck Kim, Hyang-Mi Im, Ki-Hong Seo, Ok-Sook Yoon, Jong-Hun Kim., 2019). Opportunities for joint production and use value are used not only to increase intention to revisit and repurchase, but also to benefit from manifestations of

customer citizenship behaviors, such as customer feedback, advocacy, customer to customer assistance and tolerance for unsatisfactory future services (Ioannis Assiouras. et.al., 2019). Positive relationship can occur between pride and public self-awareness (PSA), as well as between attention and PSA. Furthermore, PSA has an effect on affective satisfaction and customer citizenship behavior (CCB), and affective satisfaction has a positive impact on CCB (Kumju Hwanga Bora Leeb (2019). Service quality dimensions (intangible and intangible resources of aviation services) indirectly affect consumer citizenship behavior (CCB) through perceived value (Mina Woo, 2019).

Satisfaction, however, cannot be achieved without the support of many factors, including service quality. According to Gronroos (1984), service quality dimensions consist of technical quality (what the customer gets) and functional quality (how the customer gets). There are 22 defining indicators of service quality summarized in five dimensions of service quality: tangible, reliability, responsiveness, assurance, and empathy (Parasuraman., Et al., 1988). Factors that influence customers to be able to receive sharia banking services, especially for Muslims, are products and services, reliability, and availability of outlets. However, for non-Muslim customers, products and services are the factors that they feel the most important, while the factors that they feel important are reliability, availability of outlets, and religion. The results of the study also reveal that non-Muslim customers receive sharia services not only because of the Islamic brand, but also because of several other factors, such as ethical organization, service convenience and service perception. (Md. Abdul Jalil et al., 2014).

Another factor that is often unnoticed by researchers is the behavior of employees who interact in organizations, or referred to as organizational citizenship behavior (OCB), which is defined as the behavior exhibited by employees who perform not only because of their obligations and responsibilities, but also because of their willingness to do more without expecting any reward from the organization and solely for the benefit of the organization. Organizational citizenship behavior (OCB) is a specific aspect that supports marketing in the service sector and plays a role in improving service to customers and increasing customer satisfaction (Sabiote, 2005 and Kumar, 2014). This contributes to the management of the relationship between company and customers, shapes customer perceptions about excellent service quality and can cause customer loyalty. The behavior beyond the role is called Service-Oriented Organizational Citizenship Behavior (S-OCB) with dimensions of customer facilitation, organizational involvement, and sportsmanship (Jain, Malhotra and Guan (2012). The S-OCB dimensions that have the most significant influence on service quality are found in Bank Pembangunan Daerah (BPD) with 6 dimensions, and followed by Bank Perkreditan Rakyat (BPR) (Harsono, et al., 2017). S-OCB of employees of Bank Pembangunan Daerah (BPD) and Bank Perkreditan Rakyat has a significant positive effect on service quality (Harsono, et al., 2019).

Finally, referring to several empirical phenomena that have been stated above, the purpose of this study is to examine (1) the direct effect of S-OCB on satisfaction, (2) the direct effect of service quality on satisfaction, (3) the direct effect of satisfaction on loyalty, (4) the direct effect of satisfaction on CCB, (5) the direct effect of loyalty on CCB, (6) the indirect effect of SOCB on loyalty through satisfaction, (7) the indirect effect of SOCB on CCB through satisfaction, (8) the indirect effect of service quality on loyalty through satisfaction, (9) the indirect effect of service quality on loyalty through satisfaction, and (10) the indirect effect of satisfaction on CCB through customer loyalty in Bank Pembangunan Daerah (BPD) and Bank Perkreditan Rakyat (BPR).

Theoretical Model Development and Research Hypotheses

To create satisfaction, every company always wants employees who are committed to the company. The commitment can make extra contributions outside their main duties and obligations, such as willing to serve customers outside their working hours, willing to carry out tasks outside of their work days and routine work hours without expecting rewards, and conducting product or service promotion activities to consumers that will bring benefits to the company. These all are called the Organizational Citizenship Behavior (OCB). The new concept of OCB put forward by Williams and Anderson in 1991 consists of two dimensions: (1) organizational citizenship behavior directed to individuals (OCBI) which refers to behaviors that are beneficial to individuals in organizations to a larger scale, including helping colleagues who have heavier tasks; and (2) organizational citizenship behavior directed to the organization (OCBO) which refers to behaviors that are conducive to the organization as a whole, having a positive attitude, and always doing good to the organization. According to Yen and Teng (2013), OCBO tends to be a direct feedback on what employees think about the characteristics of their work, while OCBI reflects the natural expression of employee affection at work. Complementing the results of previous studies, Chen and Chiu (2008) prove that "organizational support" and "supervisory support" will increase OCB intentions.

According to Yoon and Suh (2003), although OCB is applied and emphasized regardless of industry type, service-oriented employee behavior requires more focus. Furthermore, according to Borman and Motowidlo (1993), the service industry will have more specific requirements in employee behavior when facing customers and representing organizations to outsiders because of the rapid growth of the service industry. Po-Hsuan Wu and Jui-Fan Liao (2016) state that positive behavior, carried out by employees in the workplace, that exceeds their role and function and is customer-oriented is called Service-oriented OCB (S-OCB). Employees strive to provide the best service to customers, so employees do service activities beyond their duties to ensure that customers are not only satisfied, but also very satisfied. Po-Hsuan Wu and Jui-Fan Liao (2016) conclude that S-OCB positively influences customer perceptions of the quality of services provided by the company, which means that the employee's quality-oriented work behavior related to customer will lead to customer ratings regarding perceived service quality. Therefore, S-OCB needs to be developed in employees so that companies can improve the quality of services provided to customers.

The rapid development of technology in the banking sector requires banks to be able to adjust to the demands of the 4.0 era. For this reason, banks also need to educate not only employees, but also customers about technology related to bank products and services. According to Deng & Wang (2014), the OCB that is oriented on technology-based services has an effect on the efficiency of individual tasks. And OCB has an effect on the efficiency of the complexity of activities and tasks associated with technology. They, therefore, suggest that customer-oriented OCB theory is relevant to be studied more, specifically in relation to the service behavior of individuals working in the information technology field. The development of S-OCB in this technological era is essential for banks, because S-OCB is needed in the interaction between employees and their customers in the context of using technology in bank products and services. Developing S-OCB in employees, especially in frontline employees, is part of the leadership role and function. Empowerment and the creation of a learning climate about customers will also lead to the formation of S-OCB. The application of empowering leadership will provide space and flexibility for employees in serving customers and give authority to employees to provide services that exceed the standards and lead to customer satisfaction (Auh, Menguc, and Jung, 2014).

Therefore, the hypotheses put forward are:

H1: SOCB has a positive effect on satisfaction

H2: SOCB has an effect on satisfaction mediated by satisfaction

H3: SOCB has an effect on CCB mediated by satisfaction

To create customer loyalty, management must be able to maintain service quality well and consistently. Some long studies have identified dimensions to measure service quality including technical quality and functional quality (Gronroos, 1984); performance, features, reliability, conformance; durability, serviceability, aesthetics and perceived quality (Garvin, 1984); responsiveness, assurance, empathy, tangible, reliability (Parasuraman. et al., 1988), service performance (Rust and Oliver, 1994); interaction quality, environment quality, and outcome quality (Brady and Cronin, 2001). The studies above tend to link the dimensions of service quality with satisfaction and loyalty. But what attracts attention in the research on service is that service quality is conceptualized as a hierarchy and is constructed multi-dimensionally (Yilmaz et al., 2018 and Mittal et al., 2015).

Despite much debate about the dimensions of service quality, there is a kind of unwritten agreement from the researchers that the quality of service between organizations and companies may be different due to differences in operational aspects, organizational culture, and local or regional culture. In addition, the differences are also due the scope, whether local, domestic, or international (Soni, et al. 2019). According to Boonlertvanich K. (2019), the service quality perceived by customers directly and indirectly has an influence, through satisfaction and trust, attitudes and behavioral loyalty. Service quality affects fewer customers' loyalty if the customer holds the status of a major bank. According to Ehigie (2006) and Bapat (2017), in addition to customer satisfaction, service quality is an antecedent of customer loyalty.

Therefore, the hypotheses proposed are:

H4: Service quality has a direct effect on satisfaction

H5: Service quality has a positive effect on loyalty mediated by satisfaction

H6: Service quality has a positive effect on CCB mediated by satisfaction

Christian Gilde, Stefano Pace, Simon J. Pervan & Carolyn Strong (2011) define customer citizenship behavior (CCB) as discretionary activities, by customers, exceeding and above the normal exchange requirements, which benefit the company. Johnson and Rapp (2010) define customer citizenship behavior as customer policy and behavior with extra roles that benefit the organization. The concept of customer citizenship behavior is inseparable from the role of Ford (1995) and Bettencourt (1997) who think that if employees can do work outside their main job, customers can do it, too. The point is that the basis of CCB is derived from OCB concept by Organ (1988), so in this case Bettencourt (1997) defines customer citizenship behavior as the freedom of customer behavior that supports the company's ability to provide service quality. According to Ford (1995), effective organizational functions require employees to be willing to perform various spontaneous behaviors that are not specified in their job descriptions. Like employees, customers are also involved in various citizenship behaviors, such as reporting problems to employees, recommending business places to friends, or displaying bumper stickers that advertise their support for an organization. Bettencourt (1997) states that like employees, customers can do free behavior, including sharing positive experiences they perceive with other customers and treating employees in a pleasant way.

Groth (2005) defines customer citizenship behavior (CCB) as a voluntary behavior and discretion that is not necessary for the success of production and / or service delivery, but in the aggregate, helps the service. Furthermore, expanding research into organizational citizenship behavior (OCB) to customers can help gain valuable insights on how customer value creation behavior contributes to the overall success of service organizations. Customers are valuable sources for new business strategy ideas, help train other customers, and share service experiences they meet with management.

According to Bove et al. (2009), customer citizenship behavior (CCB) is voluntary behavior beyond the role required by customers for service delivery, which aims to provide assistance for effective organizational functions. Furthermore, similar to organizational citizenship behavior, customers positively influence the performance of employees, organizations, and other customers, and help create the desired arrangements for parties in service meetings.

Therefore, the hypotheses proposed are:

H7: Satisfaction has a positive effect on loyalty

H8: Satisfaction has a positive effect on CCB

H9: Loyalty has a positive effect on CCB

H10: Satisfaction has a positive effect on CCB mediated by loyalty

Research Methodology

This study used research instrument in the form of questionnaire by adopting the service quality dimensions (Parasuraman et al. 1988) with 22 statement items, the S-OCB dimensions (Sabiote and Roman, 2005) with 42 statement items, CCB dimensions with 19 statement items, satisfaction with 8 statement items, and loyalty with 6 statement items. To measure the research instrument, a six-point Likert scale was used, consisting of strongly disagree (score 1); disagree (score 2); slightly disagree (score 3); slightly agree (score 4); agree (score 5); and strongly agree (score 6). The research population was the customers of Bank Pembangunan Daerah (BPD) and the sample was the customers of BPD in 6 branch offices. The sampling was done using a non-probability approach with a purposive sampling technique. Questionnaires were distributed by 30 selected BPD employees who had attended the training to 301 customer respondents who rated the employees. Data analysis including descriptive analysis was used to find a general description of research data or to find out the distribution in research data. Statistical analysis was used to prove the research hypothesis. The data analysis technique used was SEM-PLS model analysis with the WarpPLS program.

Results and Findings

This research has followed the process of testing the validity and reliability which includes: (1) testing the face validity, that is asking for opinions and input from colleagues and research experts; (2) testing the validity and reliability of small samples on 36 customers of Bank Pembangunan Daerah (BPR). The results of small sample tests prove that the SOCB variable indicators, consisting of service quality, satisfaction, loyalty, and CCB, are all valid with a correlation of significant value of <0.05 . The variables of SOCB, service quality, satisfaction, loyalty, and CCB are declared reliable because the Cronbach Alpha value is > 0.60 .

Characteristics of Respondents

Description of the characteristics of customer respondents is as follows:

Table 1. Characteristics of respondents based on gender, age, latest education

Gender		Age			Latest Education			
Male	152	50.5%	17-25	38	12.6%	High School	124	41.2%
Female	149	49.5%	>25-35	125	44.9%	Associate's degree	30	9.97%
			>35-45	65	21.6%	Bachelor's degree	130	43.2%
			>45-55	34	11.3%	Master's degree	17	5.65%
			>55-65	24	7.97%	Doctorate degree	0	0%
			> 65	5	1.66%			
Total	301	100%	Total	301	100%	Total	301	100%

Source: processed by researchers

According to information in Table 1, based on the gender, of the total 301 respondents, 152 (50.5%) are male and 149 (49.5%) are female. Based on the age, 125 (44.9%) respondents are > 25-35 years (the first place), 65 (21.6%) respondents are > 35-45 years (the second place), 38 (12.6%) respondents are 17-25 years (the third place), 34 (11.3%) respondents are > 45-55 years (the fourth place), 24 (7.97%) respondents are > 55-65 years (the fifth place), and 5 (1.66%) respondents are > 65 years (the sixth place). Based on the latest education, of the total 301 respondents, 130 (43.2%) respondents are Bachelor's degree (the first place), 124 (41.2%) are High school graduates (the second place), 30 (9.97 %) are Associate's degree (the third place), and 17 (5.65%) are Master's degree (the fifth place).

Table 2. Characteristics of respondents based on current profession and average income per month.

Current profession			Income per month		
Entrepreneur	40	13.29%	IDR 1 million - 3 million	110	36.5%
Private employee	133	44.18%	> IDR 3 million - 4 million	58	19.27%
SOE' employee	12	3.98%	> IDR 4 million - 5 million	38	12.6%
Professional	3	0.99%	> IDR 5 million to 6 million	24	7.97%
Army / Police	0	0%	> IDR 6 million - 7 million	26	8.64%
Housewife	9	2.99%	> IDR 7 million - 8 million	21	6.98%
Civil servant	38	12.62%	> IDR 8 million	24	7.97%
Farmer/Fisherman	1	0.33%			
Others	65	21.6%			
Total	301	100%	Total	301	100%

Source: processed by researchers

According to information in Table 2, based on the current profession, of the total 301 respondents, 133 (44.18%) respondents are private employees (the first place), 65 (21.6%) are other professions (the second place), 40 (13.29%) are entrepreneur (the third place), 38 (12.62%) are civil servants (the fourth place), 12 (3.98%) are SOE employees (the fifth place), 9 (2.99%) are housewives (the sixth place), 3 (0.99%) are professionals (the seventh place), and 1 (0.33%) is farmer (the eighth place).

Based on monthly income, 110 (36.5%) respondents earn from IDR 1 million to 3 million (the first place), 58 (19.27%) earn from > IDR 3 million to 4 million (the second place), 38 (12.6%) earn from > IDR 4 million to 5 million (the third place), 26 (8.64%) earn from > IDR 6 million to 7 million (the fourth place), 24 (7.97%) earn from > IDR5 million to 6 million (the fifth place), > 8 million, and 21 (6.98%) earn from > IDR 7 million to 8 million (the sixth place).

Respondents' Responses

Table 3. Respondents' responses to the Service-Oriented Citizenship Behavior (SOCB) variable

Statement Item	Sum	Mean	Category	Statement Item	Sum	Mean	Category
L1_1	1558	5.18	Strongly agree	NAC1_25	1513	5.02	Agree
L2_2	1553	5.16	Strongly agree	NAC2_26	1493	4.96	Agree
L3_3	1444	4.8	Agree	NAC3_27	1538	5.10	Agree
L4_4	1490	4.95	Agree	NAC4_28	1485	4.93	Agree
L5_5	1540	5.12	Agree	Average NAC	5	Agree	
Average L	5.04	Agree		NKCN1_29	1504	4.99	Agree
SD1_6	1593	5.29	Strongly agree	NKCN2_30	1513	5.02	Agree
SD2_7	1538	5.11	Agree	NKCN3_31	1422	4.72	Agree
SD3_8	1555	5.17	Strongly agree	Average NAC	4.91	Agree	

SD4_9	1534	5.1	Agree	NRP1_32	1461	4.85	Agree
SD5_10	1548	5.14	Agree	NRP2_33	1467	4.87	Agree
SD6_11	1577	4.24	Agree	Average NRP		4.84	Agree
SD7_12	1588	5.27	Strongly agree	JOCB_1_36	1525	5.06	Agree
SD8_13	1576	5.23	Strongly agree	JOCB_2_37	1512	5.02	Agree
Average SD	5.19		Strongly agree	Average JOCB		5.04	Agree
SO1_14	1541	5.11	Agree	PTOCB_38	1505	5	Agree
SO2_15	1556	5.16	Strongly agree	AI_1_39	1489	4.94	Agree
SO3_16	1561	5.19	Strongly agree	AI_2_40	1526	5.06	Agree
SO4_17	1563	5.19	Strongly agree	AI_3_41	1486	4.93	Agree
SO5_18	1551	5.15	Strongly agree	AI_4_42	1531	5.08	Agree
Average SO	5.16		Strongly agree	Average AI		5.01	Agree
A1_19	1505	5	Agree	Average SOCB		5.03	Agree
A2_20	1534	5.1	Agree				
A3_21	1552	5.16	Strongly agree				
A4_22	1389	4.61	Agree				
A5_23	1537	5.11	Agree				
A6_24	1512	5.02	Agree				
Average A	5		Agree				

Source: processed by researchers

Table 3 shows the respondents' responses to the variable of service-oriented organizational citizenship behavior (SOCB) in the bank. Positive responses are given to 41 (forty-one) statement indicators studied. The overall average SOCB value is 5.03 on a scale of 6. Based on a predetermined average variable, the customer respondents' assessment is in the category of "agree" with the SOCB indicator perceived during interacting with the bank.

The SOCB variable with indicator related to loyalty (L) shows an average value of 5.16 with the category of "agree". The SOCB variable that is related to service delivery (SD) shows an average value of 5.19 with the category of "strongly agree". The SOCB variable that is related to service orientation (SO) shows an average value of 5.16 with the category of "strongly agree". The SOCB variable that is related to service orientation (altruism / A) shows an average value of 5 with the category of "agree".

The SOCB variable that is related to the need to pay attention to customers (NAC) shows an average value of 5 with the category of "agree". The SOCB variable that is related to the need to know the customer's needs (NKCN) shows an average value of 4.91 with the category of "agree". The SOCB variable that is related to the need to establish personal relationships (NRP) shows an average value of 4.84 with the category of "agree". The SOCB variable that is related to SOCB Justification (JOCB1_36 indicator), shows an average value of 5.04 with the category of "agree". Finally, the SOCB variable that is related to altruism (AI) shows an average value of 5.01 with the category of "agree".

The most decisive indicator sequence on this SOCB variable is "getting excellent service from bank employees" (SD1_6) with an average value of 5.29. Furthermore, "I am highly valued by bank employees" (SD8_13) with an average value of 5.23, while "bank employees look easy to get along with various groups" (SO3_16) and "bank employees look very appreciative in serving customers" (SO4_17) have an average value of 5.19.

Table 4. Customer Respondents' Responses to Service Quality Variable

Statement item	Sum	Mean	Category	Statement item	Sum	Mean	Category
ta1	1474	4.9	Agree	as14	1554	5.16	Strongly agree
ta2	1499	4.98	Agree	as15	1578	4.24	Agree
ta3	1555	5.17	Strongly agree	as16	1589	5.28	Strongly agree
ta4	1509	5.01	Agree	as17	1552	5.16	Strongly agree

Average ta	5.01	Agree		Average as	5.21	Strongly agree	
ri5	1512	5.02	Agree	em18	1480	4.92	Agree
ri6	1520	5.05	Agree	em19	1529	5.08	Agree
ri7	1528	5.08	Agree	em20	1477	4.91	Agree
ri8	1505	5	Agree	em21	1545	5.13	Agree
ri9	1536	5.1	Agree	em22	1503	4.99	Agree
Average ri	5.05	Agree		Average em	5.01	Agree	
rs10	1524	5.06	Agree	Average Servqual	5.06	Agree	
rs11	1531	5.09	Agree				
rs12	1557	5.17	Strongly agree				
rs13	1468	4.88	Agree				
Average rs	5.05	Agree					

Source: processed by researchers

Table 4 shows the respondents' responses to the Service Quality variable in the bank. The responses are positive to the 22 (twenty-two) statement indicators studied. The overall average Service quality value is 5.06 on a scale of 6. Based on the predetermined average variable, the assessment of customer respondents is in the category of "agree" with the Servqual indicator perceived during interacting with the bank.

The Service quality variable with indicators related to tangible (ta) shows an average value of 5.01 with the category of "agree". The Service quality variable that is related to reliability (ri) shows an average value of 5.05 with the category of "strongly agree". The Service quality variable that is related to assurance (as) shows an average value of 5.21 with the category of "strongly agree". The Service quality variable that is related to empathy (em) shows an average value of 5.01 with the category of "agree".

The most decisive indicator sequence on this Service quality variable includes (1) "the bank employees being polite" (as16) has an average value of 5.28; (2) "the employees dress and look neat" (ta3) and "the bank employees are always willing to help customers" (rs12) have an average value of 5.17; (3) "the behavior of bank employees makes customers believe them" (as14) has an average value of 5.16.

Table 5. Customer respondents' responses to the customer citizenship behavior (CCB) variable

Statement item	Sum	Mean	Category	Statement item	Sum	Mean	Category
ccb1	1539	5.11	Agree	h1	1461	4,85	Agree
ccb2	1477	4.90	Agree	h2	1458	4,84	Agree
ccb3	1463	4.86	Agree	h3	1494	4,96	Agree
ccb4	1531	5.08	Agree	h4	1485	4,93	Agree
ccb5	1443	4.79	Agree	Average h	4,89	Agree	
ccb6	1480	4.91	Agree	t1	1466	4,87	Agree
Average ccb	4,94	Agree		t2	1510	5,01	Agree
fb1	1565	5.19	Strongly agree	t3	1520	5,04	Agree
fb2	1541	5.11	Agree	Average t	4,97	Agree	
Average fb	5,15	Strongly agree		Average CCB	5,02	Agree	
a1	1550	5.14	Agree				
a2	1548	5.14	Agree				
a3	1543	5.12	Agree				
a4	1552	5.15	Strongly agree				
Average a	5,14	Agree					

Source: processed by researchers

Table 5 shows the responses of respondents to the variable of customer citizenship behavior (CCB) in the bank. The responses are positive to the 19 (nineteen) statement indicators studied. The overall average value of customer citizenship behavior (CCB) is 5.02 on a scale of 6. Based on a predetermined average variable, the customer respondents' assessment is in the category of “agree” with the customer citizenship behavior (CCB) indicators perceived as they during interacting with the bank.

The Customer Citizenship Behavior (CCB) variable with indicators related to CCB shows an average value of 4.94 with the category of “agree”. The Customer Citizenship Behavior variable that is related to (fb) has an average value of 5.15 with the category of “strongly agree”. The Customer Citizenship Behavior variable that is related to service orientation (a) has an average value of 5.14 with the category of “agree”. The Customer Citizenship Behavior variable that is related to service orientation (h) has an average value of 4.89 with the category of “agree” and the Customer Citizenship Behavior variable that is related to service orientation (t) has the average value of 4.97 with the category of “agree”.

The most decisive indicator sequence in the CCB variable includes: (1) “I am willing to fill out a questionnaire about customer service at the bank” (fb1) has an average value of 5.19 with the category “agree”; (2) “I encourage my family to become the bank customer” (a4) has an average value of 5.15; (3) “I say something positive about this bank service to others” (a1) and “I recommend this bank to others” (a2) have an average value of 5.14.

Table 6. The customer respondents’ responses to the variables of satisfaction and loyalty

Statement item	Satisfaction			Loyalty			
	Sum	Mean	Category	Statement item	Sum	Mean	Category
s1	1480	4.91	Agree	L1	1251	4,15	Slightly agree
s2	1479	4.91	Agree	L2	1492	4,95	Agree
s3	1536	5.10	Agree	L3	1459	4,84	Agree
s4	1541	5.11	Agree	L4	1524	5,06	Agree
s5	1516	5.03	Agree	L5	1498	4,97	Agree
s6	1567	5.20	Strongly agree	L6	1369	4,54	Agree
s7	1565	5.19	Strongly agree				
s8	1491	4.95	agree				
s9	1513	5.02	Agree				
Average satisfaction	5.05	Agree		Average loyalty	4,75	Agree	

Source: processed by researchers

Table 6 shows the respondents’ responses to the variable of satisfaction in the bank. The responses are positive to the 9 (nine) indicators of the statement studied. The overall average value of satisfaction is 5.05 on a scale of 6. Based on the predetermined average variable, the customer respondents' assessment is in the category of “agree” with the satisfaction indicators perceived during interacting with the bank.

The most decisive indicator sequence in the satisfaction variable includes: (1) "satisfaction with bank employees" (s6) has an average value of 5.20 with the category of “strongly agree”; (2) "satisfaction with sincerity in serving customers" (s7) has an average value of 5.19; and “satisfaction with the accuracy of transaction services” (s4) has an average value of 5.11.

Table 6 shows the respondents’ responses to the loyalty variable in the bank. The responses are positive to the 6 (six) indicators of the statement studied. The overall average

value of loyalty is 4.75 on a scale of 6. Based on the predetermined average variable, the assessment of customer respondents is in the category of “agree” with the loyalty indicators perceived during interacting with the bank.

The most decisive indicator sequence in the loyalty variable includes: (1) “I will trust people who comment negatively about this bank” (unfavorable statement) (L4) has an average value of 5.06 with the category of “disagree”; (2) “I often tell my friends about the advantages of this bank” (L5) has an average value of 5.19 with the category of “agree”; and (3) “I do not intend to become a customer of this bank” (unfavorable statement) (L2) has an average value of 4.97 with the category of “disagree”.

The following are model fit and quality fit:

Table 7. Model Fit and Quality Indices of BPD

Model Indicator	Value	Note
Average path coefficient (APC)	=0.384	P<0.001 (Significant)
Average R-squared (ARS)	=0.415	P<0.001 (Significant)
Average adjusted R-squared (AARS)	=0.412	P<0.001 (Significant)
Average block VIF (AVIF)	=2.150	acceptable if ≤ 5 , ideally ≤ 3.3
Average full collinearity VIF (AFVIF)	=3.080	acceptable if ≤ 5 , ideally ≤ 3.3
Tenenhaus GoF (GoF)	=0.465	small ≥ 0.1 , medium ≥ 0.25 , large ≥ 0.36
Sympson's paradox ratio (SPR)	=1.000	acceptable if ≥ 0.7 , ideally = 1
R-squared contribution ratio (RSCR)	=1.000	acceptable if ≥ 0.9 , ideally = 1
Statistical suppression ratio (SSR)	=1.000	acceptable if ≥ 0.7
Nonlinear bivariate causality direction ratio (NLBCDR)	=0.800	acceptable if ≥ 0.7

Source: processed by researchers

The results of model fit in Table 7 can be described as follows: the model has a fairly good fit, where the P value for the Average Path Coefficient (APC) = 0.384, with $p < 0.001$. The average R-squared (ARS) value = 0.415, with $p < 0.001$. The average adjusted R-square (AARS) value = 0.412, with $p < 0.001$. The average block VIF (AVIF) value = 2.150 is accepted because ≤ 5 . The average full collinearity VIF (AFVIF) value = 3.080 is accepted because ≤ 5 . The GoF tennhaus (GoF) value = 0.465 is included in the large category because ≥ 0.36 . Sympson's paradox ratio (SPR) = 1,000 is categorized as ideal. R-square contribution ratio (RSCR) = 1,000 is also categorized as ideal = 1. Statistical suppression ratio (SSR) = 1,000 is also accepted because ≥ 0.7 . And nonlinear bivariate causality direction ratio (NLBCDR) = 0.800 is accepted because ≥ 0 .

Figure 1 below shows the results of full model testing for this study which illustrate the direct and indirect effects and can be explained as follows:

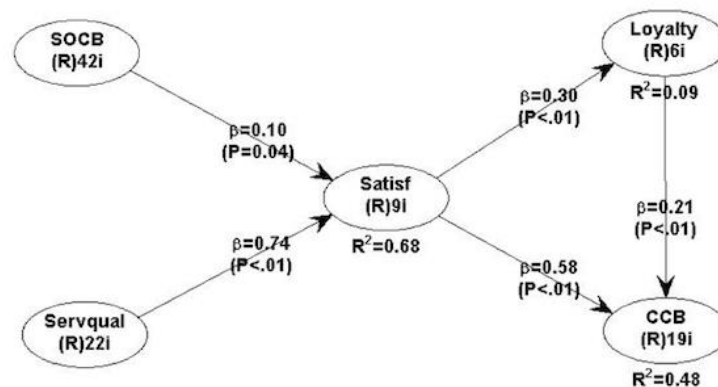


Figure 1. Full Model

Based on the output in Figure 1, it can be concluded that the direct effect of SOCB on satisfaction is shown by $\beta = 0.10$ and $P = 0.04$; the direct effect of service quality on satisfaction is shown by $\beta = 0.74$ and $P < .01$; the direct effect of satisfaction on loyalty is shown by $\beta = 0.30$ and $P < .01$; the direct effect of satisfaction on CCB is shown by $\beta = 0.58$ and $P < .01$; and the direct effect of loyalty on CCB is shown by $\beta = 0.21$ and $P < .01$. To prove the hypotheses proposed in this study, both direct and indirect effects are shown in Table 8.

Table 8. Hypotheses Test Results (direct and indirect effects)

Hypotheses	Relationship between variables	β	P Value	Category
1	Satisfaction < ----- SOCB	$\beta=0.10$	$= 0.04$	Significant
2	Loyalty < -- Satisfaction < -- SOCB	$\beta=0.10$	$= 0.04$	Mediate
3	CCB < --- Satisfaction < --- SOCB	$\beta=0.30$	$< .01$	Mediate
		$\beta=0.58$	$< .01$	
4	Satisfaction < --- Service Quality	$\beta=0.74$	$< .01$	Significant
5	Loyalty < --- Satisfaction < --- Service Quality	$\beta=0.74$	$< .01$	Mediate
		$\beta=0.30$	$< .01$	
		$\beta=0.74$	$< .01$	
7	Loyalty < --- Satisfaction	$\beta=0.30$	$< .01$	Significant
		$\beta=0.58$	$< .01$	
8	CCB < --- Satisfaction	$\beta=0.58$	$< .01$	Significant
9	CCB < --- Loyalty	$\beta=0.21$	$< .01$	Significant
10	CCB < -- Loyalty < --- Satisfaction	$\beta=0.30$	$< .01$	Mediate
		$\beta=0.21$	$< .01$	

Source: processed by researchers

Based the results of hypotheses testing in Table 8, it can be explained that:

Hypothesis 1: SOCB has a positive effect on satisfaction. This is evidenced by a coefficient value of 0.10 and a probability of significance P value of 0.04. This value is smaller than the level of significance (P) value of 0.05. Therefore, hypothesis 1 which states that SOCB has a positive effect on satisfaction is supported. The result of this study implies that when the bank can increase SOCB, this will also increase customer satisfaction. The result of this study confirms the results of the previous studies conducted by Po-Hsuan Wu and Jui-Fan Liao (2016), Deng & Wang (2014), and Auh, Menguc, Jung (2014), Sabiote (2005), and Kumar (2014). This result also confirms some of the customers' notes and messages when they fill open questions on the questionnaire regarding how they feel when interacting with the bank.

Hypothesis 2: SOCB has a positive effect on satisfaction (coefficient value = 0.10 and P value = 0.04) and satisfaction also has a positive effect on loyalty (coefficient value = 0.30 and P value < .01). Therefore, hypothesis 2 which states that SOCB has an effect on loyalty mediated by satisfaction is supported. In other words, satisfaction mediates the relationship between S-OCB and loyalty. This result is in line with the results of previous studies conducted by Po-Hsuan Wu and Jui-Fan Liao (2016), Deng & Wang (2014), and Auh, Menguc, and Jung (2014). SOCB is also validated as an antecedent of satisfaction as proposed in previous studies by Yen and Teng (2013), Yoon and Suh (2003), Borman and Motowidlo (1993), Sabiote ((2005), and Kumar (2014). This finding is also in line with the results of previous studies conducted by Boonlertvanich, K. (2019), Ehigie (2006), and Bapat (2017) that satisfaction is an antecedent of loyalty.

Hypothesis 3: SOCB has an effect on satisfaction (coefficient value = 0.10 and P value = 0.04) and satisfaction has a positive effect on CCB (coefficient value = 0.58 and P value < .01). Therefore, hypothesis 3 which states that S-OCB has an effect on CCB mediated by satisfaction is supported. In other words, satisfaction mediates the relationship between S-OCB

and CCB. The result of this study confirms the results of previous studies conducted by Po-Hsuan Wu and Jui-Fan Liao (2016), Deng & Wang (2014), and Auh, Menguc, and Jung (2014). In addition, this finding also confirms the results of previous studies conducted by Bettencourt (1997), Groth (2005), and Bove et al., (2009) that satisfaction is an antecedent of CCB. The novelty in this study confirms that satisfaction mediates the relationship between S-OCB and CCB.

Hypothesis 4: Service quality has a significant positive effect on satisfaction (coefficient value = 0.47 and $P < .01$). Therefore, hypothesis 4 which states that service quality has a positive effect on satisfaction is supported. Service quality is confirmed in this study as an antecedent of satisfaction. This result is in line with the results of previous studies conducted by Ehigie (2006), Bapat (2017), Soni, et al., (2019), and Boonlertvanich K. (2019). The finding of this study also supports some popular findings of previous research in marketing that service quality is the antecedent of satisfaction.

Hypothesis 5: Service quality has an effect on satisfaction (coefficient value = 0.74 and P value $< .01$) and satisfaction has a positive effect on loyalty (coefficient value = 0.30 and P value $< .01$). Therefore, hypothesis 5 which states that service quality has an effect on loyalty mediated by satisfaction is supported. In other words, satisfaction mediates the relationship between service quality and loyalty. The result of this study confirms the results of previous studies conducted by Ehigie (2006), Bapat (2017), Soni, et al., (2019), and Boonlertvanich K. (2019) that service quality is an antecedent of satisfaction. In addition, the result of this study is also in line with the results of previous studies conducted by Md. Abdul Jalil et al., (2014), Mittal et al., (2015), and Yilmaz et al., (2018) that satisfaction is an antecedent of loyalty, and satisfaction mediates the relationship between service quality and loyalty.

Hypothesis 6: Service quality has an effect on satisfaction (coefficient value = 0.74 and P value $< .01$) and satisfaction has a positive effect on CCB (coefficient value = 0.58 and P value $< .01$). Therefore, hypothesis 6 which states that service quality has an effect on CCB mediated by satisfaction is supported. In other words, satisfaction mediates the relationship between service quality and CCB. The result of this study confirms the results of previous studies conducted by Ehigie (2006), Bapat (2017), Soni, et al., (2019), and Boonlertvanich K. (2019). In addition, the result of this study is also in line with the results of previous studies conducted by Po-Hsuan Wu and Jui-Fan Liao (2016), Deng & Wang (2014), and Auh, Menguc, and Jung (2014) that satisfaction is the antecedent of CCB (Bettencourt., 1997; Groth., 2005 and Bove et al., 2009). The novelty in this study is that satisfaction mediates the relationship between service quality and CCB.

Hypothesis 7: Satisfaction has a significant positive effect on loyalty (coefficient value = 0.30 and P value $< .01$). Therefore, hypothesis 7 which states that satisfaction has a positive effect on loyalty is supported. The result of this study confirms some of the popular findings of the previous studies in marketing conducted by Po-Hsuan Wu and Jui-Fan Liao (2016), Ioannis Assiouras, et.al. (2019), and Ioannis Assiouras et al. (2019) that satisfaction is an antecedent of loyalty.

Hypothesis 8: Satisfaction has a significant positive effect on CCB (coefficient value = 0.58 and P value $< .01$). Therefore, hypothesis 8 which states that satisfaction has a positive effect on CCB is supported. The result of this study is in line with the results of previous studies conducted by Bettencourt (1997), Groth (2005), Bove et al. (2009), Ioannis Assiouras. Et.al. (2019), Kumju Hwanga Bora Leeb (2019), and Mina Woo (2019).

Hypothesis 9: Loyalty has a significant positive effect on CCB (coefficient value = 0.21 and P value $< .01$). Therefore, hypothesis 9 which states that loyalty has a positive effect on CCB is supported. This finding supports some of the popular findings of previous studies in the field of relationship marketing conducted by Bettencourt (1997), Groth (2005), Bove et

al. (2009), Sang-Duck Kim, and Hyang-Mi Im, Ki-Hong Seo, Ok-Sook Yoon, and Jong-Hun Kim (2019).

Hypothesis 10: Satisfaction has an effect on loyalty (coefficient value = 0.30 and P value < .01) and loyalty has a positive effect on CCB (coefficient value = 0.21 and P value < .01). Therefore, hypothesis 10 which states that satisfaction has an effect on CCB mediated by loyalty is supported. In other words, loyalty mediates the relationship between satisfaction and CCB. By confirming hypothesis 7 and hypothesis 9, hypothesis 10 is a novelty of findings that is worthy of attention especially in the banking sector.

Research Implications, Limitations, And Directions for Further Research

Theoretical Implications

Based on the discussion above, it can be concluded that SOCB and service quality have a significant positive effect on satisfaction. Satisfaction has a positive effect on loyalty and CCB. Loyalty has a significant positive effect on CCB. The major contribution of this research is that satisfaction mediates not only the relationship between SOCB and loyalty, but also the relationship between service quality and CCB. Loyalty mediates the relationship between satisfaction and CCB in the banking sector. The results of this study also confirm the implementation of training conducted on 30 bank employees before the study was conducted which made participants look for respondents. It is evidenced by an increase in the understanding of S-OCB scores and banking service quality.

Managerial Implications

The findings of this study contribute to the discussion of direct relationship and complex mediation between SOCB, service quality, satisfaction, loyalty and customer citizenship behavior (CCB). This study provides empirical evidence of the relationship with each other as proposed in the research model. Therefore, it is suggested that bank management always upgrade and update employee knowledge, ethics and behavior which are important assets of the bank. This is reflected in SOCB which has an impact on internal marketing to customers. In addition, aspects of tangible and empathy in service quality need to be improved, given that in this study customers do a lot of direct interactions with banks. It is recommended that the next researchers conduct research on several banks with different operations and scope and add several factors including the value expected by the customer. Ignoring S-OCB and service quality by bank management will have an impact on satisfaction, loyalty and customer citizenship behavior which ultimately make customers move to other competitors.

Limitations and Directions for Further Research

Respondents in this study are respondents/customers who are sought by bank employees who attend training and of course customers who are familiar with bank employees so that it can lead to less objective assessments. Suggestions for the respondent's future research should be independent and comparative between several banks that are different in terms of ownership and activities.

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BAYESIAN MIXTURE LAPLACE AUTOREGRESSIVE MODELING TO ESTIMATE VALUE-AT-RISK IN E- COMMERCE STOCKS

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Abstract: *The e-commerce business is growing in Indonesia. However, there are not many e-commerce companies that trade their shares on the Exchange. Since the emergence of startups in Indonesia, including the emergence of four technology companies with unicorn status, only three have registered. These companies, namely PT. M-Cash Integration Tbk (MCAS), PT. Kioson Commercial Indonesia Tbk (KIOS) and PT. NFC Indonesia Tbk (NFCX), are listed on the development board. To enliven the stock market of e-commerce companies, it is necessary to analyze the risk value of daily closing price data as an investment consideration. This study aims to provide knowledge to investors who want to invest in e-commerce companies about possible risks. This research was conducted on two e-commerce companies that were first listed on the IDX, namely MCAS and KIOS. The Value-at-Risk (VaR) method with the Bayesian Mixture Laplace Autoregressive (MLAR) approach is used to determine the risk value of the company's shares. Accurate VaR based on backtesting on each company's shares has been obtained at 5%-quantile, 0.0384 for MCAS, and 0.0622 for KIOS in 1-day horizon investment.*

Keywords: *E-commerce, Stock, Value-at-Risk, Bayesian, MLAR*

Introduction

The development of e-commerce in Indonesia is currently very fast. According to the Lembaga Strategi Ketahanan Ekonomi (LSKE) Kadin Indonesia, this is because many Indonesians use the internet and smartphones. This statement is reinforced by data from the Ministry of Communication and Informatics which states that currently there are 93.4 million internet users and 71 million smartphone users and this figure is predicted to continue to grow. (Laucereno, 2019). However, data from the Indonesia Stock Exchange (IDX) shows that only three e-commerce companies have registered their shares on the IDX, namely PT NFC Indonesia Tbk (NFCX), PT M Cash Integration Tbk (MCAS), and PT Kioson Commercial Indonesia Tbk (KIOS). Head of Research for Indonesian Capital Connections Alfred Nainggolan stated that the reason e-commerce companies are still reluctant to enter the stock exchange is that the market has difficulty accepting and equating their perceptions with other sectors, in this case, the non-e-commerce sector. Besides, Alfred also stated that the unstable regulations were the trigger for this. (Sidik, 2019).

The Minister of Communication and Informatics of the Republic of Indonesia Rudiantara encourages and hopes that other e-commerce with unicorns will register shares on the IDX following the three previously registered companies. It is felt that this will be difficult

to realize if you look at the conditions previously described because these conditions represent a significant risk for the market in the e-commerce sector. Issuers have to think hard to convince the market that the e-commerce sector will one day be strong. In this regard, the researcher wants to provide an overview of the risks that will be faced by investors in making decisions about investing in stocks of e-commerce companies listed on the Indonesia Stock Exchange (IDX) optimally based on the risk value.

This study proposes the use of the VaR method with Bayesian Mixture Laplace Autoregressive (MLAR) which will be implemented to analyze the risks of two e-commerce companies that were first listed on the IDX, namely MCAS and KIOS. Bayesian MLAR was developed by Miftahurrohmah, Iriawan, and Fithriasari (2017) from previous research by Nguyen, Geoffrey, Ullmann, & Janke (2016) which states that by using the Laplace distribution the results obtained will be more robust than using the Normal distribution. Also, the results of the comparison of the Bayesian MLAR method with the Normal Autoregressive Mixture (MNAR) that have been carried out by Putri (2016) concluded that the analysis using the Bayesian MLAR approach produces a better predictive model than the Bayesian MNAR approach. The return distribution of the three-pointed stocks resembles the Laplace distribution and it is indicated that there is a multimodal also the reason for using this method. Thus, it is hoped that in this study the best Bayesian MLAR model will be obtained for the three stocks so that an accurate VaR will be obtained. Accurate VaR calculations are very important to do to provide knowledge to investors who want to invest in e-commerce companies, by looking at daily stock prices and the value of the risks to be faced. (Miftahurrohmah, Iriawan, & Fithriasari, 2017) (Nguyen, Geoffrey, Ullmann, & Janke, 2016) (Putri, 2016)

Literature Review

Laplace Distribution

The classic Laplace distribution is a probability distribution with a probability distribution function (pdf)

$$f(y; \mu, \sigma) = \frac{1}{2\sigma} e^{-|y-\mu|/\sigma}, -\infty < y < \infty, \quad (1)$$

where $\mu \in (-\infty, \infty)$ and $\sigma > 0$ are location and scale parameters. In this case, the standard Laplace distribution is determined by $\mu = 0$ and $\sigma = 1$. Cumulative Distribution Function (CDF) of this distribution

$$F(y; \mu, \sigma) = \begin{cases} \frac{1}{2} e^{-|y-\mu|/\sigma} & ; y \leq \mu \\ 1 - \frac{1}{2} e^{-|y-\mu|/\sigma} & ; y \geq \mu \end{cases} \quad (2)$$

The differences between the classical and standard Laplace distributions are visualized in Figure 1.

The consequence is that the mean, median, and mode of this distribution are all equal to μ (Kotz, Kozubowski, & Podgorski, 2001).

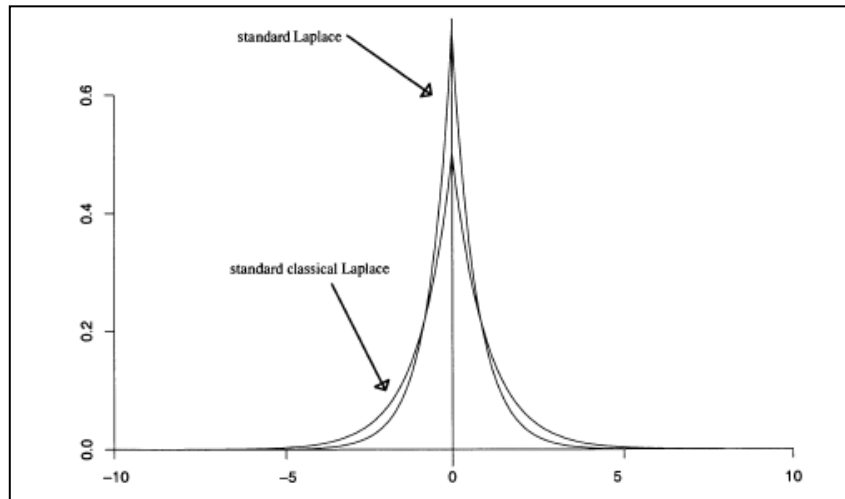


Figure 1: Laplace Distribution Plots

Mixture Laplace Autoregressive (MLAR)

The Mixture Laplace Autoregressive is developed from the AR model (Autoregressive model) which consists of a combination of K components of the Laplace conditional, as an alternative to the MAR model. The Laplace Autoregressive (MLAR) mixture is a model introduced by Nguyen, et al. (2016) using the combined Laplace conditional model, as an alternative to the MAR model (Nguyen, Geoffrey, Ullmann, & Janke, 2016). Like the AR model, the MLAR Model also requires stationary conditions. Nguyen and McLachan (2016) also said that the Normal assumption applied to the residuals is sensitive to outliers. With MLAR, the problems that occur when the Normal assumption for residuals is not met will be resolved. Y_t is formed from a K component of the MLAR order p model (MLAR(K, p) model), if $Y_t | \mathfrak{F}_{t-1}; \boldsymbol{\vartheta}$ has a density

$$F(y_t | \mathfrak{F}_{t-1}; \boldsymbol{\vartheta}) = \sum_{j=1}^K \pi_j \lambda \left(y_t; \phi_{j,i0} + \sum_{i=1}^p \phi_{j,i,i} y_{t-i}, \sigma_j \right) \quad (3)$$

where

$$\lambda(y; \mu, \sigma) = (\sigma\sqrt{2})^{-1} \exp(-\sqrt{2}|x - \mu|/\sigma) \quad (4)$$

is Laplace density function with mean μ , variance σ^2 and

$$\boldsymbol{\vartheta} = (\pi_1, \pi_2, \dots, \pi_K, \boldsymbol{\phi}_1^T, \boldsymbol{\phi}_2^T, \dots, \boldsymbol{\phi}_K^T, \sigma_1, \sigma_2, \dots, \sigma_K)^T \quad (5)$$

is the parameter vector of mixed models. The residual of the MLAR model is also considered to have a Laplace distribution (Nguyen & McLachlan, Laplace mixture of linear experts, 2016).

Estimating and Testing Parameter

The Bayesian model is developed from the Bayes method which is based on the Bayes theorem. Its posterior distribution can be defined

$$p(\boldsymbol{\theta} | y) \propto f(y | \boldsymbol{\theta}) p(\boldsymbol{\theta}) \quad (6)$$

This model is built by combining the prior distribution which represents information about the unsure parameter with the probability distribution from the new data to produce a posterior distribution. The posterior distribution obtained is then used for drawing conclusions and making decisions.

The algorithm commonly used to estimate parameter θ in Bayesian analysis is the Markov Chain Monte Carlo (MCMC) algorithm. This parameter is then corrected to obtain a value of θ that is closer to the target of the posterior distribution of $p(\theta|y)$. The way this method works is by sampling the θ value in a sequence. The sample taken depends on the last sample taken previously by determining the initialization θ at the start of the sampling, thus the sample is taken forms the Markov Chain $\theta^1, \theta^2, \dots, \theta^b$ chain. The distribution of the given θ^b depends only on all the preceding θ at the most recent value which is θ^{b-1} . This process is carried out until the conditions converge which is indicated by the shape of the stationary chain.

Gibbs Sampling algorithm is one of the MCMC algorithms that can solve multidimensional problems. In Normal case $\theta = (\mu, \sigma, w)$ and posterior is $p(\mu, \sigma, w|y)$. The Gibbs sampler will help estimate μ, σ , and w iteratively following the sampling scheme.

1. Given state: $\theta^b = (\mu, \sigma, w)^b$ in iteration $b = 0$.
2. Generating component parameters of each mixture.
 - a. $\mu^{(b+1)}$ generate from $p(\mu|y, \sigma^{(b)}, w^{(b)})$.
 - b. $\sigma^{(b+1)}$ generate from $p(\sigma|y, \mu^{(b+1)}, w^{(b)})$.
 - c. $w^{(b+1)}$ generate from $p(w|y, \mu^{(b)}, \sigma^{(b+1)})$.
3. Repeat step two T times, $T \rightarrow \infty$.

In estimating the MLAR parameter, step 2 must estimate as much as K of the mixture components of both μ, σ , and w . The data generated by using the algorithm above will have a convergent and stationary data pattern and will be proportional to their respective distributions.

The parameter significance test is used to determine which parameters are significant so that they can be used in the model. Testing the parameter of the estimation result with Bayesian MCMC for each parameter obtained is done with the null hypothesis is $\theta = 0$ and the alternative hypothesis is $\theta \neq 0$. The null hypothesis is rejected if in confidence interval $(1 - \alpha)$ of posterior, credible interval did not contain null.

Value at Risk (VaR)

Value at Risk (VaR) or also known as Quantile Risk Metrics describes the estimate of the maximum loss that may occur in a bank portfolio due to market risk within a certain time and a certain level of statistical confidence. According to Butler (1999), VaR is the dominant methodology for estimating exactly how much money is at risk every day in financial markets. Based on the definition of VaR, talking about VaR cannot be separated from the term risk. Risk is a combination of the chances of an event with its consequences or consequences. (Butler, 1999)) (Nguyen, Geoffrey, Ullmann, & Janke, 2016)

From various definitions, the risk is associated with the possibility of an unwanted or unexpected bad result (loss). In other words, the possibility already indicates uncertainty. Therefore, to avoid unwanted risks, VaR is calculated. Miftahurrohmah, Iriawan, and Kartika (2017) have developed a VaR calculation based on the Laplace distribution, making it suitable for the case of Bayesian MLAR modeling. The mathematical equation for calculating VaR on the h - time horizon is (Miftahurrohmah, Iriawan, & Fithriasari, 2017)

$$\text{VaR}_{mix} = \pi_1 \sqrt{h} \text{VaR}_{1,\alpha} + \pi_3 \sqrt{h} \text{VaR}_{1,\alpha} + \dots + \pi_K \sqrt{h} \text{VaR}_{1,\alpha} \quad (7)$$

Backtesting

Backtesting is a statistical procedure in which the actual gains and losses are systematically compared with the estimated VaR. The most widely used backtesting test is the Kupiec test. The Kupiec test, also known as the POF (Proportion Of Failure) test, measures whether the number of exceptions is consistent with the α^{th} quantile (Dowd, 2006). The number of

exceptions following binomial distribution. Because that, the information needed to perform the Kupiec test is the number of observations (T), the number of exceptions (x), and the α^{th} quantile (Kansantaloustiede, Tutkielma, & Nieppola, 2009). The null hypothesis of this test is $p = \hat{p}$ and the alternative hypothesis is $p \neq \hat{p}$. The test statistic used is the likelihood ratio (LR) (Kupiec, 1995).

$$LR = -2 \ln \left(\frac{(1-p)^{T-x} p^x}{\left(1 - \frac{x}{T}\right)^{T-x} \left(\frac{x}{T}\right)^x} \right) \quad (8)$$

where p is the probability of failure in the α^{th} quantile. LR asymptotic with a chi-square distribution (χ^2) with a degree of freedom is 1. The null hypothesis is rejected if LR greater than χ^2 . Accordingly, the VaR model is declared valid if the null hypothesis is accepted.

Methodology

The data in this paper is historical data obtained from <https://finance.yahoo.com/> with MCAS code for PT. M Cash Integration Tbk stock and KIOS for PT. Kioson Commercial Indonesia stock. The data analyzed to gain insight into risk value from both companies by determined the VaR model. The VaR model was obtained by selected the best model MLAR. The VaR model is obtained by selecting the best MLAR model to obtain the estimated parameter value. The method of estimating parameters to obtain this value is the Bayesian method. Here are the steps for this analysis:

1. Calculate return from stock data (close) by assuming that income payments are zero with the following equation

$$r_t = \frac{P_t + P_{t-1}}{P_{t-1}} \quad (9)$$

where r_t is the stock price return on the t^{th} day, P_t is the stock price on the t^{th} day, and P_{t-1} is the stock price on the $(t-1)^{th}$ day (Jorion, 2011). This return is data will be analyzed in the next steps.

2. The understanding pattern of data by plotting using a marginal plot.
3. Determine the components that will be a mixture. These components are Autoregressive or AR(p) models. Step to determine these components:
 - a. Detecting stationarity of mean by creating a time series plot and ADF test. If data is not stationary, it must be different.
 - b. Detecting stationarity of variance by determining rounded value. If data is not filled that requirement, it must be transformed.
 - c. Create ACF and PACF plots to get order AR(p).
 - d. Estimate and hypothesis testing of parameter AR(p) using Bayesian normal methods.
4. Make MLAR MLAR(K, p) order by mixture 2 components AR(p).
5. Estimate and hypothesis testing of parameter MLAR(K, p) using bayesian MLAR methods.
6. Calculate DIC for each MLAR model, then choose the model with the smallest DIC.

$$DIC = \bar{D} + 2p_D \quad (10)$$

\bar{D} is the posterior mean of the deviance, which is defined as $-2 \log p(y|\theta)$. p_D is 'the effective number of parameters', and is given by $p_D = \bar{D} - \hat{D}$ where $\hat{D} = -2 \log p(y|\hat{\theta})$ (Spiegelhalter, Best, Carlin, & van der Linde, 2002).

7. Determine VaR models with 5% and 1% quantiles.

8. Ensure VaR models are suitable.
9. Conclude.

These steps are applied for MCAS and KIOS.

Results

The identification of return characteristics is done by exploring the data that has been visualized by the marginal plot (see Figure 2). Figure 2 shows that the returns of the two stocks tend to be around zero so that the two data have a leptokurtic pattern (high peak). Outliers were also found in both returns, but the frequency of KIOS outliers was more and spread out than MCAS. This causes the return to be heavy-tailed. Besides, the return conditions for the two stocks have a positive skewness (left-skewed), where the return conditions for MCAS are more sloping than KIOS. The identifications that have been carried out have described the return conditions for the two stocks that do not meet the normal distribution characteristics. Bayesian MLAR is used in this analysis to deal with the problem of returns that are not normally distributed.

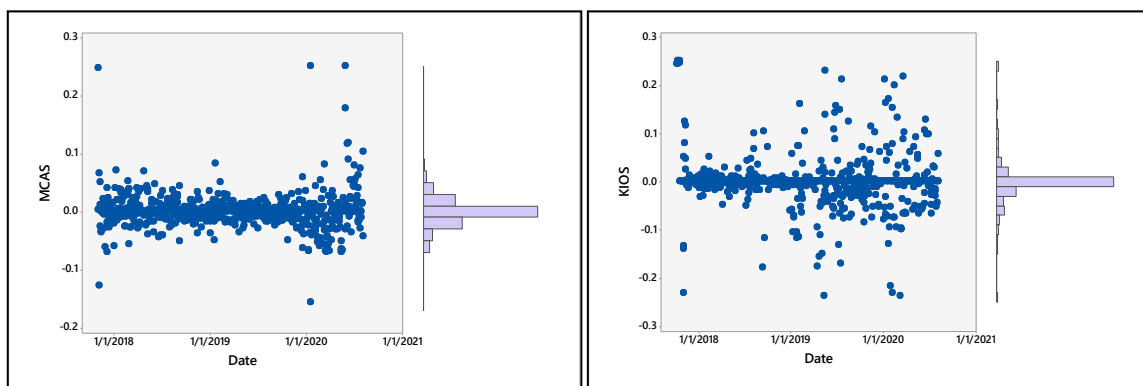


Figure 2: Marginal Plot of MCAS and KIOS Returns

After ensuring that return data suit for analyzed using Bayesian MLAR, informative prior must be determined.

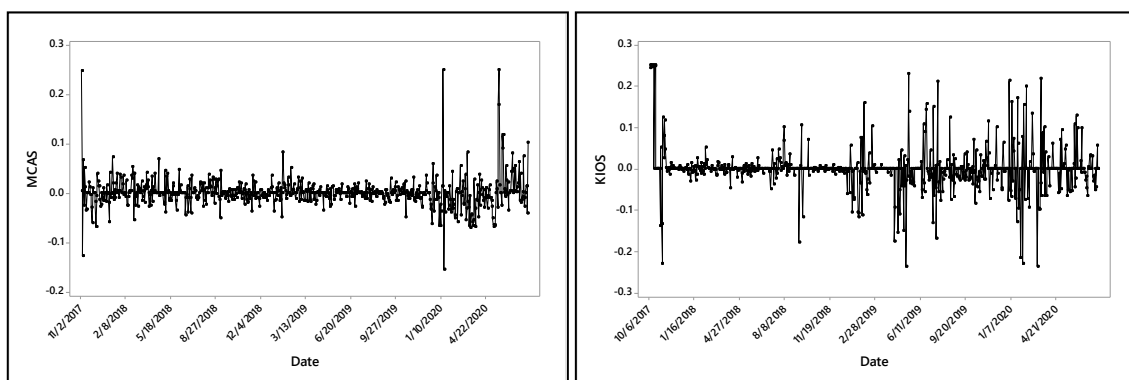


Figure 3: Time Series Plot of MCAS and KIOS Return

Table 1: ADF Test

Stock	Estimation	P-value
MCAS	-7.585	0.01
KIOS	-11.541	0.01

Table 2: Box-Cox Transformation

Box-Cox Transformation	Stock	Lower CL	Upper CL	Rounded Value
Before	MCAS	-1.71	-0.12	-1
	KIOS	0.74	1.58	1
After	MCAS	0.43	1.49	1
	KIOS	0.74	1.58	1

Informative prior determined by estimated autoregressive (AR) parameters. The first step is confirming that the return had the following assumption stationary in mean and variance. Stationery in the mean detected by time series plot and Augmented Dickey-Fuller (ADF) test to confirmed it. Figure 3 shows that the data have been stationary in the mean. This statement is also supported by the results of the ADF test where the null hypothesis is non-stationary data in the mean. With a significance level of 0.05, the null hypothesis is rejected because the P-value is smaller than the significance level. The required stationary process in the mean have been filled, the next step is to detect a stationary process on the variance. Processes are detected with an integer value. In Table 2 the rounding values for both MCAS and KIOS are -1 which indicated the stationary process in variance unfulfilled. This means that a Box-cox transformation is necessary so that the stationary process for the variance is met. After the data are transformed, the data show that the stationary requirement in variance has been resolved. The requirement of the stationary process in mean and variance was filled, then the autoregressive order can be determined.

Determining the AR (p) order is the same as determining the ARIMA (p, d, q) order in general. However, in this case, only significant p-lag was detected in PACF (see Figure 4 for MCAS and Figure 5 for KIOS). The significant lag at the time of identification of the PACF must also be significant in the ACF (see Figure 4 for MCAS and Figure 5 for KIOS)). Significant lags on MCAS returns are 1, 5, and 7 while KIOS are 1, 2, and 3. The AR (p) model obtained from these lags is shown in Table 3 and Table 4.

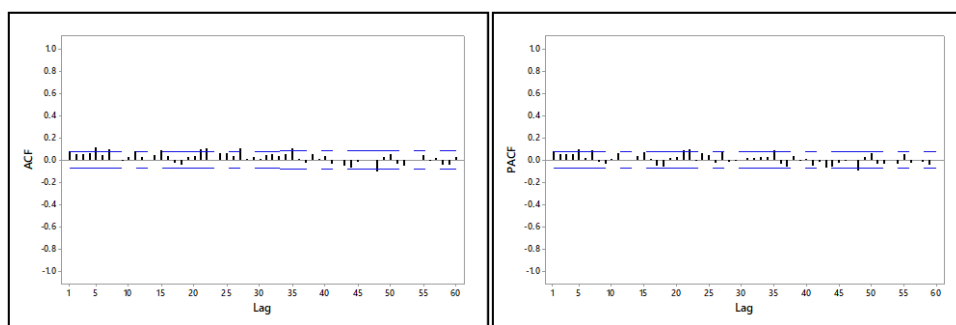


Figure 4: ACF and PACF of MCAS return

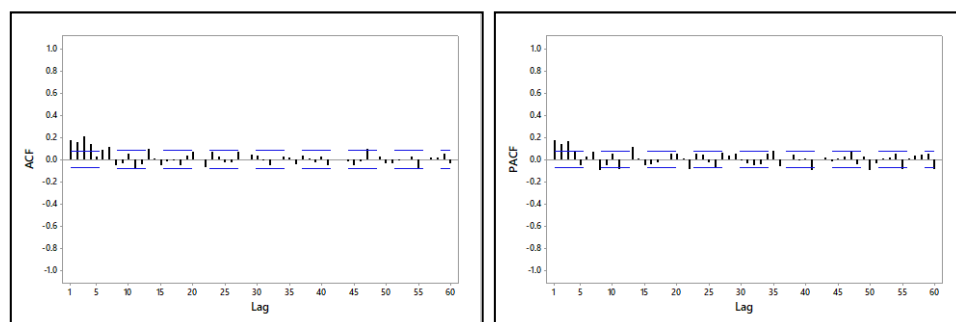


Figure 5: ACF and PACF of KIOS return

Table 3: Parameters Estimated MCAS Autoregressive Model

Model	Parameter	Estimation	Standard Deviation	2.50%	97.50%
AR([1])	ϕ_1	0.100	0.036	0.031	0.172
	σ	0.029	0.001	0.027	0.030
AR([5])	ϕ_5	0.100	0.035	0.031	0.170
	σ	0.028	0.001	0.027	0.030
AR([7])	ϕ_7	0.093	0.035	0.024	0.163
	σ	0.028	0.001	0.027	0.030
AR([1,5])	ϕ_1	0.129	0.038	0.056	0.203
	ϕ_5	0.095	0.040	0.026	0.165
	σ	0.028	0.001	0.026	0.029
AR([1,7])	ϕ_1	0.130	0.038	0.057	0.205
	ϕ_7	0.087	0.040	0.017	0.156
	σ	0.001	0.000	0.001	0.001
AR([5,7])	ϕ_5	0.085	0.037	0.013	0.158
	ϕ_7	0.090	0.040	0.020	0.160
	σ	0.028	0.001	0.027	0.030
AR([1,5,7])	ϕ_1	0.127	0.038	0.053	0.201
	ϕ_5	0.079	0.043	0.005	0.152
	ϕ_7	0.084	0.037	0.015	0.154
	σ	0.028	0.001	0.026	0.029

Table 4: Parameters Estimated KIOS Autoregressive Model

Model	Parameter	Estimation	Standard Deviation	2.50%	97.50%
AR([1])	ϕ_1	0.175	0.036	0.106	0.247
	σ	0.053	0.001	0.051	0.056
AR([2])	ϕ_2	0.163	0.036	0.095	0.234
	σ	0.053	0.001	0.050	0.055
AR([3])	ϕ_3	0.209	0.035	0.142	0.278
	σ	0.051	0.001	0.049	0.054
AR([1,2])	ϕ_1	0.125	0.037	0.055	0.197
	ϕ_2	0.141	0.038	0.070	0.212
	σ	0.052	0.001	0.050	0.055
AR([1,3])	ϕ_1	0.091	0.036	0.021	0.163
	ϕ_3	0.194	0.037	0.125	0.263
	σ	0.051	0.001	0.049	0.054
AR([2,3])	ϕ_2	0.104	0.036	0.035	0.175
	ϕ_3	0.191	0.037	0.122	0.260
	σ	0.051	0.001	0.048	0.054
AR([1,2,3])	ϕ_1	0.080	0.036	0.009	0.150
	ϕ_2	0.094	0.036	0.024	0.165
	ϕ_3	0.179	0.037	0.109	0.249
	σ	0.051	0.001	0.048	0.054

Informative prior is a significant parameter estimate value where the credible interval does not contain zero. Table 3 presents the parameter estimates of all models from the MCAS return data that has been determined to be significant, as well as for the KIOS return data (see Table 4). Since the objective of parameter estimation is only to determine prior parameter values for MLAR, a diagnostic check for the residuals was not performed.

Table 5: Parameters Estimated MCAS Autoregressive MLAR(2;[1],[5]) Model

Parameter	Mean	Standard Deviation		2.50%	97.50%
π_1	0.501	0.013	0.013	0.475	0.528
π_2	0.499	0.013	0.013	0.472	0.525
$\phi_{1,1}$	0.100	0.002	0.002	0.096	0.104
$\phi_{2,5}$	0.099	0.002	0.002	0.095	0.103
σ_1	0.023	0.001	0.001	0.022	0.025
σ_2	0.023	0.001	0.001	0.021	0.025

Table 6: Parameters Estimated KIOS Autoregressive MLAR(2;[2],[3]) Model

Parameter	Mean	Standard Deviation		2.50%	97.50%
π_1	0.500	0.013	0.013	0.475	0.526
π_2	0.500	0.013	0.013	0.474	0.526
$\phi_{1,2}$	0.162	0.002	0.002	0.158	0.166
$\phi_{2,3}$	0.208	0.002	0.002	0.203	0.212
σ_1	0.037	0.001	0.001	0.035	0.040
σ_2	0.038	0.001	0.001	0.035	0.040

Bayesian MLAR in this paper is limited to 2 ($K = 2$) mixture components. The combined components are the predetermined AR (p). The amount of mixture formed for each return was 42 mixture. The combination is then analyzed with Bayesian MLAR to obtain estimates on the parameters formed. Similar to AR (p), the selected model is a significant MLAR model or the 95% credible interval does not contain zero. Furthermore, the best models that meet the requirements of significance are selected based on DIC. In this paper, the parameter estimation results include only the best models based on the DIC for each return (see Tables 5 and 6).

Table 7: Value at Risk

Stock	Long Investment	VaR	
		5%-Quantile	1%-Quantile
MCAS	1-day	-0.0384	-0.0747
	5-days	-0.0859	-0.1669
	20-days	-0.1717	-0.3339
KIOS	1-day	-0.0622	-0.121
	5-days	-0.1391	-0.2705
	20-days	-0.2783	-0.5411

The parameter estimation results from the best model that have been obtained from the previous stages are used to calculate VaR. The results of the VaR calculation (see Table 6) explain that the longer the investors invest their shares and the smaller the quantile used, the greater the risk to be faced. The risk faced by investors when investing in KIOS will be greater than that of MCAS. This is in line with the condition of the KIOS stock which tends to decline over time (Figure 6). The VaR calculation results for KIOS shares show that in the 5%-quantile with an investment of one day it produces a VaR of 0.0622, which means that an investor investing \$ 36.00 has a 5% chance of losing more than \$ 1.80 of this investment over the next one day or the maximum risk of loss for the investor is \$ 1.80.

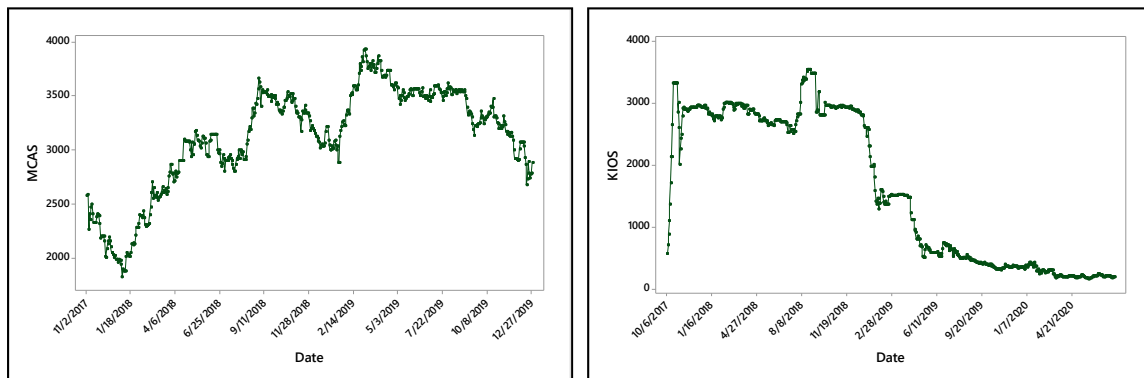


Figure 6: MCAS and KIOS Stock Plots (Close)

Table 8: ADF Kupiec POF Test Result

Stock	1-day VaR	LR	χ^2	Decision
MCAS	5%-Quantile	0.21	3.84	Accept
	1%-Quantile	5.11	3.84	Reject
KIOS	5%-Quantile	3.62	3.84	Accept
	1%-Quantile	4.97	3.84	Reject

The results of VaR calculations need to be tested to find out whether it is valid or not. Therefore, backtesting was carried out using the Kupiec POF test. The null hypothesis is $p = \hat{p}$ and the alternative hypothesis is $p \neq \hat{p}$. Table 8 shows that at a significance level of 0.05 the decision that can be taken is to accept the null hypothesis at the 5%-quantile, while the 1%-quantile is rejected. The decision means that all models at the 5%-quantile that are formed are accurate, but not yet accurate for the 1%-quantile.

Conclusion

Based on the analysis results, it can be concluded that the VaR model can be obtained by using the Bayesian MLAR model approach (2; [1], [5]) for MCAS stocks and the MLAR model (2; [2], [3]) for KIOS stocks. From the results of VaR modeling using the results of the MLAR model approach, the VaR model is obtained at 5% and 1% quantiles. To ensure that the model is accurate or not, backtesting is carried out using the Kupiec POF test approach. The test results show that the only accurate model is the VaR model at the 5%-quantile. The VaR model for MCAS and KIOS shares in the 5%-quantile represents the risks that investors might face if investing in KIOS shares is greater than MCAS. The VaR calculation results for KIOS shares show that in the 5%-quantile with an investment of one day it produces a VaR of 0.0622, which means that an investor investing \$ 36.00 has a 5% chance of losing more than \$ 1.80 of this investment over the next one day or the maximum risk of loss for the investor is \$ 1.80.

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FACTORS INFLUENCING INITIAL RETURNS OF NEW LISTED COMPANIES: EVIDENCE FROM THAILAND

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ABSTRACT *First-day returns or initial returns of IPO shares are crucial matters for firms' stakeholders especially issued-firms, investors, and underwriters. The aims of this study were to examine whether firm characteristics and issue-specific factors were elements affecting initial returns of IPO shares. Firm characteristics included institutional ownership and firm age whereas underwriter reputation and offer size were employed as issue-specific factors. The samples in this study were 136 newly listed companies in Thailand from 2013 to 2018. Multiple regression was utilized to test the hypotheses. The findings indicate that the average initial returns are 63.13%. Institutional ownership, firm age and offer size negatively affect the initial returns while underwriter reputation positively affects the initial returns. The results are beneficial to investors seeking value IPO stocks. In addition, issuers and underwriters are able to plan for roadshow and communicate with the public regarding firm characteristics and issue-specific factors for successful IPO events.*

Keyword: *initial public offering, initial returns, first-day returns, underpricing, institutional ownership*

Introduction

Rock (1986) suggests that the issuers offer the initial public offerings (IPOs) at a discount price to uninformed investors in order to compensate risk from IPOs. Brau and Fawcett (2006) surveyed 336 chief financial officers (CFOs) that issued IPOs, and found that their IPO shares were sold at a lower price in order to reward investors for risk-taking. On average, when the first secondary market price is greater than the IPO subscription price, this is known as underpricing (R. Carter & Manaster, 1990; Loughran & Ritter, 2002b; Mehmood, Rashid, Tajuddin, & Thought, 2020). Empirical studies of academicians, including Beatty and Ritter (1986), R. Carter and Manaster (1990), Ritter and Welch (2002), Brau and Fawcett (2006), Engelen and van Essen (2010), Katti and Phani (2016), and Mehmood et al. (2020) have attempted to explain underpricing as a phenomenon over the past three decades.

Underpricing, a post-IPO performance in the short term, is the initial returns on the first day of trading in the secondary market, and also an indirect cost for newly listed firms (Loughran & Ritter, 2002a). The factors leading to underpricing are based on information asymmetry theory, especially signaling theory which includes firm characteristics and issue-specific factors (Engelen & van Essen, 2010; Katti & Phani, 2016).

Table 1: Number of IPOs, Average Initial Returns and Offer Size between 2013-2018 in Thailand

Year	Number of IPOs	Average Initial Returns	Sum of Offer Size (Million Baht)
2013	26	60.8%	30,322.97
2014	34	84.1%	39,911.67
2015	31	54.9%	29,456.76
2016	22	57.4%	32,380.56
2017	33	27.2%	39,401.56
2018	16	11.3%	13,377.07
2013-2018	162	52.4%	184,850.59

Source: The average initial returns are calculated by the average percentage of the difference between the offer price and the first-day closing price in the secondary market. Offer size, the amount raised from issuing IPOs, is the product of the offer price multiplied by the number of shares sold in the offering. The data were collected from the Stock Exchange of Thailand website, and collected by the authors.

The degree of underpricing in each country is different due to the level of information asymmetry. Underpricing occurs at the higher level in developing and emerging markets than in developed markets (Albada & Yong, 2020). Thailand is also one of the developing countries with high degree of underpricing (Mehmood et al., 2020). The data of IPOs listed in Thailand between 2013 and 2018 as shown in Table 1 indicate that 162 IPOs were underpriced during the years. The average initial returns of IPOs was approximately 52.4%, and about 184 billion baht was raised by offer size. The trend of issuing IPO shares increased each year, and the amount of funds raised in the stock market also increased. The capital markets play an important role in raising funds for the country to benefit firms that are going to public. In particular, the increase of IPO issuance in developing countries reflects the growth of capital markets and the economy of the country.

The objective of this research is to examine whether firm characteristics and issue-specific factors affect initial returns of IPOs in Thailand, which is an example of developing countries. In order to increase empirical studies on IPOs, the explanations on factors influencing IPO performance and underpricing are presented in this research. Firm characteristics include institutional ownership (Brau & Fawcett, 2006; Hanafi & Setiawan, 2018; Stoughton & Zechner, 1998) and firm age (Mutai, 2019), whereas issue-specific factors include underwriter reputation (Bandi, Widarjo, & Trinugroho, 2020; La Rocca, 2019) and offer size (Wei & Marsidi, 2019). The results of the study reveal the elements that affect the IPOs, and benefit issuing companies, investors, and also underwriters to contribute to the success of a public company.

Literature Review

The primary reason that explains underpricing is based on asymmetry information, particularly signaling theory. According to Rock (1986), asymmetry information between the informed investors (potential investors, such as institutional investors) and uninformed investors (such as retail investors) impacts IPO underpricing. In the IPO context, IPO issuing firms attempt to give quality signals of the newly listed company to potential investors, and to compensate the risk of new shares. In addition, ex-ante uncertainty risk impacts IPO underpricing according to Beatty and Ritter (1986).

Institutional Ownership

Numerous empirical studies have shown that institutional investors influence IPO performance. Since institutional investors have experience, expertise, availability in resources,

they have potential to monitor and protect benefits with their asset management (Tihanyi, Johnson, Hoskisson, & Hitt, 2003). The allocation of new IPO proportion to institutional investors is an effective monitor and also an important success of the IPO issues (Stoughton & Zechner, 1998).

Stoughton and Zechner (1998) suggested that underpricing is the reward to institutional investors since institutions are capable of monitoring the issuer firm. Brau and Fawcett (2006) revealed the results of surveying 336 chief financial officers (CFOs) in American firms that, besides compensating the risk to investors, underpricing is preferred by institutional investors, and the companies that want to attract institutional investors. Their finding also supports A. P. Ljungqvist and Wilhelm Jr (2002), who studied IPO stock across 37 countries between 1990 to 2000 and found that underpricing favors institutional investors. Moreover, institutional investors tend to invest a large amount of money on shares and hold them for a long period in order to obtain greater income from long-term dividends than from short-term ones.

However, Hanafi and Setiawan (2018) argued that institutional owners are able to monitor IPO underpricing which can lead to smaller money left on the table and smaller losses to existing major shareholders. The reduced underpricing helps increase shareholders' wealth. Moreover, the proportion of institutional investors in the firm's ownership structure reduces the degree of IPO underpricing which may reflect the decrease in agency problems (Katti, Phani, & Finance, 2016). The high proportion of institutional investors is a decent signal of the attempt to minimize IPO underpricing. Thus, the first hypothesis states:

H1 Institutional ownership negatively affects IPO underpricing.

Firm Age

Beatty and Ritter (1986) suggested that the ex-ante uncertainty of the new issues is related to asymmetry information and underpricing. Firm age is a particular characteristic and a proxy of the ex-ante uncertainty. Firm age and its effects on IPO underpricing have been explained in numerous studies. Certain studies found that firm age affects firm performance, and the older firms have been found to financial outperform a younger firm. Moreover, since firm age reflects retained wealth, it may influence the initial offer price (Certo, Covin, Daily, & Dalton, 2001). The results of some studies also revealed that older firms can disclose their past operation and performance, and have lower risk and less underpricing than younger firms (R. B. Carter, Dark, & Singh, 1998; Mutai, 2019; Ritter, 1998). Thus, the second hypothesis states:

H2 Firm age negatively affects IPO underpricing.

Underwriter Reputation

Underwriters play an essential role in IPO process since they influence the IPO pricing. The involvement of a reputable underwriter in an IPO deal may signal the public market. Empirical studies show the impact of reputable underwriters on IPO underpricing. Underwriters put their own reputation on an IPO guarantee (Loughran & Ritter, 2002b). In addition, underwriter reputation is correlated with the decrease in underpricing of new firms (R. Carter & Manaster, 1990; R. B. Carter et al., 1998). Low-risk companies tend to have low underpricing costs; therefore, the reputable underwriter is commonly selected by newly listed company in order to decrease its underpricing costs. This corresponds to R. Carter and Manaster (1990) and R. B. Carter et al. (1998), as well as La Rocca (2019) and Bandi et al. (2020), who found that underwriter reputation is related to a low-risk offer and decreases underpricing. While Kirkulak and Davis (2005) indicated that the relationship between reputation and underpricing relied on the demand of the IPOs. If the IPOs is priced in the market with high demand for IPOs, the relationship between underwriter reputation and the level of underpricing is positive and significant. However, the relationship between them is negative if the IPO is price in the market

with low IPOs demand. It is possible that underwriter reputation affects underpricing either positively or negatively. Thus, the third hypothesis is:

H3 Underwriter reputation affects IPO underpricing.

Offer Size

The ex-ante uncertainty is related to the size of the IPO offer. Beatty and Ritter (1986) indicated that smaller offering has higher average initial returns. If ex-ante uncertainty increases, a representative investor will compensate the risk with high initial returns or underpricing. It is necessary for a small newly listed company to compensate its investors for the higher risks than a company with a large offer size (A. Ljungqvist, 2007). It is common that the issuers are well-known old firms with a large amount of the IPO offer size; therefore, the investors may perceive that the firm's risk and its underpricing is low (Judge et al., 2015; Wei & Marsidi, 2019). Thus, the fourth hypothesis states:

H4 Offer size negatively affects IPO underpricing.

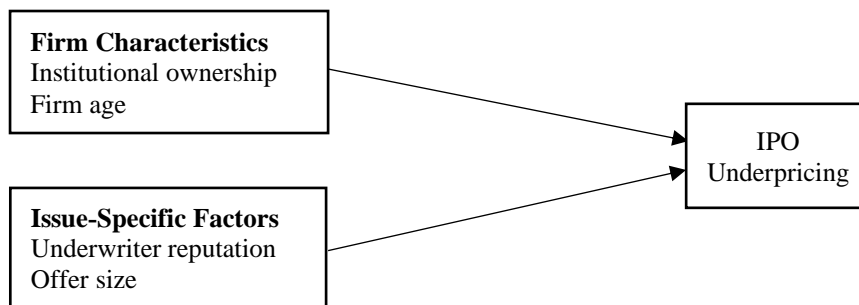


Figure 1: Research Framework

Literature review on IPO underpricing: firm characteristics and issue-specific factors as shown in Figure 1 is in focus of this research paper.

Methodology

The sample employed in this study consists of 162 listed IPOs on the Stock Exchange of Thailand (SET) and Market for Alternative Investment (mai) from January 1, 2013 to December 31, 2018. From the 162 IPOs listed in the stock market during 2013-2018, 140 IPOs with underpricing and others 22 IPOs were overpricing. So, 140 IPOs with underpricing were preliminarily selected. 4 outlier cases were excluded based on distance values, including Mahalanobis, Cook's and Leverage values. Therefore, the final sample was composed of 136 IPOs. The data were collected from prospectuses, annual reports on SET's website, and closing prices from Bisnews's database as the secondary sources.

Table 2: Comparison of SET and mai by Years, Number of IPOs, and Offer Size

	SET		mai		Total	
	Number of IPOs	%	Number of IPOs	%	Number of IPOs	%
Panel A. Number of IPOs on SET and mai						
2013	11	13.75	15	18.29	26	16.05
2014	15	18.75	19	23.17	34	20.99
2015	19	23.75	12	14.63	31	19.14
2016	10	12.50	12	14.63	22	13.58
2017	18	22.50	15	18.29	33	20.37
2018	7	8.75	9	10.98	16	9.88
Total	80	100.00	82	100.00	162	100.00

	Offer Size Million Baht	%	Offer Size Million Baht	%	Offer Size Million Baht	%
Panel B. Offer size on SET and mai						
2013	22,305.73	15.34	8,017.24	20.34	30,322.97	16.40
2014	30,557.81	21.01	9,353.86	23.74	39,911.67	21.59
2015	25,271.93	17.38	4,184.83	10.62	29,456.76	15.94
2016	26,700.07	18.36	5,680.49	14.41	32,380.56	17.52
2017	31,733.30	21.82	7,668.26	19.46	39,401.56	21.32
2018	8,874.95	6.10	4,502.12	11.42	13,377.07	7.24
Total	145,443.79	100.00	39,406.80	100.00	184,850.59	100.00

Panel A of Table 2 presents the number of IPOs from 2013-2018 on SET and mai. SET is the market for large companies with more than 300 million Baht in paid-up capital after IPO with the purpose to raise long-term funds. One the other hand, mai is the market for small and medium-sized enterprises with more than 50 million Baht in paid-up capital after IPO. 80 of 162 IPOs, which account for 49%, are the IPOs on SET while 82 of 162 IPOs, which account for 51%, are IPOs on mai. In 2014, 34 IPOs were found to be the largest number of newly listed companies, which account for 20.99%, followed by 33 IPOs in 2017, which account for 33%. However, in 2018, 16 IPOs were found to be the lowest number of newly listed companies, which account for 9.88%.

Panel B of Table 2 presents the summary of the sample by offer size and listing years on SET and mai. The highest offer size on SET is in 2017 with 31,733.30 million Baht, which account for 21.82% of 145,443 million Baht, the total amount of the offer size. The highest offer size on mai is in 2014 with 9,353.86 million Baht, which account for 23.74% of 39,406.80 million Baht, the total amount of the offer size. The largest offer size of both markets is in 2014 with 39,911.67 million Baht, which accounts for 21.59% of 184,850.59 million Baht, the total amount of the offer size during 2013-2018.

According to the research framework in Figure 1, the dependent variable is IPO underpricing, which is defined as the difference between the first-day closing price and the offer price in percentage. The formula for calculating underpricing is the first-day closing price minus the offer price, divided by the offer price and then made in percentage (Arthurs, Hoskisson, Busenitz, & Johnson, 2008; A. Ljungqvist, 2007).

$$UP = \frac{\text{First Day Closing Price} - \text{Offer Price}}{\text{Offer Price}}$$

UP represents an underpricing

The independent variables include institutional ownership (INS), firm age (AGE), underwriter reputation (UWR) and offer size (OSIZE). INS stands for the percentage of IPO shares held by institutional investors (Hanafi & Setiawan, 2018). AGE is the number of years between firm's founding year and its IPO year (Certo et al., 2001). UWR represents the lead underwriter's market share, the market volume of IPO issues managed by each underwriter divided by the total volume of new issues in that year (Boonchuaymetta & Chuanrommanee, 2013). OSIZE denotes IPOs offer size derived from the product of offer price and share volume (Judge et al., 2015).

The following equation is proposed to examine firm characteristics and issue-specific factors affecting underpricing.

$$UP_{i,t} = b_0 + b_1 INS + b_2 AGE + b_3 UWR + b_4 OSIZE$$

Results and Discussion

Table 3: Descriptive Statistics of Variables

	Mean	Std. Deviation	Minimum	Maximum
UP (%)	63.13	59.29	0.82	200.00
INS (%)	12.72	18.42	0.00	60.00
AGE (year)	17.60	10.45	2.00	53.00
UWR (%)	6.44	8.52	0.18	53.14
OSIZE (Million Baht)	928.78	1,104.00	57.20	6,096.00

Table 3 presents descriptive statistics. The average underpricing (initial returns) is 63.13%. The average of IPOs allocated to institutional investors is 12.72%. The average firm age is 17.60 years. The average market share of each underwriter is 6.44%. Lastly, the average value of offer size is 928.78 million Baht.

Table 4: Mean of Variables by Year

	2013	2014	2015	2016	2017	2018	Total
UP (%)	68.01	90.22	66.56	61.29	34.00	31.63	63.13
INS (%)	19.43	8.40	10.08	9.36	16.34	14.31	12.72
AGE (year)	18.54	16.81	17.54	15.47	19.89	15.50	17.60
UWR (%)	6.66	9.29	4.46	4.71	6.67	4.18	6.44
OSIZE (Million Baht)	1,150.96	1,039.06	706.88	645.38	1,107.33	612.73	928.78

Table 4 presents the degree of underpricing in 2014 with the highest number of IPOs listed in the capital market, and the highest offer size (see Table 2). The results indicate that if IPOs volume and offer size in the year are high, underpricing tends to be high. Moreover, high initial returns and the high volume of issuers, or hot market, tend to be higher (Lowry, Michaely, & Volkova, 2017). In contrast, the level of institutional investors in 2014 was the lowest, but the level of underpricing was the highest while the level of institutional investors in 2018 was the high, but the level of underpricing was the lowest. This is in line with previous research, which found that institutional investors have an impact on the decrease of IPO underpricing due to the asymmetry information (Katti et al., 2016).

Table 5: Correlation Analysis

	UP	INS	AGE	UWR	OSIZE
UP	1				
INS	-0.305**	1			
AGE	-0.170*	0.180	1		
UWR	-0.034	0.430**	0.177*	1	
OSIZE	-0.311**	0.705**	0.173*	0.536**	1

** Correlation is significant at the 0.01 level (2-tailed).

Table 5 presents the correlation coefficients among variables. The correlations between institutional investors and underpricing, firm age and underpricing and offer size and underpricing, are negatively significant. Whilst, the correlation coefficients suggest no significant relationships between firm age and institutional investors, and between underwriter reputation and underpricing. The greatest correlation is 0.705 which is between offer size and institutional investors. In addition, none of variable inflation factors (VIFs) approaches the threshold of 10 (Neter, Kutner, Nachtsheim, & Wasserman, 1996). Hence, multicollinearity problem is not likely to be a serious threat in regression analysis.

Table 6: Regression Analysis Results

	Unstandardized Coefficients	Std. Error	t-statistics	Sig.
Constant	86.5021**	9.5300	9.0768	0.0000
Institutional ownership	-0.5969*	0.3589	-1.6631	0.0987
Firm age	-0.7713*	0.4563	-1.6903	0.0934
Underwriter reputation	2.1700***	0.6535	3.3208	0.0012
Offer size	-0.0174***	0.0064	-2.7269	0.0073
R Square	0.1912			
Adjusted R Square	0.1666			
F-statistic	7.7444***			
Prob.(F-statistic)	0.0000			
Observation	136			

Note: Significant at: * $p < 0.1$, * $p < 0.05$ and *** $p < 0.01$

Table 6 presents Ordinary Least Square (OLS) that was used to test the hypotheses. The results show that institutional ownership, firm age and offer size have a negative significant influence on underpricing while underwriter reputation has a positive significant influence on underpricing.

The institutional ownership influences underpricing with a coefficient of -0.5969 ($p < 0.1$). This can be interpreted that by 1% increase in institutional ownership causes the underpricing to decrease by 0.5969%. The finding supports H1, and also in line with Hanafi and Setiawan (2018), who found that the institutional investor can help uninformed investors as a monitor. The high proportion of institutional investors is a good signal of the IPO which leads to lower IPO underpricing.

Firm age affects underpricing with a coefficient of -0.7713 ($p < 0.1$). This can be interpreted that firm age increase by 1 year, the underpricing to decrease by 0.7713%. The finding supports H2, and also Mutai (2019), who claimed that older firms have lower risk and less underpricing than younger firms since they can disclose their past operation and performance.

However, the underwriter reputation, which is operated by a market share of underwriter, has a positive significant influence on underpricing with a coefficient of 2.170 ($p < 0.01$). This can be interpreted that by 1% increase in underwriter market share would increase the underpricing by 2.17%. The finding supports H3 that underwriter reputation affects IPO underpricing. Moreover, the result indicates that the underwriter reputation has a positive effect on underpricing significantly, which means underpricing tends to be high if the market share of the underwriter is greater. Due to asymmetry information and the fact that reputable underwriters select quality firms, investors usually select and invest in the IPOs based on the reputation of the underwriter and expect high returns from such IPOs. In contrast, previous research studies found that underwriter reputation can lead to a decrease in underpricing (Bandi et al., 2020; R. Carter & Manaster, 1990; R. B. Carter et al., 1998; La Rocca, 2019).

In addition, offer size has a significant negative influence on underpricing with a coefficient of -0.0174 ($p < 0.01$). This can be interpreted that by one million increases in offer size, the underpricing would be decreased by 0.0174 %. The finding supports H4, and is in line with Judge et al. (2015) and Wei and Marsidi (2019) who found that the offer size reduces underpricing.

Conclusion and Recommendation

This study examined firm characteristics and issue-specific factors, namely institutional ownership, firm age, underwriter reputation and offer size, whether they affect initial returns of IPOs. The data of 136 Thai IPOs listed in Stock Exchange of Thailand (SET) and alternative

stock markets (mai) between 2013 and 2018 were collected. Pearson correlation and multiple regression revealed the results that institutional ownership, firm age and offer size negatively affect IPO underpricing. On the other hand, Pearson correlation and multiple regression found that underwriter reputation has a significant positive influence on underpricing.

These findings explain IPO underpricing phenomenon in Thai capital market in regard to signaling theory and ex-ante uncertainty. According to Rock (1986)'s model of underpricing, informed investors expect to get high initial returns from IPO investment. The newly listed firms may accept a high level of underpricing to attract investors. In Thai context, underwriter reputation influences an increase in underpricing due to investors' perception for the underwriter. In case an IPO is underwritten by a high prestigious underwriter, investors tend to invest in the IPOs and expect excess returns. The result is in line with Kirkulak and Davis (2005) who suggested underwriter reputation affects underpricing either positively or negatively. In contrast, it was found that the underwriter reputation affects a decrease in underpricing which is in accordance with Bandi et al. (2020) and La Rocca (2019).

The academic implication of this study suggests that underwriter reputation affects positively underpricing in Thailand which stock markets are small and thin on trading, the findings can be adopted in other developing markets that are similar to Thai stock market. For practical contribution, the finding suggests the firm characteristics and issue-specific influence on underpricing. Moreover, the institutional ownership, firm age and offer size are represented as quality signals of the newly listed company with low risk. And, the finding is beneficial to investors seeking investment in IPO that consider the reputation of the underwriter. This is because reputable underwriters choose to distribute quality IPO stocks when quality stocks can generate returns for investors. The reputation of the underwriters affects a high initial rate of return. The results of this study can help the company plan its public relations for new initial public offering, succeed in selling stocks, and receive the capital as needed. According to the results, the small-sized company with a small proportion of institutional investors has a high degree of underpricing. Additionally, underwriter reputation in Thai context influences high underpricing which reflects the money left on the table. That is different from another capital market in the developed countries and depend on IPO demand. These issues, as well as the study of other IPO elements and control variables, are recommended for future research.

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PEMBENTUKAN KONTRAK DALAM KONTRAK ELEKTRONIK (E-KONTRAK) DI MALAYSIA MENURUT AKTA KONTRAK 1950 DAN AKTA PERDAGANGAN ELEKTRONIK 2006

Norhoneydayatie Binti Abdul Manap
Amirah Madihah Binti Adnan
Mat Noor Bin Mat Zain
Zamzuri Bin Zakaria
Azlin Alisa Binti Ahmad
Mohd Al Adib Bin Samuri
Ong Tze Chin
Farhah Binti Abdullah
Ow Yong Mun Geet.

Abstrak: *Globalisasi telah menggalakkan pelbagai kemajuan dalam tamaduan manusia yang merangkumi kemajuan dalam teknologi maklumat. Kemajuan teknologi maklumat merubah aspek aktiviti perniagaan masyarakat daripada berbentuk perdagangan secara tradisional kepada bentuk perdagangan secara elektronik yang dikenali sebagai perdagangan elektronik (e-dagang). Kawalan terhadap aktiviti e-dagang memerlukan kepada satu kerangka perundangan yang komprehensif agar dapat memastikan aktiviti perdagangan ini berjalan secara sihat walaupun terdapat pelbagai inovasi dan persaingan antara para pedagang. Oleh yang demikian, kajian ini dilakukan untuk mengenalpasti peruntukan perundangan di Malaysia dalam mengawal aktiviti kontrak elektronik khususnya berkaitan pembentukan kontrak secara elektronik. Kajian ini dilakukan secara kualitatif dengan menganalisis dokumen perundangan iaitu Akta Kontrak 1950 dan Akta Perdagangan Elektronik 2006. Hasil mendapati bahawa Akta Kontrak 1950 dan Akta Perdagangan Elektronik 2006 masih belum mencukupi dalam memperuntukkan mengenai pembentukan kontrak elektronik, lantas tidak mampu memberikan perlindungan kepada pihak berkontrak. Lantaran itu, pindaan wajar dilakukan terhadap peruntukan perundangan tersebut.*

Kata kunci: *kontrak, kontrak elektronik (e-kontrak), kontrak tradisional, Akta Kontrak 1950, Akta Perdagangan Elektronik 2006.*

Pendahuluan

Kemajuan teknologi maklumat ketika era globalisasi mengubah corak aktiviti masyarakat dalam memasuki kontrak. Sebelum wujudnya teknologi maklumat dan internet, masyarakat hanya menjalankan aktiviti kontrak secara bersemuka untuk memenuhi keperluan hidup mereka. Namun, dengan kemajuan teknologi maklumat, aktiviti kontrak dapat dilaksanakan secara elektronik. Malah, aktiviti ini dilakukan tanpa sempadan antara negara Malaysia dan negara-negara lain. Perkara ini memberikan impak kepada perkembangan ekonomi Malaysia secara tidak langsung (Noordin, 2012). Tambahan pula pada ketika ini muncul pelbagai aplikasi e-dagang merangkumi urusan perniagaan (Ahmad Syahrul Haniff Mohd Rawi, 2012) menyumbang kepada rancaknya aktiviti kontrak elektronik di kalangan masyarakat. Kontrak elektronik dilihat lebih rancak berlaku ketika berlaku krisis covid19 yang mana berlaku peningkatan mendadak dalam pembelian 'online' ketika berlakunya krisis khususnya ketika Perintah Kawalan Pergerakan dilaksanakan di Malaysia (Harian Metro, 2020).

Aktiviti kontrak elektronik yang semakin rancak dilakukan oleh masyarakat pada masa kini memerlukan kepada perundangan yang baik sebagai panduan kepada pihak berkontrak. Pihak berkontrak seharusnya memahami kontrak yang sah dan kontrak tidak sah ketika membentuk kontrak secara elektronik. Selain itu, pihak berkontrak juga seharusnya memahami elemen asas yang perlu wujud ketika melakukan kontrak secara elektronik di samping memahami tanggungjawab dan hak sebagai pihak berkontrak. Oleh yang demikian, untuk mencapai tujuan tersebut, perlunya kepada perundangan yang baik yang mampu memberikan panduan dan seterusnya perlindungan kepada pihak berkontrak. Perundangan berkaitan kontrak secara elektronik ini bukan sahaja menentukan kesahan sesuatu kontrak, malah mampu memberikan remedi yang sewajarnya sekiranya berlaku kemungkiran kontrak antara pihak berkontrak.

Oleh yang demikian, artikel ini akan membincangkan mengenai pembentukan kontrak elektronik menurut perundangan di Malaysia khususnya menurut Akta Kontrak 1950 (AK 1950) yang merupakan perundangan yang mengawal segala aktiviti kontrak yang berlaku di Malaysia. Di samping itu, analisis juga turut dibuat ke atas Akta Perdagangan Elektronik 2006 (APE 2006) untuk melihat sejauh mana peruntukan perundangan ini mengawal aktiviti kontrak elektronik di Malaysia khususnya dalam pembentukan kontrak secara elektronik. Artikel ini turut mengulas kajian-kajian yang telah dilakukan oleh pengkaji-pengkaji sebelum ini berkaitan peruntukan perundangan di Malaysia khususnya mengenai pembentukan kontrak elektronik.

Akta Kontrak 1950

Undang-undang yang terpakai untuk mengawal aktiviti kontrak di Malaysia adalah AK 1950. Disorot dari perspektif sejarah, *Indian Contract Act 1872* (ICA 1872) telah diperluaskan ke Negeri-Negeri Melayu Bersekutu sebagai *Contract Enactment 1899* dengan beberapa pengubahsuaian. Sehingga tahun 1950, *Contract Ordinance* tidak secara rasmi diluluskan oleh *Federal Legislative Council* Negeri-Negeri Melayu Bersekutu.¹ *Contracts (Malay States) Ordinance 1950* ini diaplikasikan di sembilan buah negeri di Malaysia tidak termasuk Pulau Pinang, Melaka, Sabah dan Sarawak yang masih mengaplikasikan undang-undang Inggeris yang terpakai di England. Apabila *Contract Ordinance 1950* disemak pada tahun 1974, ia menjadi akta melalui *Revision of Laws Act 1968* tanpa melalui Parlimen. Bermula daripada itu, Akta ini mula terpakai ke seluruh Malaysia pada tahun 1974 (Visu Sinnadurai, 1987).

AK1950 bukan semata-mata bermodelkan ICA 1872 kerana ICA 1872 merupakan hasil daripada beberapa cadangan *Indian Law Commissions*. Dalam merangka Akta ini, sebahagian besar cadangan Suruhanjaya Undang-undang adalah berdasarkan *common law* Inggeris dan sebahagian peruntukan dalam ICA 1872 yang juga dipinjam daripada *Draft Civil Code of the State of New York 1862* (RN. Gooderson, RN, 1958). Oleh yang demikian, dapat disimpulkan di sini, penggubalan AK 1950 bukanlah hasil daripada penelitian dan analisis penggubal undang-undang berdasarkan kepada kesesuaian keadaan dan situasi di Malaysia, akan tetapi peruntukan yang terdapat dalam AK 1950 hanyalah peruntukan-peruntukan yang dipetik dan diguna semula daripada pelbagai sumber lain termasuk *Indian Contract Act 1872* (ICA 1872). Namun, peruntukan-peruntukan yang terdapat dalam Akta tersebut masih terpakai dan dirujuk oleh mahkamah sehingga kini.

¹ *Minutes of the Legislative Council of the Federation of Malaya, February 1950 to January 1951, Third Session, (A36).*

Begitu juga dalam konteks kontrak elektronik, akta ini masih diguna pakai dan menjadi rujukan. Namun, disebabkan oleh akta ini yang telah lama digubal dan tidak dibuat pindaan, maka isu-isu berkaitan kontrak elektronik tiada dalam AK 1950. Isu-isu kontrak elektronik yang tiada dalam AK 1950 termasuklah isu kesahan kontrak elektronik, isu kontrak melalui emel dan web dan sebagainya tidak diperuntukkan (Amin, N., & Mohd Nor, R., 2013). Walau bagaimanapun, dalam konteks pembentukan kontrak elektronik di Malaysia, peruntukan mengenainya yang terdapat dalam AK1950 masih digunapakai (Nooraneda Mutalip Laidey, 2015). Walaupun akta ini dilihat tidak sesuai dengan perdagangan elektronik, namun beberapa prinsip undang-undang kontrak yang terdapat dalamnya tidak boleh diabaikan (Amin, N., & Nor, R. M. (2011).

Akta Perdagangan Elektronik 2006

Akta Perdagangan Elektronik 2006 (Akta 658) merupakan akta khusus yang mengawal selia aktiviti kontrak perdagangan secara elektronik. Berdasarkan kepada *preamble* akta ini, akta ini mengiktiraf undang-undang mesej elektronik dalam urus niaga perdagangan, penggunaan mesej elektronik untuk memenuhi kehendak undang-undang dan untuk membolehkan dan memudahkan urus niaga perdagangan melalui penggunaan cara elektronik dan perkara-perkara lain yang berkaitan dengannya.

Akta ini digubal berdasarkan kepada *UNICITRAL Model Law on E-Commerce* yang merangkumi peruntukan berkaitan kontrak elektronik (Azmi, I. M. A. G., & Phuoc, J. C., 2020) untuk memastikan kesahan kontrak tersebut. Melalui perundangan ini, pengguna internet mendapat jaminan bahawa kegiatan mereka sah, komunikasi dan transaksi mereka sah dan dilindungi (Palanissamy, A.,2013). Walaupun perundangan ini berasaskan kepada *Model Law*, perundangan ini masih mempunyai kelemahan dan kelompangan dari beberapa sudut seperti penghantaran dan penerimaan mesej elektronik, urus niaga rentas sempadan dan agen elektronik kerana penggubal akta ini hanya mengambil sebahagian prinsip daripada *Model Law* dan mengabaikan sebahagian yang lain (Alibeigi, A., & Munir, A. B., 2016). Oleh itu, walaupun perundangan ini dilihat memberikan perlindungan kepada pengguna kontrak elektronik, namun perlindungan tersebut tidak dapat dilakukan secara menyeluruh dan masih belum mencukupi (Palanissamy, A. (2013).

Dari sudut pembentukan kontrak pula, akta ini tidak memperuntukkan secara terperinci berkaitan dengannya kerana akta ini perlu dibaca bersama dengan akta lain iaitu Akta Kontrak 1950. Oleh yang demikian, perundangan mengenai pembentukan kontrak secara elektronik, masih terikat dengan AK 1950. Namun, timbul persoalan, adakah sesuai diaplikasikan prinsip berkaitan pembentukan kontrak yang terdapat dalam AK 1950 kepada urusan kontrak elektronik memandangkan AK1950 memperuntukkan prinsip-prinsip berkaitan kontrak tradisional, sedangkan terdapat beberapa perbezaan dalam urusan kontrak tradisional dan kontrak elektronik.

Maksud Kontrak Dan Kontrak Elektronik

Sebelum perbincangan dibuat secara terperinci berkaitan pembentukan kontrak secara elektronik, perbincangan dimulai dengan pendefinisian kontrak elektronik untuk melihat perbezaan antara kontrak tradisional dan kontrak elektronik. Walaupun *common law* tidak memberikan definisi kontrak secara formal, namun terdapat beberapa penulis yang memberikan definisi kontrak sebagai perjanjian atau persetujuan yang dikuatkuasakan oleh undang-undang seperti yang didefinisikan oleh Treitel. Manakala Anson (2016) pula menjelaskan kontrak sebagai satu cabang undang-undang yang menentukan keadaan di mana suatu janji akan secara sah mengikat orang yang membuatnya. Selain itu Atiyah (1979) juga menyatakan kontrak bukan sahaja mewujudkan masyarakat, malahan salah satu fungsi

masyarakat itu adalah, bila sahaja diwujudkan, ia adalah untuk mengiktiraf dan menguatkuasakan kontrak.

Sakina (2012) menyatakan perkataan kontrak adalah popular, namun konsepnya susah untuk didefinisikan. Walau bagaimanapun, menurutnya lagi, definisi yang sering digunakan untuk perkataan kontrak ini adalah, "...satu janji atau set janji yang mana undang-undang akan menguatkuasakannya." Definisi ini dilihat terpakai dalam konteks Malaysia apabila seksyen 2(h) Akta Kontrak 1950 (AK 1950) memberi definisi kontrak sebagai satu perjanjian yang boleh dikuatkuasakan oleh undang-undang. Selain itu, seksyen 10(1) akta yang sama memperuntukkan kontrak merupakan perjanjian jika dibuat atas kerelaan bebas pihak-pihak yang layak membuat kontrak, untuk sesuatu balasan yang sah, dan dengan tujuan yang sah, dan tidak ditetapkan dengan nyata di bawah peruntukan Akta ini bahawa ianya batal. Oleh itu, untuk menjadikan sesuatu janji sebagai satu kontrak, ia hendaklah boleh dikuatkuasakan oleh undang-undang. Bagi menjadikan sesuatu kontrak itu sah dan boleh dikuatkuasakan pula, kontrak tersebut perlu memenuhi beberapa elemen iaitu terdiri daripada niat, cadangan, penerimaan, balasan, keesahan objek, kerelaan bebas dan keupayaan.

Oleh yang demikian, dapat disimpulkan di sini bahawa kontrak merupakan satu aktiviti yang dilakukan oleh manusia untuk memenuhi keperluan dan kehendak dalam kehidupan mereka. Mereka yang memasuki kontrak bertanggungjawab untuk melaksanakan kontrak tersebut sebagaimana yang telah dipersetujui bersama. Selain itu, untuk menjadikan perjanjian itu suatu kontrak, hendaklah perjanjian tersebut boleh dikuatkuasakan oleh undang-undang. Oleh yang demikian, kontrak yang dimasuki oleh pihak berkontrak mestilah mematuhi undang-undang yang diperuntukkan dalam sesebuah negara.

Timbul ketidakpastian mengenai pengaplikasian prinsip kontrak *common law* terhadap pembentukan kontrak elektronik disebabkan kontrak elektronik mempunyai beberapa isu yang khusus mengenainya berbanding kontrak secara tradisional seperti pihak berkontrak tidak bersemuka antara satu sama lain yang menyebabkan timbul isu keupayaan pihak berkontrak dan sebagainya (Beale, T., 2011). Namun, terdapat pendapat yang memperakui bahawa kontrak secara elektronik masih lagi tertakluk kepada prinsip dan peraturan yang sama seperti pelaksanaan kontrak konvensional dengan melakukan beberapa pengubahsuaian bagi memenuhi keperluan dan ciri-ciri istimewa kontrak elektronik (Marina, 2018).

Terdapat beberapa definisi mengenai kontrak elektronik, antaranya kontrak elektronik didefinisikan sebagai janji-janji yang sah atau set janji yang disimpulkan dengan menggunakan media elektronik (L.Kidd et.al., 2000). Selain itu terdapat juga yang menyatakan kontrak elektronik adalah apa-apa kontrak yang dihasilkan dengan penggunaan sistem perisian program komputer (Bhanu Srivastava, Balendu Bhushan, 2015). Dalam konteks lain, kontrak elektronik ini dapat dilihat dari sudut kontrak secara atas talian, yang ditakrifkan sebagai hubungan perjanjian antara dua pihak atau lebih yang dilakukan secara elektronik dengan menggunakan medium sistem informasi berasaskan komputer khususnya jaringan internet (Edmon Makarim, 2012).

Berdasarkan kepada definisi-definisi tersebut, jelas bahawa kontrak elektronik ini merupakan satu janji atau kontrak yang berlalu antara pihak-pihak berkontrak. Jelas bahawa elemen ini selari dengan definisi kontrak tradisional iaitu kontrak merupakan janji yang dimasuki oleh pihak berkontrak yang mana janji tersebut boleh dikuatkuasakan oleh undang-undang. Namun, dalam definisi ini, yang membezakan antara kontrak tradisional dan kontrak elektronik adalah medium yang digunakan oleh pihak berkontrak, yang mana dalam kontrak tradisional, pihak berkontrak tidak menggunakan komputer atau perisian komputer atau jaringan internet sebagaimana yang dilakukan oleh pihak berkontrak dalam kontrak elektronik. Melihat kepada sedikit perbezaan yang terdapat pada definisi ini, sewajarnya berbeza pula dari

sudut perkara-perkara lain dalam menentukan kesahan kontrak tradisional dan kontrak elektronik.

Berdasarkan kepada AK 1950, hanya perkataan kontrak didefinisikan dalam akta tersebut dan tiada perkataan kontrak elektronik diperuntukkan. Antara faktor tidak kedapatan perkataan kontrak elektronik ini adalah disebabkan akta ini merupakan akta lama dan telah lama juga tidak dilakukan pindaan untuk memastikan akta ini selari dengan kemajuan teknologi yang digunapakai pada hari ini. Dalam menghadapi arus kemajuan teknologi ini, pembaharuan undang-undang telah dilaksanakan sama ada di peringkat kebangsaan atau antarabangsa (Palanissamy, A., 2013). Walaupun Malaysia dilihat agak terkehadapan dengan menggubal APE2006, namun akta ini turut tidak memberikan definisi kontrak elektronik (Alibeigi, A., & Munir, A. B., 2016). Oleh yang demikian, sewajarnya terdapat definisi khusus berkaitan kontrak elektronik ini agar jelas pemakaiannya dan pelaksanaan perundangan berkaitannya dengannya.

Elemen kontrak

Sesuatu kontrak yang dimasuki oleh pihak berkontrak hendaklah memenuhi elemen-elemen penting untuk memastikan kontrak yang dimasuki adalah sah. Antara elemen-elemen tersebut adalah cadangan atau tawaran, penerimaan, balasan, niat untuk memasuki kontrak, ketentuan dan juga keupayaan pihak berkontrak (Alsagoff, S.A.S, 2010; Pheng, L.M. and I.J. Detta, 2011). Sebahagian elemen-elemen kontrak ini diperuntukkan dalam AK1950, namun terdapat sebahagian elemen tidak diperuntukkan. Walau bagaimanapun, mahkamah mengambil pendekatan merujuk kepada *common law* sekiranya terdapat kelompangan dalam AK1950 seperti elemen niat.

Persoalan timbul berkaitan dengan elemen pembentukan kontrak elektronik, sama ada terpakai sebagaimana kontrak tradisional atau sebaliknya. Peruntukan mengenai elemen pembentukan kontrak yang terdapat dalam APE 2006 tidak lengkap. Oleh itu, elemen pembentukan kontrak secara elektronik turut merujuk kepada AK 1950, sedangkan AK 1950 juga terdapat kelompangan dan kelemahannya tersendiri. Walaupun terdapat pandangan yang menyatakan bahawa teknologi tidak merubah elemen pembentukan kontrak elektronik, namun masih terdapat masalah dan cabaran yang perlu dihadapi. Oleh itu, pengaplikasian undang-undang sedia ada terhadap permasalahan dan cabaran terbaru tanpa membuat perubahan terhadap undang-undang tersebut menimbulkan persoalan (Amin, N., & Nor, R. M., 2011). Seharusnya penggubal undang-undang perlu teliti dan berhati-hati dalam menggubal suatu perundangan agar perundangan tersebut selari dengan perkembangan dan kemajuan teknologi semasa. Dicadangkan juga agar elemen pembentukan kontrak elektronik diperuntukkan dalam APE 2006 agar lebih jelas dan relevan dengan kemajuan teknologi pada masa kini.

Cadangan

Salah satu daripada elemen pembentukan kontrak adalah cadangan atau tawaran. Sesuatu kontrak dimasuki apabila terdapat cadangan daripada pihak berkontrak kepada satu pihak yang lain. Tanpa cadangan, tidak berlaku kontrak. Elemen ini diperuntukkan dalam AK 1950 di bawah seksyen 2 (a) yang mana pembuat cadangan tersebut digelar sebagai pembuat janji sebagaimana ditakrifkan dalam seksyen 2(c) akta yang sama. Cadangan ini boleh dikomunikasikan dengan apa-apa perbuatan yang dilakukan oleh pihak pencadang sebagaimana diperuntukkan dalam seksyen 3.

Dalam konteks kontrak tradisional, AK 1950 tidak memperuntukkan mengenai pelawaan membuat cadangan. Prinsip pelawaan membuat cadangan ini hanya didapati dalam keputusan kes yang diputuskan oleh mahkamah seperti kes *Coelho v. The Public Services Commission* (1964) MLJ 12, apabila mahkamah memutuskan bahawa iklan yang ditawarkan

adalah merupakan pelawaan kepada sesiapa yang berminat untuk memohon jawatan tersebut di mana pengeluar iklan itu berhak untuk menolak atau menerima permohonan yang diterimanya. Oleh yang demikian, jelas bahawa dalam membentuk sesuatu kontrak, perlu kepada cadangan sebagaimana jelas dalam peruntukan AK 1950, walau bagaimanapun, akta ini masih tidak komprehensif apabila tiada prinsip pelawaan membuat cadangan yang perlu dibeza dengan cadangan.

Dalam konteks kontrak elektronik, cadangan dinyatakan dalam seksyen 7 (1) EPA 2006 yang memperuntukkan, “Dalam pembentukan suatu kontrak, komunikasi tawaran, penerimaan tawaran, dan pembatalan tawaran dan penerimaan atau apa-apa komunikasi yang berkaitan boleh dinyatakan melalui suatu mesej elektronik.” “Mesej elektronik” pula ditafsirkan dalam seksyen 5 EPA iaitu ertinya suatu maklumat yang dihasilkan, dihantar, diterima atau disimpan melalui cara elektronik. Oleh yang demikian, jelas bahawa pembentukan kontrak elektronik juga turut memerlukan elemen tawaran. Cuma yang membezakan antara kontrak tradisional dan kontrak elektronik dalam elemen tawaran ini adalah medium pelaksanaan tawaran tersebut, iaitu tawaran dalam kontrak elektronik hendaklah melalui atau secara elektronik, sedangkan tawaran dalam konteks tradisional tidak memerlukan medium elektronik.

Walau bagaimanapun, masih terdapat kekeliruan dalam menentukan sama ada iklan di internet merupakan tawaran atau tidak, kerana terdapat banyak laman web yang mengiklankan produk mereka tetapi dalam masa yang sama mereka turut membuat tawaran yang mengikat dengan cara memohon pelanggan klik butang ‘Ya’ atau ‘Saya terima’ yang menunjukkan bahawa pelanggan bersetuju dengan tawaran tersebut. Oleh yang demikian, iklan di internet boleh dianggap sebagai tawaran yang mampu membentuk kontrak jika pelanggan bersetuju dengan iklan tersebut (Julian, 1999). Undang-undang di Malaysia juga tidak jelas dalam menentukan sama ada sebahagian iklan di laman web tersebut merupakan pelawaan membuat tawaran atau tawaran (Sarabdeen, 2004).

Terdapat cadangan agar pihak syarikat perlu menyatakan secara jelas bahawa iklan yang terdapat dalam laman web mereka adalah tidak bermaksud sebagai tawaran, akan tetapi iklan tersebut hanya sebagai pelawaan membuat tawaran agar memberi keadilan kepada pihak pelanggan (Amin, N., & Nor, R. M. (2011). Perkara ini juga mungkin boleh diambil kira oleh penggabul undang-undang dalam membuat pindaan terhadap peruntukan perundangan berkaitan pembentukan kontrak elektronik khususnya berkaitan tawaran kerana masih belum jelas kedudukan perkara ini dalam perundangan di Malaysia. Sewajarnya terdapat panduan khusus yang membezakan sama ada iklan sedemikian merupakan satu bentuk tawaran atau sebaliknya. Selain itu, masih belum terdapat kes di Malaysia yang menjadi rujukan berkaitan dengannya.

Penerimaan

Elemen pembentukan kontrak seterusnya adalah penerimaan. Ia bermaksud pihak yang ditawarkan menerima cadangan yang telah dibuat oleh pihak yang membuat cadangan. Elemen penerimaan dinyatakan secara jelas dalam seksyen 2 (b) AK 1950, begitu juga dengan komunikasi penerimaan boleh dilakukan dengan apa-apa perbuatan yang menunjukkan bahawa mereka cadangan tersebut sebagaimana diperuntukkan dalam seksyen 3 akta yang sama. Oleh yang demikian, jelas bahawa elemen penerimaan perlu dipenuhi dalam membentuk sesuatu kontrak.

Dalam konteks kontrak elektronik, elemen penerimaan ini turut diperuntukkan dalam seksyen 7 APE 2006, iaitu penerimaan boleh dilakukan melalui medium elektronik. Oleh itu, apa sahaja komunikasi secara elektronik sama ada secara e-mel atau kontrak dalam laman web yang dikenali sebagai ‘*Click Wrap Contracts*’ dan ‘*Brows Wrap Contracts*’ adalah sah dan boleh dikuatkuasakan (Hedley, S., 2007; Amin, N., & Nor, R. M., 2011; Cheong May Fong,

2013; Alibeigi, A., & Munir, A. B., 2016). Melalui “click wrap contract”, penerimaan dianggap berlaku apabila pembeli membaca terma dan syarat pada skrin, mengisi maklumat pada borang pesanan yang dipaparkan dan menekan butang “serah” (submit) atau “terima” (accept) dan seterusnya pesanan itu dihantar kepada operator laman web berkenaan. Penerimaan jenis ini biasanya berlaku dengan memuat turun perisian berlesen (Marina, 2018). Walau bagaimanapun, AK 1950 atau APE 2006 tidak memperuntukkan bila dan di mana kontrak elektronik ini lengkap (Naemah, 2008) iaitu sama ada kontrak ini lengkap ketika penerima menghantar e-mel atau ketika klik ‘terima’, atau kontrak ini lengkap apabila komunikasi penerimaan ini sampai kepada pihak yang membuat cadangan. Oleh yang demikian, sewajarnya APE 2006 memperuntukkan dengan lebih jelas lagi berkaitan dengannya. Jika mod penerimaan ini jelas ditentukan, maka ia membantu pedagang atas talian untuk menentukan mod penerimaan, lantas membolehkan mereka memilih bidangkuasa undang-undang yang terpakai (Amin, N., & Nor, R. M. (2011).

Balasan

Elemen seterusnya dalam pembentukan kontrak menurut *common law* adalah balasan. Di Malaysia, beberapa prinsip balasan ini turut diperuntukkan dalam AK 1950 iaitu sebagaimana dalam seksyen 2 (d) yang memberikan definisi balasan. Manakala dalam seksyen 26 yang memperuntukkan perjanjian tanpa balasan adalah batal. Seksyen 24 pula memperuntukkan mengenai balasan yang sah dan tidak sah menurut undang-undang. Oleh itu, berdasarkan kepada AK 1950, jelas mengenai elemen balasan ini dalam membentuk sesuatu kontrak.

Dalam konteks kontrak elektronik, timbul persoalan mengenai balasan dalam pembentukan kontrak tersebut kerana realiti bentuk kontrak tradisional dan kontrak elektronik mempunyai perbezaan. Tiada peruntukan mengenai balasan dalam APE 2006. Oleh itu timbul persoalan sama ada prinsip balasan yang terdapat dalam AK 1950 sesuai untuk dilaksanakan sepenuhnya mengikut kepada kesesuaian bentuk kontrak elektronik. Isu atau permasalahan dalam kontrak atas talian ini dapat dilihat dalam kontrak ‘*click-wrap*’ apabila sesuatu laman web menawarkan produk percubaan secara percuma kepada pelanggan dan meminta pelanggan bersetuju dengan beberapa terma dan syarat selain mengecualikan liabiliti dan juga melarang penggunaan secara komersial. Persoalannya adakah kontrak secara ‘*click-wrap*’ yang dilakukan itu mempunyai balasan, atau mungkin produk percuma tersebut menggambarkan suatu manfaat dan boleh dianggap sebagai balasan (Amin, N., & Nor, R. M. (2011). Oleh itu, terdapat kekeliruan dalam pelaksanaan kontrak elektronik ini berkaitan prinsip balasan dalam berkontrak dan perlu ditentukan bentuk balasan yang diterima pakai dalam konteks kontrak secara elektronik.

Niat

Elemen seterusnya dalam pembentukan kontrak adalah niat, namun elemen ini tidak diperuntukkan dalam AK 1950. Pemakaian prinsip niat dalam membentuk kontrak di Malaysia adalah berdasarkan kepada prinsip yang terdapat dalam *common law* dengan berlandaskan kepada seksyen 3 Akta Undang-undang Sivil 1956.

Dalam konteks kontrak secara elektronik, tiada juga peruntukan yang jelas mengenai niat. Namun, elemen ini mungkin boleh dilihat secara tidak langsung dalam seksyen 3(2) APE, iaitu niat pihak-pihak untuk berkontrak secara elektronik boleh disiratkan melalui perlakuan pihak-pihak yang bersetuju memilih kaedah elektronik dan meneruskan transaksi sehingga terbentuknya suatu kontrak yang sah (Marina, 2018). Oleh itu, berdasarkan kepada kedua-dua akta ini, jelas bahawa elemen niat tidak diperuntukkan secara jelas dalam akta. Sekiranya elemen ini merupakan elemen yang memberikan kesan kesahan kepada suatu kontrak sama ada

secara tradisional atau secara elektronik, sewajarnya elemen ini diperuntukkan dengan jelas agar tidak timbul kekeliruan dalam pengaplikasiannya.

Keupayaan Pihak berkontrak

Dalam membentuk sesuatu kontrak, pihak berkontrak hendaklah seorang yang mempunyai keupayaan untuk memasuki kontrak. Keupayaan pihak-pihak berkontrak diukur dari aspek umur, keadaan mental dan kedudukan undang-undang (Sakina Shaik Ahmad Yusoff & Azimon Abdul Aziz, 2009). Seksyen 11 AK 1950 memperuntukkan mengenai kelayakan seseorang membentuk kontrak iaitu dewasa, berakal dan tidak hilang kelayakan menurut undang-undang.

Dalam konteks kontrak secara elektronik, APE 2006 tidak memperuntukkan mengenai kelayakan atau keupayaan pihak berkontrak. Sekiranya keupayaan pihak berkontrak dalam membentuk kontrak elektronik menggunakan AK 1950, maka beberapa isu perlu dipertimbangkan. Antaranya adalah kesukaran menentukan suatu tawaran yang dibuat secara atas talian dan penerimaan dilakukan oleh seorang yang berstatus muflis atau seorang yang belum cukup umur atau oleh pihak yang tidak diberi kuasa atau disekat daripada melakukan kontrak atas sebab-sebab tertentu dan sebagainya (Marina, 2018). Oleh yang demikian, perlu kepada suatu mekanisme untuk memastikan pihak berkontrak secara elektronik ini merupakan pihak yang layak untuk memasuki kontrak agar dapat memberi perlindungan yang sebaiknya kepada pihak berkontrak. Selain itu, kontrak secara elektronik berlaku tanpa sempadan turut memberikan kesan dalam menentukan keupayaan pihak berkontrak kerana negara yang berbeza mempunyai undang-undang yang berbeza dalam menentukan had umur dewasa (Amin, N., & Nor, R. M., 2011). Oleh yang demikian, perkara ini juga turut perlu diambil perhatian oleh penggubal undang-undang dalam memastikan bahawa pihak berkontrak mempunyai perlindungan undang-undang sewajarnya ketika membentuk kontrak secara elektronik.

Kesimpulan

Berdasarkan kepada perbincangan tersebut, jelas bahawa Akta Kontrak 1950 masih bermasalah kerana terdapat masih terdapat kelompangan atau kelemahan dalam memberi perlindungan kepada pihak berkontrak sama ada kontrak secara tradisional atau secara elektronik. Tambahan pula dalam konteks kontrak elektronik, terdapat ciri-ciri khusus yang perlu merangkumi elemen teknologi terkini, memerlukan satu perundangan khusus berkaitan dengannya. Penggubalan APE 2006 merupakan satu langkah yang baik, namun, untuk menjadikannya lebih baik adalah dengan meminda peruntukan perundangan yang terdapat dalam Akta tersebut agar mampu mencapai objektif perundangan untuk mengawal aktiviti kontrak elektronik dan seterusnya mampu memberikan keadilan kepada pihak-pihak berkontrak. Sewajarnya peruntukan berkaitan kontrak elektronik ini digubal dalam perundangan khusus agar dapat dibezakan prinsip yang terpakai bagi kontrak elektronik yang mempunyai perbezaan dengan prinsip yang terpakai kepada kontrak tradisional. Walaupun dari sudut elemen pembentukan kontrak dilihat sama atau mengaplikasi elemen yang terdapat dalam kontrak tradisional, namun secara realitinya amalan dalam kontrak elektronik mempunyai bentuk amalan yang khusus dan tersendiri. Oleh yang demikian, pindaan terhadap APE2006 adalah dilihat lebih wajar dilakukan untuk mengawal aktiviti kontrak secara elektronik. Peruntukkan dalam seksyen 7 APE 2006 mungkin boleh diperincikan lagi mengenai pembentukan kontrak secara elektronik dalam membantu pedagang membentuk kontrak secara atas talian.

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