

Big Data Utilization in The Dynamic Governance Concept

Case Study of Indonesian Society's Shifting Consumption Pattern

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Abstract—In recent weeks, many observers have commented on the terms of macro and microeconomic data anomalies. These observers mapped out the conditions, attempting to draw the connection between the facts and the data. Interestingly, there is one issue that allows the emergence of data anomalies of the nation's economy, a social phenomenon occurs, there is a trend of Indonesian society's shifting consumption pattern, from conventional in-store shopping turned into shopping in network/online. This study is very relevant, because the progress of technology plays a significant role in presenting trend of Indonesian society's shifting consumption pattern as a digital lifestyle. Big data utilization is certainly needed by the government in understanding this social phenomenon, especially in studying consumer behavior in the digital era. In the concept of dynamic governance, the government needs to take adaptive steps to respond to challenges in the digital era. This research uses the qualitative method with case study approach. Data for this research is obtained through documents analysis. The results of the study indicate that government efforts to take strategic steps in the digital era can not be separated from the big data utilization. Big data utilization can strengthen a decision-making process in various sectors. Big data analysis plays an important role in tracking and monitoring issues concerning the most recent community trends.

Keywords—big data, online shopping trend, economic growth, dynamic governance

I. INTRODUCTION

In various media coverage, both mass media and online media, the Indonesian economy is said to be slowing down. This fact appears on the data indicator released by BPS-Statistics Indonesia on August 7th, 2017 stated that Gross Domestic Product (GDP) by industrial origin at current price in the quarter II-2017 amounted of IDR 3.366.8 trillion or in other words the Indonesian economy in the quarter II-2017 only grew by 5.01 percent compared to the quarter II-2016. This record is similar to the economic growth in the quarter I-2017, but it is slower compared to the same period of 2016 about 5.18 percent. In his press statement, Head of BPS, Kecuk Suhariyanto said that the economic growth in the second quarter of this year is under the expectations of many parties. However, these achievements are still considered favorable in the midst of global economic situation which is full of uncertainty and falling commodity prices [1].

What is interesting about this data? Strategic data on economic growth seems to lead to a debate between macro and microeconomic data. In macro terms, the Indonesian economy can be considered good enough, growing above 5 percent, with sufficiently maintained inflation year-on-year at 3.82 percent [2]. However, in micro terms, various industries have declined, especially in the retail industry, which has recently become a hot topic. Referring to GDP data, talking about household consumption, which is said to be a strategic contributor to GDP, tends to be stagnant which in quarter I-2017 grew by 4.94 percent, and in quarter II-2017 only grew by 4.95 percent (year-on-year). While in the online business sector, Bukalapak CEO Achmad Zaky stated that in one month the transaction in Bukalapak reached IDR 1 trillion, with an average daily transaction of 150,000 and the amount of sellers to date has reached 1.7 million [3].

In other words, a number of macroeconomic facts are actually sufficient to explain Indonesia's economic growth condition. But there are factors outside of macroeconomics that have an impact on consumer behavior, which has not been captured in statistical calculations.

So far, online shopping trend may still be considered to have little role in stimulating economic growth. This is evidenced by the absence of records of certain and exact data owned by the government. Whereas currently the transition of transaction usage from offline to online has been widespread among Indonesian consumers. Shopping through online platforms is no longer centered in Jakarta. This is reflected in the Google and market research institute GfK Survey, conducted in January 2017 in Jabodetabek, Bandung, Semarang, Surabaya, Medan, and Makassar. Surabaya residents shop for 5.8 hours, while residents of Bogor-Depok-Tangerang-Bekasi about 5.2 hours [4]. This means that the internet today is increasingly attractive in many ways including in conducting marketing activities also sell and purchase products/services.

For Indonesia, as a country with a vast territory and a large population, big data utilization will be very advantageous. Utilization of big data technology through electronic commerce (e-commerce) is what will provide added value to the Indonesian economy in the future. However, the utilization

of big data and e-commerce phenomenon will not lead to positive implications for the nation's economy if it is not managed properly.

II. RESEARCH METHOD

This research uses the qualitative method with case study approach. According to Creswell [5] case study is a research strategy where researcher carefully investigate a program, event, activity, process, or group of individuals. Data for this research is obtained through documents analysis.

In the practical level, shopping in network/online known as e-commerce. This term began to appear in the 1990s through the initiative to change the sale & purchase transactions and payments from conventional way into an electronic digital form based on computer and internet network [6].

Grant and Meadows in their book "Communication Technology Update and Fundamentals" [7] explains that communication technology and the internet will change our perspective about the business, and will impact on how we run the business. While related to big data utilization, Mayer-Schonberger and Cukier [8] asserted that data is an important source of information in an economic industry and serves as leverage in developing the society innovation. Without data, creativity and productivity will not grow. Big data born from the progress of information and communication technology will give a big influence on the culture of society, lifestyle, and even an effect on the economic growth of a nation. As IBM big data expert Jeff Jonas said "you need to let the data speak to you".

In terms of governance, researcher use the concept of dynamic governance as a strategic step in dealing with the lightning fast development of information technology. Dynamic governance concept is applied by emphasizing two important components namely capability and culture. Capability component can review a situation and condition of a country in a variety of perspectives. This step will stimulate the dynamics in governance by adapting to the current development situation [9].

While other component, culture, brings a set of values, beliefs, and principles as guidance in social life. Culture can be a catalyst in decision-making process and policy formulation [10].

III. RESULT AND DISCUSSION

Take a close look at the terms of macro and microeconomic data that occur today, we need to be careful with the data presented in the media. This means that microscopic observation in one sector alone is not enough to draw conclusions about the economic condition. In a media discussion initiated by the Ministry of Communication and Information Technology on August 12th, 2017, Kecuk assessed that there is a shift in consumption patterns of Indonesian society, where there is an increase in online shopping behavior. Kecuk has not been able to confirm the exact figure

of this increase. However, BPS conducted a survey with 10,500 household category respondents. From the survey results it appears that as many as 15 percent of households respondent has conducted online shopping. Penetration of the most popular products include watches, bags, communication tools and accessories, recreational items, and clothing. The survey also shows that the higher the income of a household, the more online shopping it carried out. From this survey, it can be concluded that online shopping is mostly done by upper middle-class society [11].

Then, the question arises whether online shopping is the only factor triggering a shift in consumption patterns? Apparently not. Another analysis suggests that the shift in consumption patterns is also attributed to higher growth in consumption levels for leisure activities. BPS classifies commodities included in leisure activities such as hotels, restaurants, recreation areas, and cultural activities. Deputy of Social Statistics BPS, Sairi Hasbullah in his explanation on Metro TV (2017, August 14) said there had been a shift in consumption patterns for the upper middle-class where the household spending for restaurants and hotels increased in value [12].

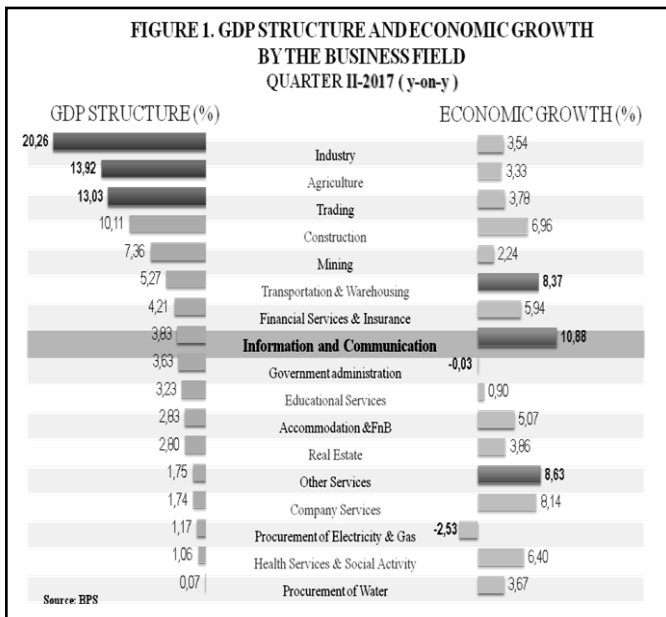
What is the common thread that can be drawn from the phenomenon of online shopping/e-commerce and leisure activities amid issues of economic growth anomalies? Of course the answer is inseparable from the influence of social culture as the impact of lifestyle in the digital era. Why? As it is possible that technological advancements supported by infrastructure, smart phone possession, and ease of electronic payment systems, will definitely develop a new culture for the user of the technology.

Not only in Indonesia, economies of many countries are turning to e-commerce phases. The progress of the digital sector is likely to be utilized to overcome various geographical constraints in the economy, accelerate the process business, and cost efficiency for the business actor. In Malaysia for example, based on a study shows that the phenomenon of e-commerce in the last one to five years is growing rapidly. Based on 108 Small and Medium Enterprises (SMEs) that have contributed to this study, there are 49.1 percent have used e-commerce in the last five years [13].

Similarly in Thailand, the phenomenon of online shopping culture has become a trend. A study shows there are 70.9 percent of 86 enterprises that contribute in research, has adopted e-commerce for their business [14].

How about Indonesia? In Indonesia, business through e-commerce is still relatively new. Most of business actor, especially SMEs still rely on direct sales. According to them, many customers feel satisfied if they see the product directly. Based on study of SMEs in Indonesia mentioned that there are only 38 SMEs or 13 percent of the 292 SMEs surveyed, has used e-commerce in doing business. Most of them that have adopted this technology (29 SMEs) are new players e-commerce or for less than three years [15].

However, some observers assess the potential of e-commerce in Indonesia is very large. Consulting Firm McKinsey & Co predicts e-commerce market of Indonesia will be the largest in the world. In fact, by 2030 it is estimated there will be about 90 million Indonesians behave consumptive. This circumstance will provide great opportunities for online business to compete to lure Indonesian consumers through a network of digital technology [16].



When we look at the business data of PT Telkom, in the first semester of 2017 its data revenue reached IDR 17.28 trillion, which is up 18 percent compared to last year. Meanwhile, PT XL Axiata Tbk earned IDR 5.8 trillion in data revenues, up 62 percent compared to the same period last year [17]. Data on the surge of digital technology network users is also reinforced by the BPS data record which states that the business field in the information and communications sector experienced the highest economic growth amounted to 10.88 percent, although the leverage only contributed 3.83 percent in the structure of GDP, as shown in the following figure 1. These data prove that the information and communication technology sector is very potential and rapidly growing at the moment.

Nowadays people rely on the internet; easy, efficient/timesaving, and low cost. The rise of information about tourist areas, the uniqueness of a restaurant dish, cheap airline ticket information, all can be easily found. This ease encourages people globally to enjoy more leisure activities. This fact is reinforced by BPS data which states that household consumption for hotel and restaurant expenses is the highest among other household consumption types, as shown in the following figure 2.

Online business opportunity and businesses at the level of leisure activities is not without basis. Big data utilization is potentially used to analyze and study consumer behavior in the

digital era. From just a few data collected, we can make a conclusion from the relationship between the data (regardless of causation), and can predict the phenomenon that may occur in the future.

A company can type in keywords on search engines, for example, the relationship of online shopping habits in a particular area, or the relationship of the upper middle-class strata with the most searched tourist destinations. Suppose Jakarta residents, to avoid traffic jams, prefer to order food through a food delivery service or online application rather than having to buy the food directly to the restaurant. From this pattern, SMEs business operators in Surabaya area, which is also known for its congestion, should be aware of this potential by providing food delivery services or integrated with online-based business applications.

FIGURE 2. HOUSEHOLD CONSUMPTION GROWS 4.95 PERCENT

COMPONENTS	(y-on-y)			(q-to-q)		
	Q2/17	Q1/17	Q2/16	Q2/17	Q1/17	Q2/16
(1) HOUSEHOLD CONSUMPTION	(2) 4,95	(3) 4,94	(4) 5,07	(5) 1,32	(6) 0,15	(7) 1,31
a. Food & Beverage (non-restaurant)	5,24	5,21	5,26	1,37	1,10	1,34
b. Clothing, Footwear, & Treatment Services	3,47	3,30	3,35	2,00	-0,41	1,83
c. Housing & Housewares	4,12	4,14	4,72	1,13	0,07	1,15
d. Health & Education	5,40	6,04	5,49	0,94	0,65	1,56
e. Transportation & Communication	5,32	5,35	5,51	1,51	-0,62	1,54
f. Restaurant & Hotel	5,87	5,43	5,48	1,31	-1,03	0,88
g. Others	2,05	2,07	2,58	0,42	-0,71	0,45

Source: BPS

How does the Government of Indonesia maximize this big data potential? In relation to capability, on August 3rd, 2017 the Government of the Republic of Indonesia issued Indonesia's e-commerce road map through Presidential Regulation No. 74 of 2017 on E-Commerce Road Map for the Year of 2017-2019 (the "E-Commerce Road Map"). There are eight issues described in the regulation concerning funding, taxation, consumer protection, education and human resources, communications infrastructure, logistics, cyber security, and the establishment of road map managers. Chairman of the E-Commerce Association of Indonesia (idEA) Aulia E. Marinto in a seminar held by the Coordinating Ministry for Economic Affairs Republic of Indonesia on August 14th, 2017 is optimistic that Indonesia's digital economy has high potential, rapid growth, and strategic position. But so far has not been maximally explored. Therefore, synchronization of all stakeholders is required to place Indonesia as the largest digital economy in Southeast Asia by 2020 [18]. As a first step, the Government of Indonesia will collect transaction value data from the providers of online business marketing pages. The collected

data can be used by the government in formulating economic policy and provide an insight for e-commerce actors to read the latest market trends.

However, there is one thing that needs to be watchful by the government related to big data utilization in the economic sector, that is the possibility of theft or hacking of data possess by Indonesian citizen (WNI). Google's "keyword" search engine for example able to perform analytics keywords as per the corporation's wishes. Big data algorithm system is quite possible to be utilized by other state intelligence agencies. Therefore, in big data utilization, the government must establish a law concerning data traffic in order to safeguard the sovereignty of Indonesian citizen and consumer data.

IV. CONCLUSION

Technological advances, especially the digital sector, have changed the face of today's economy. The phenomenon of online shopping and higher growth in consumption levels for leisure activities have become part of the mass culture in the digital age. Indonesia's vast population is a valuable asset which is not possessed by all other nations to create a potential market for online businesses, and businesses at the level of leisure activities consumption.

Related to the big data utilization, the government needs to maximize it to support economic growth. As an adaptive step, the government's plan to collect transaction value data from the providers of online business marketing pages is considered appropriate. The data collected will be very strategic for the formulation of economic policies and the development of SMEs throughout Indonesia. The government also needs to build infrastructure that encourages connection and efficiency of market access, as well as be a solution to streamline transactions in remote areas. However, the government also needs to undertake a strategic review and take steps to anticipate all kinds of losses that may arise from big data utilization.

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