

# Role of Young Entrepreneurs in Minimizing Obstacles in the Technology 4.0 Era

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**Abstract**—Industry 4.0’s fourth industrial revolution has greatly influenced the business world, including small entrepreneurs (SMEs). In the millennial era, which is fast, professional and timely, Industry 4.0 did not have a significant impact on improving business results for conventional SMEs. Therefore, young SMEs must understand the obstacles that affect their business objectives and provide the human resources (HR) necessary to meet the Industry 4.0 criteria. This situation has triggered an interesting phenomenon regarding how Young Entrepreneurs (YE) grow their businesses without lagging behind the rapid technological advances. This study focuses on two main issues. First, can young entrepreneurs face the Technology 4.0 Era? Second, through the development of HR, can YE strengthen their preparedness for the Technology 4.0 Era? Therefore, this paper aims to achieve two objective studies: (1) to form a conceptual framework to encourage YE to understand the intent of Industry 4.0 and (2) to recognize the concept of Industry 4.0 and to forge a community of other SMEs to face the Technology 4.0 Era. This study’s literature review shows that the obstacles YE face force them to optimize the latest social media and media technologies to meet the Industry 4.0 challenges. This paper presents the barriers that YE must anticipate in the Technology 4.0 Era, such as the concepts and characteristics of selling, services, and payments that utilize 4.0 technology. The paper’s methodology uses transmedia to frame a marketing strategy. The identified obstacles must be overcome to allow YE to interact with others without being limited to geographical locations. The study’s implications will help increase the awareness of YE regarding the importance of facing

the Technology 4.0 Era, helping the program support reliable SMEs, as determined by the Indonesian government.

**Keywords**—millennial; obstacle; SMEs; technology era 4.0; young entrepreneurs

## I. INTRODUCTION

The impact of globalisation has caused all business sectors to be creative and innovative in increasing their growth through market expansion [1]. Media framing and information technology have influenced the current economic, political and social developments [2,3]. The increasing trend of social media users (see Table 1) is a new force in optimising simultaneous communication, quickly conveying information to a broad and heterogeneous audience [4]. Social media is also a challenge for today’s younger generation. Therefore, competitive and modern markets facing the Technology 4.0 Era must pay attention to supply chain mismatches (SCM) that are influenced by cultural diversity, sustainable economic performance and sustainable environmental performance, and they must also understand the developing business processes of customer integration, supplier integration and technology integration [5,6]. Although there is extensive research concerning the development of SMEs and their behaviour (both from the consumer and seller side), continuous studies are needed due to the rapidly changing environment.

TABLE I. TOP 25 COUNTRIES, RANKED BY INTERNET USERS (IN MILLIONS), 2013-2018


























No	Country	2013	2014	2015	2016	2017	2018
1	China 	620.7	643.6	669.8	700.1	736.2	777.0
2	US 	246.0	252.9	259.3	264.9	269.7	247.1
3	India 	167.2	215.6	252.3	252.3	313.8	346.3
4	Brazil 	99.2	107.7	113.7	113.7	123.3	125.9
5	Japan 	100.0	102.1	103.6	103.6	105.0	105.4
6	Indonesia 	72.8	83.7	83.7	93.4	112.6	123.0
7	Russia 	77.5	82.9	82.9	87.3	94.3	96.6
8	Germany 	59.5	61.6	61.6	62.2	62.7	62.7
9	Mexico 	53.1	59.4	59.4	65.1	75.7	80.4
10	Nigeria 	51.8	57.7	57.7	63.2	76.2	84.3
11	UK 	48.8	50.1	50.1	51.3	53.4	54.3
12	France 	48.8	49.7	49.7	50.5	51.9	52.5
13	Philippines 	42.3	48.0	48.0	53.7	64.5	69.3

Table 1. Cont.

14	Turkey		36.6	41.0	44.7	47.7	50.7	53.5
15	Vietnam		36.6	40.5	44.4	48.2	52.1	55.8
16	South Korea		40.1	40.4	40.6	40.7	40.9	41.0
17	Egypt		34.1	36.0	38.3	40.9	43.9	47.4
18	Italy		34.5	35.8	36.2	37.2	37.5	37.7
19	Spain		30.5	31.6	32.3	33.0	33.5	33.9
20	Canada		27.7	28.3	28.8	29.4	29.9	30.4
21	Argentina		25.0	27.1	29.0	29.8	30.5	31.1
22	Colombia		24.2	26.5	28.6	29.8	30.5	31.3
23	Thailand		22.7	24.3	26.0	27.6	29.1	30.6
24	Poland		22.6	22.9	23.3	23.7	24.0	24.3
25	South Africa		20.1	22.7	25.0	27.2	29.2	30.9
Worldwide			2,692.9	2,892.7	3,072.6	3,246.3	3,419.9	3,600.2

Source: e-marketer.com (2018).

As a developing country (see Table 1), Indonesia has many emerging YE, and the seven most influential young people in the Republic of Indonesia were recently named [7]. Their success cannot be separated from an understanding of social initiatives, and the Indonesian government must be concerned with supporting YE to face the Technology 4.0 Era. Therefore, the government must embrace YE in changing the paradigm of SMEs, which is currently still conventional. Although conventional SMEs have used a variety of textual information, images, videos and news links in creating marketing strategies, the tips for young entrepreneurs must be socialised [8].

The government is aware of the need to prepare suitable HR for the 4.0 industrial revolution. Therefore, YE, as a millennial generation, are an appropriate partner for the government in changing the behaviours of the current conventional SMEs. Government programmes can support YE to foster other SMEs to meet the challenges of Technology 4.0. One method is to provide the actors within conventional SMEs a comprehensive meaning of Technology 4.0. Several researchers have stated the concepts of 5W + H [9,10] and Penta Helix [11,12] can facilitate socialisation and marketing strategies. Therefore, this research is important because YE play a role in facing the Technology 4.0 Era, and effective action is needed for developing the success of other SMEs [13]. The problem is determining whether YE and human resources in Indonesia understand the Technology 4.0 Era. Therefore, this paper has two main parts: (1) determining various conceptual forms to encourage more YE to quickly embrace technology and (2) encouraging YE to recognise that understanding the Technology 4.0 Era can help advance the business world.

## II. LITERATURE REVIEW

### A. The YE SMEs' Millennial Motivation for Unifying Conventional SMEs

Behaviour theories generally refer to the importance of intrinsic and extrinsic factors and the ethics that influence consumer behaviour [14,15]. Intrinsic motivation comes from within, while extrinsic motivation comes from outside the self. Rekart and Doktoralina stated that both intrinsic and extrinsic variables influence consumer acceptance and that intrinsic motivation factors are more influential than extrinsic motivation factors [16]. However, extrinsic motivation can

influence intrinsic motivation if extrinsic motivation dominates itself (in adaptability) and becomes a buffer for each individual. Rezvani et al. stated users can assess intrinsic features through their experiences using products; however, they agree that extrinsic factors are more likely to influence products' consumer ratings [17]. Gonçalves stated that intrinsic and extrinsic features obtain information about a product's quality and also have a significant influence [18]. A product's colour and shape are the most important elements in the marketing strategy and are external features that consumers use as a signal of the product's quality.

Most researchers relate intrinsic and extrinsic factors to various dimensions. For example, Khan and Azam and Mohd Yusof, Bahari and Adnan stated intrinsic factors are related to religiosity, culture, benefits, preferential use and quality, while extrinsic factors are related to government policies, reputation and recommendations, product features and services, convenience and marketing and promotion [19,20]. Various works have examined these factors, such as Bakhshi and Johan, Dali, Suki and Hafit, who emphasised the return dimension of benefits, and Moeuf, Pellerin, Lamouri, Tamayo-Giraldo and Barbaray, who stressed preferential use and consideration of religiosity [21-23].

Factors of religiosity and culture are the main problems that consumers often consider when shopping [2,24,25]. Therefore, YE must understand these obstacles to effectively market their products to consumers. In general, the obstacles that occur in Indonesia concern capital and the latest technological readiness.

### B. Perception of Culture and SME Restaurants/Cafés in the View of the Millennial Generation

The factors motivating self-employment are systematically intertwined with, and embedded in, both age and culture [26]. Age is one of the most important determinants of entrepreneurship and of individual career decision-making and entrepreneurial work [27-30]. The Technological Era 4.0, in macro terms, has changed the mind-set that entrepreneurship is a career choice for a broader spectrum of adult populations. However, the demographic (the number of the young workforce) will increase [31-34]. As a result, the pool of potential business groups will continue to grow [35]. That is why the Indonesian government considers the promotion of

SMEs and culture a useful tool for ‘fighting’ youth unemployment and a driving force in the nation’s economic growth [26].

The cultural dimension for a business includes risk attitudes, market orientation and important network trends [36]. Therefore, the inherent strength of the Indonesian East culture, which is known to be friendly, polite, resilient and patient, should be the main advantage in expanding potential SMEs. The government has established the target of increasing the number of SMEs by 6-7%. To achieve this goal, information technology must be optimised to create a good promotion and communication system. Not adapting to changing times will waste the opportunity. Thus, various management skills over the dimensions of culture SMEs must have adaptability [36–38].

Differences in business behaviour, including time, market presence and modes, can be associated with cultural characteristics and can be more promising based on opportunities. However, the individual must choose (from normative and regulative aspects of the institution), regulate (interactions between the two) and interpret the stimulus (interaction between normative and cognitive aspects of the institution). Thus, the individual has the opportunity to mediate the impact of the institution’s normative aspects on the decision [39,40]. Despite the limitations of cross-sectional data, the existing literature shows that the individual factors that motivate entrepreneurship are systematically related to, and embedded in, age and culture [26].

C. GAP Analysis

Forbes magazine named the seven most influential millennial entrepreneurs in Indonesia [7]. In general, they have all used the power of information technology (digital computers, online orders, online transactions and fast service) in shaping their marketing and business interests. Furthermore, YE typically innovate business development by using robotic metrics, such as social media followers, likes or dislikes and hashtags. Even if users state they do not like something, sending the message with the designed hashtag will still be influential in the future. Therefore, this analysis, which distinguishes the study of Industry 4.0 (Economics and Psychology), minimises the obstacles that will occur, while still paying attention to culture and local wisdom.

III. DISCUSSION

Discussing the values of one’s strategic thinking does not always result in collaboration [41]. Considering the synergy of various tasks begins with understanding the strengths and weaknesses related to personal abilities, bureaucracy and coordination [42]. Industry 4.0 introduces new possibilities that can disrupt the traditional approach to production planning and control [23]. Therefore, the first step, besides studying the Analytical Hierarchy Process (AHP) made by Saaty, is learning supply chain management strategy (SCM) to gain the technical knowledge to face Industry 4.0 [23,43,44].

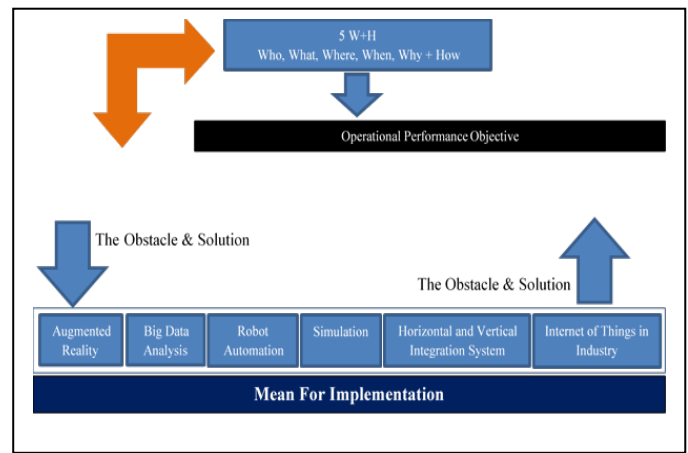


Fig. 1. Analytical framework for implementing the role of young entrepreneurs.

In Industry 4.0, the process control system is integrated [45], which influences performance. This, of course, will have a low-cost impact with a fixed goal achievement. However, developing managerial capacity requires extensive and more sophisticated resources [46]. In addition, in YE SMEs in Indonesia, it has been shown that the Industry 4.0 initiative can be implemented through various technology groups, such as internet objects, big data or cloud computing. Thus, there is a close relationship between the target and the technical resources needed to achieve it. However, culture/local wisdom in Indonesia can be an intervening variable and influence the YE role in implementing the programme.

This is important because, even though people are aware of Industry 4.0, in reality, there are still many conventional SMEs. Therefore, YE can play a role as a government partner in accelerating the human resource programme for Industry 4.0. The number of technology users (social media) can be used as a force in minimising the obstacles that will occur. Of course, in their socialisation, YE must pay attention to local wisdom. Therefore, prioritising 5W + 1H can be used as a dissemination method.

The second step is to map the Operational Performance Objective [47,48]. However, local wisdom and culture indicators must be added because Indonesia is thick with ancestral culture. Thus, social media can be a concise and interesting method. Therefore, in the third step, aside from mapping barriers, YE must also map solutions to the problems that will be faced through a local cultural approach, including the linkages between security systems for all integrated systems.

IV. CONCLUSION

This paper formed a conceptual framework to encourage YE to understand the intent of Industry 4.0. While many conventional YE SMEs still exist in Indonesia, they have slowly adopted the concept of Industry 4.0 through social media in preparation for the Technology 4.0 Era. The government must support the dissemination of the Industry 4.0 concept to other SME communities by making YE SMEs a

partner in each of its socialization programmes. This research can also contribute to the study of computer science disciplines, the existence of several social media that have not been detected publicly when presenting metrics and supply chain management. Empirically, this model can be tested in field studies that examine the sociological aspects of transmedia use to analyze in depth the performance, understanding and involvement of different SMEs. The role of YE in the Technology 4.0 Era must be concise, consistent and easy to understand. Innovative marketing efforts must be adapted to the local culture. This study contributes to promoting the delivery of knowledge by utilizing technology that can be tested in most developing countries. The research implies that the government is obliged to unite the vision and collaboration between relevant ministries by including YE SMEs who have successfully run entrepreneurship and who have received awards both internationally and locally/regionally.

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