

Exploratory Factor Analysis Syariahmandiri and Bankmandiri Service Attributes 2015

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Abstract: The dynamics of competition in the banking industry is very high in Indonesia, currently the bank not only compete with the other conventional bank but also compete with the Islamic bank. Islamic bank is an entity of the bank that develop a new identity and had a huge potential market in Indonesia as the country with the largest moslem population in the world. Therefore, the Islamic bank encouraged to develop a marketing strategy that can increase new consumers, seize consumers from the other banks and retain the existing consumers. The Islamic bank and the conventional bank marketing strategy can be observed from the social media marketing communication channels that convey the bank activities to respond to competition through marketing programs toward the consumers. This research explore the conventional bank (Bank Mandiri) and Islamic bank (Bank Syariah Mandiri) marketing communication delivered via twitter. The process started by collecting tweets from Bank Mandiri (bankmandiri) and Bank Syariah Mandiri (syariahmandiri) during the period of 2015, furthermore the data prepared to be processed. The data preparation consist of several process which are input the description of data, data cleansing and data transformation, data stemming and lemmatization and finally the exploratory factor analysis conducted with the software Provalis QDA Miner. The exploratory factor analysis findings for Bank Syariah Mandiri tweet reveal syariahmandiri service attributes which are the gold prices, selling rupiah, in addition there are keywords that are closely related to Islam, i.e., Hajj. The exploratory factor analysis for the Bank Mandiri reveal bankmandiri service attributes consist of buying and selling currency, ecash, credit card, the promotion program which are titipanmama, free holiday abroad and one direction free ticket for the customer.

Key words: Islamic bank, conventional bank, service attributes, twitter, mixed method research

INTRODUCTION

Islamic banking is an industry-based Sharia (Islamic law) bank which forbids usury (interest), gharar (transaction involving speculation such as derivatives and insurance) and businesses associated with the specific sins sector such as alcohol, pornography or gambling. Sharia banking is a growing industry, along with the increasing need of the bank's clients to invest their money in accordance with their beliefs and religion (Devlin, 2002). The common belief in Islam that it is unfair to earn without assuming the risk, this belief background is the fundamental difference for the Islamic banking compared to the conventional banking. Islamic banking is the fastest growing industry and has gained recognition by Muslims and non-Muslims (Iqbal and Molyneux, 2005). This is coherent with the services provided by Islamic banking in an attempt to maximize the value of customers and satisfy their needs for financial security (Henry and Wilson, 2004). This phenomenon

shows that Islamic banking is able to meet the needs of Muslims who want to obtain banking services in accordance with the religion of Islam and furthermore the Islamic banking is also an option for the consumer banking because Islamic banking delivers favorable services for consumers compared to conventional banking.

Islamic banking is an alternative choice of banking services for consumers. Analysis of the different aspects of consumer selection criteria toward banking services indicate that there are two main dimensions, i.e. product features and Sharia bank service quality which considered important for the Islamic banks customers and the conventional bank with Islamic banking branch. These 2 dimensions confirmed that religious beliefs are not the only reasons to choose Islamic bank, therefore research to uncover the Islamic banking product feature and service quality compared to conventional bank services required as the fundamental research for further Islamic banking development. This research will explore the

Islamic bank (syariahmandiri) and the conventional bank (bankmandiri) product feature which is further called the service attributes.

Literature review: The Islamic bank service attributes should consider two factors. First, how to create such service relevant to the ethical value according to the glorious Qur'an, sunnah, consensus and qiyas. Second, how to promote the service delivering an incentive to attract potential customers compared to the conventional system (Haque *et al.*, 2010). Therefore, the service attribute proposed by the Islamic bank should meet these two factors and these factor made the Islamic bank service attribute unique. Unfortunately, these factor could also be considered as limitation for the Islamic bank service attribute development compare to the conventional bank progressive development. This phenomenon will be elaborated in the next paragraph.

The Islamic banking, Islamic economics and Islamic finance also have a special characteristics compared to the general banking, general economics and general finance. This characteristic is the principle of Sharia, consequently the development of the Islamic banking and Islamic finance received a lot of attention over the past 30 years, however the development of Islamic marketing is still neglected. The Islamic economic system development will be hampered if the Islamic marketing component ignored (i.e., marketing ads delivered to the target audience), therefore, this research conducted to explore the Islamic bank service attributes and also compare the service attributes of the conventional bank for further managerial implication.

At the present time, company using the twitter to deliver the service attributes toward the potential customer. This activity take account of the Islamic bank and the conventional bank, therefore we could extract the twitter data and analyze the data to reveal the proposed service attributes toward the target audience.

Twitter applications for marketing started from the year 2008, twitter as a micro blogging limited to 140 characters per tweet, users can follow the other twitter account activities and receive tweets by following the account (Bulearca and Bulearca, 2010; Sakaki *et al.*, 2010; Kwak *et al.*, 2010). Furthermore, Indonesia tweet proportions was 4.9% or 19 million tweets per day compare to the total tweet from the world. Via twitter, we will be able to know the service attributes proposed from the Islamic bank by analyzing the twitter account corpus (tweet textual documents). These tweets are an authentic proof of the service attributes proposed toward the target audience. Unfortunately, the research utilizing tweet data is still insufficient since the dataset consist of a sentences

(not number), it also takes time to extract the dataset in a period of time, furthermore the software for the analysis is also new, to mention the mixed method research software. The sample of the tweet dataset from the Islamic Bank (syariahmandiri) on 4/15/2015 2:52:51 PM (read: April 4th, 2015 as follow "Seru2an bersama BSM di #iBVaganza yg akan diadakan di Moro Mall Purwokerto, dan ikuti kuisnya di sukses_menabung <http://t.co/1OeewMzhMx>". Read: "Get fun with BSM #iBVaganza at Moro Mall Purwokerto and follow the quiz in sukses_menabung at <http://t.co/1OeewMzhMx>". This is the tweet from syariahmandiri and delivered toward the target audience on April 4th 2015, this tweet deliver a promotion service attributes and also a quiz promotion toward the target audience. The sample of the tweet dataset from the conventional bank (bankmandiri) on 10/2/2015 3:02:35 PM (read: February 10th, 2015) as follow "Indonesia is not a poor country, it's a rich country #TitipanMama eps. 12 minggu depan. <http://t.co/vDtS3su45E>". Read: "Indonesia is not a poor country, it's a rich country #TitipanMama eps. The next 12 weeks at <http://t.co/vDtS3su45E>". The tweet delivered by bankmandiri promote a mockumentary tv series called titipanmama. As the tweet dataset which are going to be processed had been explained, thereafter the research design to reveal the syariahmandiri and bankmandiri service attributes given in the next section of the paper.

MATERIALS AND METHODS

This research is an exploratory research, the research stages start with data extraction, data preparation, exploratory factor analysis and service attributes analysis (Fig. 1). The data used is the tweet dataset extracted from syariahmandiri and bankmandiri twitter, the tweet collected from 12-month span of time period (January to December 2015) to be able to analyze the whole year marketing activities delivered via twitter. Since, each tweet will only deliver a certain message toward the target

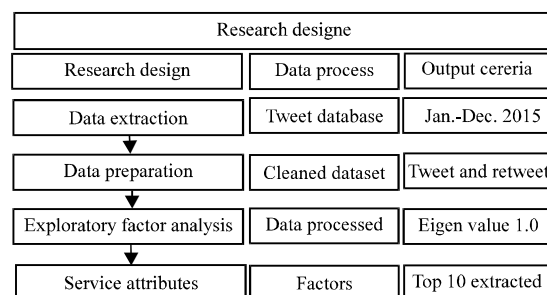


Fig. 1: Research designe

audience, therefore, a 12 months span of time period will be sufficient enough to gather varieties of marketing activities and the service attribute delivered via the twitter.

The data used in this research is unstructured data obtained from bankmandiri and syariahmandiri, these dataset need a process of preparation before the analysis. The dataset prepared in advance before the exploratory factor analysis. The process are the description input stage, the next stage is checking the typography, the next stage is stemming (to group the words with similar meanings and roots) and lemmatization (to group the different forms of the word in a tweet that have the same single word), the last stage is the construction of a data dictionary to be included into further analysis (Silver and Lewins, 2014). Furthermore the exploratory factor analysis conducted using Provalis QDA Miner Software (Lewis and Maas, 2007). QDA miner is a mixed method qualitative data analysis software that process the tweet dataset which are the unstructured data (sentences) to quantitative parameter which is the eigen value of the factors extracted, therefore we could develop a solid argument to analyze the qualitative dataset.

The process of exploratory factor analysis support the statement (Kietzmann *et al.*, 2012; Pitt *et al.*, 2007) that the brand personality and the brand identity to expose the brand attributes can be analyzed with social network research (Arora and Stoner, 2009). The process of exploratory factor analysis will expose the dimension of the tweet dataset (Campbell *et al.*, 2011a, b) these dimensions help the researcher to analyze the service attributes as stated for the purpose of this research. Furthermore exploratory factor analysis shows the relation between the latent variables with the observable variables without advance specification (Wijanto, 2008). In the EFA, the goal is not seeking confirmation of specific relations in the analysis, but to let the methods and data to explain himself (Hair *et al.*, 1998).

The exploratory factor analysis retrieved factors obtained by reducing the overall complexity of data, this is conducted by utilizing the inter correlation of the variable. The first factor is a combination of keywords involving a large number of sample variables and so on until the smallest number of the sample variant. The number of factors extracted adjusted to a minimum eigenvalue criteria which is 1.0. The eigenvalues are the sum of the variances of the factor values, when divided by the number of variables, eigenvalues yield an estimate of the proportion of total variance explained by a given factor (Cooper and Schindler, 2003). Finally, the factors extracted limited to top 10 highest factors for further service attributes analysis.

RESULTS AND DISCUSSION

Primary data from bankmandiri and syariahmandiri twitter account from January until December 2015 extracted and ready to be processed with Provalis software analysis. There are 2336 tweet extracted for bankmandiri, the data cleaned and there are 9 tweets excluded from the analysis, the data furthered categorized into 2257 tweet and 70 retweet data. There are 169 tweet extracted from January until December 2015 for syariahmandiri, the data cleaned and there were no tweets excluded from the analysis, the data furthered categorized into 138 tweet tweet and 31 retweet data. Details of the process of the preparation of the data in Table 1.

The frequency of bankmandiri and syariahmandiri tweet showed that within a periode of 2015, syariahmandiri delivered less tweet (169) compared with bankmandiri (2327), afterall less service attributes delivered by syariahmandiri compared to bankmandiri. The frequency of retweet from syariahmandiri (31) compare to bankmandiri (2257) also showed that syariahmandiri responded lesser than bankmandiri since most of the retweet is from the netizen. Lesser retwe so showed that syariahmandiri had lesser netizen intention to post than bankmandiri, since there should be a lot of posting that retweeted by the netizen as bankmandiri.

This preliminary findings on tweet and retweet frequency show that the marketing communication activities performance delivered by syariahmandiri got lesser performance compare to bankmandiri. Lesser performance mean that maybe the syariahmandiri service attributes delivered lesser than the bankmandiri. Further exploratory factor analysis will be able to confirmed this preliminary findings. The exploratory factor analysis conducted generated a group of keywords that have eigen value above 1, a total of 82 groups formed, Table 2 shows the top 10 groups based on the eigen value. The keywords group showed different kind of information delivered toward the audience from the twitter account, some of the information are not the bank service attributes but only a conjunction nor a tweet information.

Table 1: Data preparation

Data interval	January-December 2015			
	Bankmandiri		Syariahmandiri	
Data extracted	2336		169	
Data excluded	9		0	
Total data	2327		169	
Data type	Tweet	Retweet	Tweet	Retweet
Data	2257	2257	138	31

Table 2: Topics by document bankmandiri

Names	Keywords	Eigen values
JUAL; LENGKAP	JUAL; LENGKAP; PER; PKL; TGL; NILAI; WIB; BELI; RP; CEK; SINI; USD; KURS; INFO; QLINOIPIQIG	15.59
VIA NFC; TEMPEL	NFC; TEMPEL; SALDO; VIA; ULANG; SMARTPHONE; CUKUP; LANGSUNG; ISI; EMONEY; KARTU; HANYA	7.74
IDR; KLIK	IDR; KLIK; SELENGKAPNYA; MATA; LAIN; UANG; QLINOJ; O; R; KURS; USD; INFO; UNTUK	6.75
TITIPANMAMA	TITIPANMAMA; EPS; PANDJI; KESERUAN; NONTON; TONTON; YUK; LAGI	5.51
KIRIM; KARTU KREDIT	KIRIM; KREDIT; BUAT; KARTU; KM; DIGIT; ATM; PIN; KE	4.06
ECASH MU	ECASH; DAPATKAN; MENGGUNAKAN; MU; CASHBACK; BERTRANSAKSI	3.33
ONEDIRECTION	ONEDIRECTION; DECASH; MANDIRIKONSER; LAGU; ID	3.14
LUAR NEGERI; LIBURAN GRATIS	LUAR; NEGERI; LIBURAN; GRATIS; DEBIT; TRANSAKSI	2.95
DATA	DATA; REKENING; SEPERTI; DIRI; ID; PIN; DR; HINGGA	2.77
T.CO	T; CO; TIPSMANDIRI; HTTP	2.53

Proval is data process

Tabel 3: Topics by document syariahmandiri

Names	Keywords	Eigen values
T.CO; HTTP	T; CO; HTTP; RP; HTTPS; JUAL; BELI; DEAR	5.75
RT	RT; SYARIAHMANDIRI; EMAS; YG	2.42
HARI INI	HARI; INI; INFO; UNTUK	1.94
ADA; YANG	ADA; YANG; YUK	1.86
BSM; BELI	BSM; BELI; JUAL; SAHABAT; RP	1.59
HAJI	HAJI; VIA	1.43
BISA	BISA; DEAR; UNTUK	1.27
HARGA	HARGA; EMAS; HTTPS	1.18
DI EVENT	EVENT; DI; YUK	1.13
DAN; BELI	DAN; JUAL; BELI; DI; RP	1.03

Proval is data process

Therefore, we should analyze these keywords to several category which are the service attributes keywords and the non service attributes keyword.

The insight of the bank mandiri service attribute keyword category consist of buying and selling currency (read: jual;lengkap and IDR, klik), ecash (read: ecash mu), credit card (read: kirim; kartu kredit), it showed the promotion program which are titipanmama (read: titipanmama), free holiday abroad (read: luar negeri, liburan gratis) and one direction free ticket (read: onedirection).

This finding showed that currency update information is an essential information to deliver for the twitter user, mandiri also promote the cashless product which are the ecash and credit card. Mandiri also create an innovative marketing program, a web series on Youtube titles titipanmama, this program called a mockumentary (a television show in which a fictional events presented in documentary style to create parody). Furthermore there are also free holiday abroad program which is a quiz for the mandiri customer to increase the debit card transaction. Finally, mandiri promote a twitter quiz for the customer and the prize is one direction free concert ticket.

Further exploratory factor analysis for syariahmandiri generates 11 groups of keywords (Table 3 display 10 top

groups). The findings show that syariahmandiri service attributes keywords category are the gold prices (read: harga), selling rupiah (read: BSM, beli), in addition there are keywords that are closely related to Islam which is Haji (read: haji). This finding showed that the sharia bank (syariahmandiri) service attributes delivered the update information about the rupiah and the gold prices and also the information about Haji in the Mekkah. The service attributes keywords category findings showed a consistent findings with the preliminary findings from the tweet and retweet frequency analysis, since those keywords group are the group that have the biggest eigen value (a large amount of sample variables), therefore the syariahmandiri had lesser service attributes compare with the bankmandiri.

The service attributes findings also showed the brand identity nor the brand personality of the syariahmandiri and bankmandiri syariah mandiri brand identity related with Haji as the ritual of the Islam religion, therefore, there is no Haji related keyword in bankmandiri findings. This finding confirmed that syariahmandiri is Islamic bank twitter account profile, moreover the bankmandiri is not an Islamic bank twitter account. The service attribute findings also show that bankmandiri deliver many service promotion program toward the audience compare with the syariahmandiri. Bankmandiri

delivered mockumentary titipanmama, promoted onedirection ticket and also free holiday, on the other side syariahmandiri only delivered haji promotion program. This findings confirmed that bankmandiri have more marketing program activities compare with the syariahmandiri. Finally, the findings also confirmed that the syariahmandiri service attributes lesser than the bankmandiri. Syariahmandiri focus on gold transaction compare to the bankmandiri that have more service attributes which are the ecash, credit card and the currency transaction.

CONCLUSION

Islamic banking is a growing industry, nevertheless the research on syariahmandiri and bankmandiri confirmed that the service attributes of the syariahmandiri had less variety compare with bankmandiri. The syariahmandiri tweet and retweet frequency also much more less compare with bankmandiri, it showed that syariahmandiri only had several service attribute promoted. Therefore, the syariahmandiri should develop more interesting service attribute toward the customer. The service attribute innovation will increase the service attribute content delivered toward the customer. The syariahmandiri also can adapt the bankmandiri service attribute to be able to develop a relevant service attribute toward the customer.

This research also exposed the need to compare several Islamic bank twitter account to explore the Islamic bank service attribute. Further research toward several Islamic bank will be essential for conclusive Islamic bank service attributes. The process of research conducted through some process of the preparation of the data which are input data descriptions, cleansing and transforming data, stemming and lemmatization as well as the construction of the dictionary. The process of the preparation of the data from January until December 2015 completed. These data still need to be cleaned up because there are still a lot of keywords which are the conjunctions words and should be excluded from the analysis, in addition there are still many keywords that are not relevant incorporated into the analysis.

Further exploratory factor analysis process should be conducted again after further data cleansing to be able to conduct more reliable analysis. The exploratory factor analysis service attributes for bankmandiri and syariahmandiri further analyzed to establish the Bank Syariah Mandiri strategy to develop the market base (Nugroho and Sihite, 2015a, b, c; Sihite *et al.*, 2016). Finally, the researcher could consider further research options such as questionnaire development to enrich research findings from the Islamic bank service attribute exploratory factor analysis findings (Sihite *et al.*, 2016).

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