

Industry 4.0 And The Sharing Economy: Implications Of Substandard Labor In Vietnam

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Abstract

The 4th Industrial Revolution is a step forward in the application of breakthrough advances in science and technology, especially in the digital field, into the production process in various fields and social life. Thinking of the sharing economy is permeating the businesses of the economy as more and more businesses move towards better use of society's excessive resources. The case of such businesses creates new sources of labor with many substandard characteristics. This study synthesizes, analyzes and observes the cases of Uber, Grab and Airbnb in Vietnam to make recommendations to state management agencies and those businesses themselves. substandard labor problem. Among the proposed solutions, the creation of a legal framework related to the sharing economy, the application of professional standards regardless of the type of business, and the consideration of employee training as an expression of sustainable social responsibility. The sustainability of the business is the main point that is worth paying attention to.

Keywords

Industry 4.0; Sharing Economy; Substandard Labor; Vietnam

Introduction

Background of the research

In Vietnam, the accommodation rental service for Airbnb tourists has developed strongly and created great competitive pressure on the traditional hotel system when there are about 6,500

accommodation establishments in a variety of places, participating in many different market segments (Manh Cuong, 2017). Besides, traditional taxi companies in big cities like Hanoi or Ho Chi Minh City also face stiff competition from the sudden increase in the number of contracted taxis, with about 50,000 car owners of Uber and Grab (H.Anh, 2017). What is interesting here is that new business forms, based on the principle of sharing society's idle resources with the application of electronic management system, have not been clearly defined in the frameworks of the law and other related legislation.

Therefore, in addition to the issues of legal entity, business lines, tax obligations to the state and standards on human resources and technical standards in practice for all types of businesses, this new content has not been managed thoroughly. This is an issue that needs to be researched and clarified for policy makers and business administrators in Vietnam.

The first industrial revolution (Industry 1.0) used the energy of steam to run engines to mechanize human production. The Industrial Revolution 2.0 used internal combustion engines and electric machinery to serve the mass production needs of the economy. Industrial Revolution 3.0 moved from mass production to product customization flexibly to meet consumer needs through the application of automated information technology systems (Raphael Kaplinsky and Charles Cooper, 2005).

According to the definition of Professor Klaus Schwab (2016), the President and Founder of the World Economic Forum, Industry 4.0 involves the integrated use of digital technology with breakthroughs in many areas such as artificial intelligence, robotics, IoT, self-driving vehicles, 3D printing, nanotechnology, biotechnology, materials science, energy storage and quantum computing technology to change the way people live, make things, do business and consume products of the economy. This concept is also put forward by many organizations, businesses and scholars around the world from their own perspective. One of the world's leading consulting firms, McKinsey, believes that Industry 4.0 is the digitization of production with sensors embedded in almost every component of a product, production equipment, cyber-physical production systems (CPS) and the ability to analyze all data with compatible content (McKinsey Digital, 2015). On the other hand, Industry 4.0 is said to have been creating profound changes in the human production process by the convergence of the digital world and the ordinary physical world (Eva Paunova, 2016). Thus, we can understand Industry 4.0 as a far-reaching revolution in the use of advances in science and technology, especially digital, in order to change the human production process in many fields of the world. life. This is a revolution that moves very quickly, so its impact on the way people manage production and business activities and manage all fields in economy, politics and society that are very significant to be focused on in researching work.

In the world, there are many views related to the characteristics of Industry 4.0. However, the authors find that this revolution is largely manifested by the application of advances in science and technology. These contents often relate to 9 topics that the community often mentions about in Industry 4.0 (Markus Lorenz et al., 2015). Specifically, they are:

- Big data analysis: big data sources gathered in the production and business process from many different sources after being analyzed by superior processors will provide a basis for business decision making process.
- Autonomous robots (robotics): robots that were previously used to handle complex tasks in production will be upgraded to have higher usefulness through independence of action and flexibility in handling situations. situations and highly interactive in the working environment.
- Simulation: using real-time data to reflect the physical world in a virtual model (including machines, products and people) to support testing and optimization, virtualizing the operation of machines in virtual space before proceeding to production in real space.
- System integration: functional departments in enterprises, enterprises and countries become more connected in a highly integrated and compatible network to create operational value chains, being automatic and efficient like never before.
- Internet of things: built through sensor chips implanted or attached to objects in the physical world to create an unlimited subject connection between inanimate objects and living things, and to collect huge amounts of data through the Internet.
- Digital security (cybersecurity): the connection of things and integration of technology puts the production and business data systems of enterprises at more risks of being compromised than before, making network management methods, fraud detection and authentication to change with more advanced technological applications, notably biometric technologies.
- Cloud computing: provides the ability to centralize data and virtualize the data storage space of the enterprise through the use of a technical platform (Platform as a Service - PaaS), or technical infrastructure (Infrastructure as a Service - IaaS) of suppliers, which increases processing speed, saves costs and is safer in the execution of production and business tasks.
- Additive manufacturing: Featured with 3D printing technology to imitate existing models to manufacture products, while similar materials are used for highly personalized production processes. This saves execution time as well as input fuel.
- Augmented reality: combining information technology systems to clarify the physical world, not to replace the physical world as in the virtual reality; This reality enhances the interaction between people with objects and with their surroundings.

Vietnam context

Businesses, based on the principle of sharing resources, are thriving in many areas of the global economy such as transportation, travel services, catering, beauty, entertainment and even including

other family services (Desirée van Welsum, 2016). The development trend of these enterprises is further witnessed through the value of investment capital flows, annual revenue and market capitalization of enterprises. In which, the top 5 brands operating in the field of ride sharing (Uber, Lyft, Ola, Grab, Didi Chuxing) have a market capitalization of about 120 billion USD in 2017 and have been attracted about \$25 billion in private investment in its start-ups between 2010 and 2017 (Rohit Kulkarni et. al., 2017).

In the past few years, businesses like Airbnb (hotel accommodation) or Uber, Grab (transportation e-solutions) have made great strides in revenue, scope of activities and become prominent in the community of startups in Vietnam. With a workforce with low technical and professional qualifications (about 41% lack of skills and 49% have moderate labor skills) (Ngo Thi Ai Van and Le Thi Thanh Binh, 2017), it is very likely that Vietnam's labor force serving the above-mentioned service industries has not been trained. Meanwhile, each profession always has standards that need to be adhered to and these are usually only available when workers are well-trained. Therefore, the service can still be provided by these workers but will not guarantee the consistency and stability in quality for the customers. The problem being raised is that each profession needs to have certain professional certificates so that workers can practice professionally, creating common foundations and standards in society.

Literature Review

The influence of Industry 4.0 on businesses and the management of the State

Industry 4.0 with the above diverse and disruptive characteristics brings businesses and governments of countries certain pressures in addition to the unprecedented opportunities it creates for economies. The basic concepts associated with this industry such as smart cities, smart factories, smart manufacturing, combining virtual reality, smart products, new distribution and consumption systems, and smart homes. All organizations are offering many development opportunities and new business orientations for businesses as well as new management methods of the state government at all levels. However, the pressures to change from the old operating model is something we need to be concerned about for both businesses and the state because it determines the adaptation to the inevitable effects of the revolution. from different levels of management in the economy. Those effects can be briefly analyzed as follows:

For enterprises

First and foremost, business model innovation is the thing that enterprises must ponder when the old value chain has changed in many stages such as information connection, production, and product supply. Besides having to establish partnerships with new businesses, even with those that used to be competitors in the market, businesses also have to invest a large budget in equipping machinery systems, new software for production and business and additional training for employees.

Second, enhancing skills and improving qualifications for employees to help them increase labor productivity, use new and modern equipment systems, maintain competitiveness in order to retain their jobs are a must. The trend of using more robots for the production and business processes is something that businesses need to pay attention to.

Third, enterprises must adapt by focusing on solving specific problems related to the production and business process such as minimizing input materials, enhancing production output efficiency, and minimizing production costs. Optimizing assets' usage, conducting good sales and distributing to reduce inventory, improving product quality, performing well in market forecasting and speeding up the process of meeting market needs with new products in the context of the 4.0 technology platforms, are all that we have analyzed above. For example, with 3D printing technology, businesses can bring the product of their ideas to commercialization on the market faster to seize opportunities before their competitors.

For the state government

First, states must accumulate for themselves new technological powers to better control social, economic and political activities in the context of the convergence of the biological, physical, and digital world. Each citizen should be made capable of communicating, networking, and even preventing surveillance by the authorities. It is the fact that makes legislators and executives cautious when making management decisions at different levels of government in order to create the necessary stability for the economic and social development of the country.

Second, the state management system, besides adapting to change, needs to be kept transparent and efficient. This requires countries to reorganize their operating mechanism in a more compact manner, but with good working capacity and openness with their policy decisions.

Third, the decision-making process of policymaking that was consistent with previous industrial revolutions has been lagging behind the pace of changes in the technological world. Therefore, state governments need to make legal provisions to promote policy making and implementation, especially with specific policy mechanisms for cases arising that are not under their control of the previous legal system.

Substandard labor and the sharing economy

Substandard labor

Countries around the world often set professional standards for workers who want to practice. Those standards are reflected in the vocational certificates that workers have through training (Costanza Biavaschi et al., 2013). In particular, professions related to providing services to the market are always jobs that require consistency and high standards when mistakes in service will be very difficult to be corrected and even turn out worse. This, in turn, can cause deep emotional trauma to the clients who have to undergo the services. Therefore, we can consider that the untrained workers, lacking the occupational skills to be able to work most professionally with the

best performance in a certain field of services, are substandard workers.

Sharing economy

The economies of today's countries are gradually being changed with impacts from social, economic and technical perspectives (Katie Finley, 2013). The society of countries around the world changes in a relatively similar direction when the number of young people using the Internet and social networks to connect with the community increases. Meanwhile, the more developed the economy, the more risks of instability, for instance, when the economic crisis occurs. It is, in such circumstances, when the development of technology provides the foundation for the connection and sharing of information and society's excess resources with each other, helping the classes of people to use new technology dynamically. People, therefore, can earn extra income whenever they want, to prepare for the economic ups and downs that lie ahead. At that time, the sharing economy and businesses operating on the concept of giving customers access to underutilized resources become a topic of researches. The term "sharing economy" has been coined and is also sometimes referred to as the collaborative economy, on-demand economy, or peer-to-peer economy (Georgios Petropoulos, 2017).

Thus, the sharing economy can be understood as a place that promotes peer-to-peer transactions of technology users to be able to take advantages of redundant resources in society to create benefits for the parties involved (Nguyen Thi Thuy Dung and Tran Xuan Quan, 2017). With this view, businesses apply new technologies in areas such as short-term venue rental, personal property rental, vehicle rental, service contract for housework or work expertise and even financial services between individuals (Vanessa Katz, 2015).

Substandard labor in the sharing economy

The qualification of labor is not regulated by the relevant legal regulations because the business model based on P2P transactions is receiving little management concern and is also new to most countries due to fast progresses of technology advancement. The employees are less interested in training because enterprises are afraid that the investment in the training process will be ineffective when the commitment to work as well as the binding between the enterprise and the employees is not high. These lead to very low barriers to both entry and exit from the labor market. Therefore, the risk of substandard workers with the businesses that are providing services under the sharing economy will be very high.

The situation of substandard labor will affect the provision of services by businesses in the business groups operating under the sharing economy model. In the field of hotel accommodation, the risk of customers' being treated unfriendly, being misguided and wrongly explained about the culture and people at the destination, eating and drinking items that lack hygienic standards or are not so rare. In the field of passenger transport, the risks of passengers' being mistreated, coerced or abused, and losing their belongings and possessions when traveling with drivers with little control and commitment from the firms can happen. In the field of the idle labor market, the use of

unskilled workers, with no ties to an organization and unverified qualifications to do some jobs can create imperfection of the results or even wrongdoings, damages to the work that cannot be remedied nor reimbursed. In the field of financial lending, the risks lie with both the lender and the borrower when the borrower may not fulfill his/her commitment when receiving money or the lender has non-standard ways of calculating interests by applying illegal payment coercion measures against borrowers.

The above analysis shows that the laborers in the sharing economy are often not professional providers of services while their jobs are quite short-term and seasonal. This may be a consequence of the actual situation when these workers have not been strictly managed by the legal provisions on working conditions and the lack of interests in training for this object of the enterprises because of such low cohesion (Juliet B. Schor and William Attwood-Charles, 2017).

Methodology

The study has been conducted in the directions of qualitative analyses. In which, data is collected based on a combination of observation methods and the collection and analysis of relevant documents (Robert K. Yin, 2016), related to issues of advanced technology and substandard workers in the sharing economy in Vietnam. Observation and data collection will be conducted for the period from 2017 to 2021 based on the key policy milestone from Directive 16 (2017) of the Prime Minister of Vietnam on enhancing efficiency and smooth access to the Fourth Industrial Revolution nationwide. Observations will be conducted to help evaluate a digital transformation process associated with businesses in the sharing economy and the government offices. In addition, the data will be enriched from the process of collecting and analyzing published documents, reports and researches related to the situation of digital transformation as well as the use of substandard workers, or anything that belong to these groups. According to John W. Creswell and Cheryl N. Poth (2018), a suitable approach for research in this way is narrative description and case study analysis of one or more cases, concerning many businesses that are providing goods and services for the sharing economy.

Findings and Discussion

Situation of substandard labor in some enterprises of the sharing economy in Vietnam

Airbnb

According to the World Tourism Organization, Vietnam is rated as one of the top destinations for international visitors in 2017 by the global tourism industry (UNWTO, 2017). Therefore, the market opportunity for Airbnb in Vietnam is huge. In Vietnam, Airbnb provides a service that connects idle property owners to create Airbnb Homes for travelers to rent rooms or apartments on their journey, providing more culturally real experiences for Vietnamese people and other foreign visitors (aka. Airbnb Experiences). These services of Airbnb require a large number of workers trained in tourism to be able to properly serve and guide guests, ensuring both security

and political requirements because in addition to hosting staying, the visitors are also introduced and experienced the localities. In 2017, the growth rate of Airbnb's rental apartments in Vietnam was 181%, the number of international visitors increased by 154%, reaching the total revenue for idle real estate about 16.3 million USD (of which, only 3% is service fee for Airbnb) (Airbnb, 2017). Thus, we can see that the large market capacity of Airbnb in Vietnam is requiring this business to find more accommodation facilities for an increasing number of international visitors. This also means that more sub-standard workers will be used to provide more services to guests because of the shortage of properly trained workers who own accommodation properties.

Meanwhile, to become a registered accommodation facility with Airbnb (Airbnb host), the regulations on labor standards and labor training are not set forth when we visit the website of the business for the market. In Southeast Asia, we only see Airbnb reminding accommodation establishments to send messages to welcome guests, clean up the space used by guests, and wash blankets and towels and renew toilet paper. These are the basic contents of the tourism industry, but compared to the standards and codes of practice, the contents that Airbnb has guided are not really detailed and standardized for the implementation of the travel agencies for the accommodation offered by this business. The incomplete and unclear regulations of Airbnb lead to a situation where standards for reception, room service, customer service, responsible travel, security management and other standards are not met. Basic and general standards of the National Tourism Professional Skills Standards that have been set by the Ministry of Labour, Invalids and Social Affairs in the spirit of Circular No. 56/2015/TT-BLDTBXH will hardly be guaranteed.

As such, Airbnb's employees at most of the accommodation establishments in Vietnam are substandard workers when it comes to industry standards in the accommodation, hotel and tourism sectors. An untrained workforce that continues to grow with travelers' increased demand for Airbnb's current operating model will become a cost burden for the business itself even if they want to change policy to train employees for the improvements of service quality among the competition.

Uber and Grab

The representatives of an e-commerce platform based on ride-sharing in Vietnam over the past 5 years are Uber, Grab and Easytaxi. The 2014 assessment by the Department of E-commerce and Information Technology - Ministry of Industry and Trade shows that Grabtaxi's market share of ride-sharing applications is at 62%, followed by Uber with 21% and Easytaxi with 17% during the first and subsequent years when these firms enter the market (VECITA, 2014). Market share proves the leadership of Grab (Singaporean enterprise) in terms of market making in Southeast Asian countries in general and Vietnam in particular. Before the advent of these applications, traditional taxi companies such as Vinasun or Mai Linh were dominating the transportation market in major cities of the country. However, because of the convenience of ordering a car, Grab and Uber have gradually taken over a large segment of the individual customer transportation market from traditional taxi businesses. Moreover, businesses following this sharing economy model are

creating a lot of pressure on market share for traditional taxi businesses when continuously offering competitive prices and implementing many deep price promotion activities. Partly because these new car-ordering firms are in the sandbox testing period for the State's management policy while their operating model has not yet belonged to a specific business model specified in the legal documents. previous law. In addition, Uber and Grab are both deploying transportation services by motorbikes to take advantage of the traveling habits of Vietnamese people and a large surplus of motorbikes in Vietnamese society. This is the thing that other traditional taxi companies have not done previously. Passenger transport by motorbike is a familiar business segment of the Vietnamese market because of the simplicity and convenience of this type of transportation, so the number of informal business people choosing to operate in the industry is very small. Since the advent of ride-hailing companies, the attractiveness of the market has caused many vehicle owners to join the company and the pressure of convenience has also motivated individuals who were previously in informal transport businesses to operate their own businesses for the sakes of Uber and Grab (currently, Grab for all).

As such, the workforce of these two big brands now includes taxi drivers, car drivers who are free on time and people who deliver by motorbike. With a large population after the Philippines (more than 100 million people) and Indonesia (about 260 million people), Vietnam is a large market in terms of population size (more than 96 million people) for transportation service companies' development whether online or in a traditional working environment (Arya Sen et al., 2016). In addition, the research by Boston Consulting Group also shows that the presence of applications such as Uber and Grab has reduced the number of personal vehicles in Ho Chi Minh City by about 70% (3.5 million vehicles) and about 66% in Hanoi city (2.4 million vehicles) in the period 2014 - 2017 (Vincent Chin et. al., 2017). This replacement has provided an overview that helps to estimate the number of car and motorbike drivers joining the fleet of these brands in Vietnam. Most of them have not been trained in transport-related schools to be called qualified workers. This can be confirmed more clearly when we conduct the observation method for the registration of becoming a driver of Uber or Grab in the Vietnamese market on the websites of these businesses. Information about the training of employees to perform standard passenger transport services is not mentioned.

Regarding standards for business transport drivers, Item 3(c) in Article 13 of the Government's Decree No. 86/2014/ND-CP on business and conditions for transport businesses, the passenger service staff must be professionally trained accordingly to the regulations for transport and tourism operations if the vehicle is to serve tourists. Looking at this standard, we also find that most of the drivers of Uber and Grab are not really qualified to carry out even domestic passengers, not just transporting foreign tourists. There is no reason for denying the benefits that ride-sharing models are bringing to consumers in terms of price, promotion and convenience, but if maintaining substandard workers in the passenger transport industry by taxis and motorbikes like in Vietnam today, besides the existence of an incomplete and somewhat biased legal corridor, passengers themselves may have to bear the consequences of substandard services somehow.

The problems raised with the situation of Vietnam

The following issues are raised for being solved to overcome the situation of substandard labor in the sharing economy in the context of Vietnam:

First, professional standards for occupations in the sharing economy need to be established. However, the existing sets of standards also need to be expanded to include “new type” workers in these enterprises. Accordingly, standard training must be delivered through an organization that meets international and objective standards to avoid policy abuse by some interest groups. Strict sanctions should also be applied to promote compliance of businesses under the sharing economy model.

Secondly, for internal management activities, enterprises of the sharing economy should not stop at just being an intermediary connecting buyers and sellers through information technology applications, but also must focus on training human resources according to the industry's professional standards. If this can be done, services and products provided to consumers will have more stable quality. In addition, the business of the enterprise in any market will also have a stronger foothold when the enterprise really cares about a part of its social responsibility, not just the profit earned.

Third, for customers, the issue of protecting their legitimate interests in economic relations under the sharing economy model is something that the State needs to pay attention to in planning and implementing its policies. For this type of business. In addition, the business side needs to consider protecting the interests of customers as a priority in its market strategy to demonstrate the responsibility and reputation of the business. At the same time, this work of the enterprise will help create an internal mechanism to promote the workers to provide services in a standardized manner, without harming the interests of the service users.

Fourth, although the peer-review commenting mechanism of service users has previously been seen as an alternative to standards and sanctions (Desirée van Welsum, 2016), it also does not necessarily help to avoid substandard workers and customers being mentally hurt or even materially damaged through the first few times of using the service. Thus, the problem of interlacing between management according to hard regulations and promoting standards enforcement through community opinion should be considered in both policy directions as well as corporate governance strategies.

Discussing solutions with state management and corporate governance for substandard workers in the sharing economy of Vietnam

From the point of view of the policy of a developed country like Finland, the process of training professional certificates should ensure that the trained people that are equipped with professional working skills, adequate professional knowledge and skills, strengthening the working capacity of such workers (FNBE, 2010). Accordingly, we can say that the strength of a well-trained and

qualified labor market is knowledge, skills and good working capacity. Therefore, substandard workers will have heterogeneous characteristics in these three standard branches. This will lead to consequences in a labor market with many substandard workers such as difficulties in management, in imposing sanctions when violations occur, and in inconsistent service provision. In most of all circumstances, the attitudes and professional ethics of employees are not trained accordingly to the general standards of the profession. The followings are what the State and businesses need to pay attention to:

For state management

Firstly, the promulgation of a number of legal documents specifically for the sharing economy and businesses operating under this model must be carried out immediately to strengthen the management and maintain a fair competitive environment for the sharing economy, types of businesses and ensure the personal development of workers serving these groups of customers in this economy.

Second, sets of professional standards for certain occupations need to be promulgated for all types of businesses and individuals involved in the process of providing products and services to consumers in a particular commercial system. As analyzed, the standards that need to be prioritized are the standards for the transport industry, hotel - accommodation - tourism, seasonal labor and lending as well as financial investment. Only then will we conduct research and provide professional standards for the next content in the development process of the sharing economy.

For corporate governance

Firstly, businesses following the sharing economy model need to pay more attention to long-term development orientations in markets by conducting immediate training for available substandard workers so that they can progress and meet standards accordingly to industry regulations. After that, effective training and testing should become mandatory for all employees when joining the working teams of the enterprise. As analyzed, this also brings about the social responsibility that the business shows to the communities.

Secondly, protecting the interests of customers must be the core value that the service provision process of these businesses needs to adhere to. That value must be demonstrated by severe financial sanctions against corporate employees who, by any mean, violate that right. This is what can be done to expect a short-term change in substandard workers before they become better trained and qualified.

Conclusions

Research on the sharing economy is a topic that attracts a lot of attention from scholars. These services are all supported by the superior delivery of electronic networks with intelligent transaction coordination and information processing to enhance service provider availability and

reduce costs. normally during the search and use of that service by the parties. The leading businesses in the world today should be mentioned such as Airbnb, HomeAway or 9Flats in the field of accommodation rental when customers can rent long-term or short-term real estate or rooms; Car2Go, EasyCar, Uber, Grab in the field of vehicle rental when the vehicle is free, Freelance or Crowdsourc in the online labor market when employers and idlers are connected, and IndieGogo or Prosper in financial lending when people with financial issues can meet people with a plethora of money without going through any professional financial intermediaries.

However, these studies are facing many limitations due to the lack of information about the activities of enterprises in this economic model and because the existence of these models is still a matter of controversy in Vietnam and many other countries in the world in a short period of time. Two things stand out for the substandard human resources problem. First of all, businesses following the sharing economy model need to better perform their social responsibilities towards the idle workers they employ when the regulations of the laws of other countries have not yet up to the ethical standards of the profession. Moreover, countries need to take timely actions in the legislative process related to the new economic model of the sharing economy to better manage issues related to labor standards as in the study.

The prospect of future research

Finally, further research can be conducted on the social impacts that sharing economy businesses have on the community or on the quantification of positive and negative effects that substandard workers of the above enterprises receive when participating in providing goods and services for new business platforms such as those mentioned above.

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