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EVALUATING THE PROSUMER CONCEPT WITHIN INDUSTRY 4.0 IN TERMS OF FOOD & BEVERAGE SECTOR

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EXTENSIVE SUMMARY

INTRODUCTION

The prosumer concept which accords with the changing technological infrastructures and Daily conditions can be considered as showing a is otropic tendency and consistence to industry 4.0 implementations that ground on the information systems. In this context, this study is based on a general literatür research and the Industry 4.0 implementations based on food & beverage sector and the interpretations of prosumers are required.

In this study ,there are the contents of Industry 4.0 implementations, characteristics and dispositons of prosumers. On this basis, this study intends to evaluate the accomodativeness, junctions of prosumers and Industry 4.0 implementations.

INDUSTRY 4.0 CONCEPT AND PROSUMERS

Usage of steam-powered mechanical facilities on production field has turn into the earth in a period of change both sectorial basis and cultural basis at the end of 18th century. This era is called as the First Industrial Revolution. At the beginning of 20th century, the World experienced the Second Industrial Revolution wave which is based on electrical and kinetical energy together with work-sharing. Then 1970's brought a change process, with automatisatıon Technologies took place among production systems and the active use of technology. That era was the Third Industrial Revolution. Nowadays, Forth Industrial Revolution made by German Government which is based on integrated and post-technology systems, also the productions based on cyber-touch systems, have become a breaking point of the 2011 in a sectoral and social sense. (Kagermann, Wahlster ve Helbig, 2013, p. 77).

According to Hermann, Pentek and Otto (2015), accepted the integrations of innovative technologies and informations systems as the main solution in terms of industrial, and also suggests a rapid, critical, participative and economical with regards to costs within an integrated system. Industry 4.0 has opened the subjects up the discussion that smart factories use auto robot technology, cloud computing, 3d writers, internet and giant databases and the question about the future of smart products in our current sectors. (DrathveHorch, 2014, p. 56).

According to the report prepared by competitive forum, TÜSİAD & Sabancı University Partnership in 2014; the food and beverage sector is considered among the pilot sectors within Industry 4.0. The Industry 4.0 is efficient on creating employment %12 and creating added value %10 in agricultural implementations. Expanding data sets of Industry 4.0 with regards to food and beverage sector, obtaining the precise analyses in terms of logistics, the systematization of selling and production, estimating the precise analyses about the marketing demands and expectations, could help to decrease the costs of unit transportation. It is believed that The Food and Beverage Sector which opens to change, has the feature of adaptation easily, will affect by the change wave of Fourth Industrial Revolution. By extension, The concept of Industry 4.0 within Food & Beverage Sector should be discussed in detail with a considerable extent. When Industrial Revolutions and the general change wave of Revolutions till Industry 4.0 are handled, the changes between the perception of production and consumption, differentiation of processes and implementations periodically, the radical changes among economy, these subjects can not be considered independently of the changes that societies experience with the impression of the era and globalization. (Güney, 2010, p. 1).

Societies become different in order to keep pace with this change when interests, wishes, needs and expectations begin to change. The prosumers live today which describe their personality in the way of they consume, (Aslan, 2012, p. 19) prefer creativity, differences, valuable implementations, motion of production than perfection. (Bozokvd., 2014, p.186). At this period when relations and interactions are highly intense (Held ve Mvgraw, 2008, p. 71-72); A marketing intellection basis customer which is based on mutual values ,has begun to reveal itself and consumers began to invest together with their customers by overcoming the obstacles (Şahin, 2016, p. 41).

Modern and future active consumer consists of the whole integration of y generation (the people born after 1980-1982) (Etlican, 2012, p. 3), according to some references born after 1988-1992 (Alan, 2011, p. 33), z generation (born after 2000) (Rainmarketing, 2015). The most distinct mutual characteristics of y and z generations are tendencies to consumption and their interests in technology/network. According to Gerhardt (2008); new generation prosumers have a strong interest in overusing technology and network. The recent studies concerning modern consumers proves the fact that they use network mostly, searching the products consistently, pays attention to comments about consumption, wonders the content of consumption, search for alternatives and they also they highly overuse the network as an important means within their consumption made on tourism. (ErözveDoğdubay, 2012, p. 133; Aslan, 2012, p. 77).

According to Moffat's (1990) definition, Prosumer concept which was derived from customer/ consumer and producer origin words(pro-ducer , con-sumer) , is regarded as exact definition for the postmodernism (Bardakçı, 2004, p. 4). This concept is mentioned significantly in Toffler's '3rd Wave' opus. In this context, 3rd wave that currently we experience is remembered as that determines the new behavioural pattern, stays away from central units, standardization, synchronization and the power that leads the money in single hand, disagrees with industry, eliminating the historical obstacle between producer and consumer(Toffler, 2008, p. 17). Along with Prosumer concept, there is also Prosumerism (Product Hacking) concept is mentioned oftenly among network environment. That concept explains that they modifies the products in order to make suitable for enjoyment and budget, and offers multiple choicing system. This kind of implementations reveals the changes of enterprises which focuses on outsourcing and also reveals the changes of previous producers who became prosumers. It has been thought that new generation consumers(prosumer) can design their own products completely, also the usage of 3d writers will be increased in the near future. In relation to that Workshop called 'Do It Yourself' was organized in Poland (2012), all attendants were subjected to a seminar and briefing about inventing their own 3d writers. (Prosumerizm, 2016). Otherwise, massivemarket chains like IKEA, fast food restaurants have become a driving force behind consumers who turned into prosumers (Güney, 2010, p. 224).

The individualization implementations in Food & Beverage Enterprises based on technology manifests itself by making innovative removals from menu and additions to menu in accordance with the customer requests(Uygur ve Küçükergin, 2013, p. 383). Also Food and Beverage Enterprises can present a proper environment for prosumers by making new regulations and flexibilities such as birthday events, illuminations, new table set ups, getting the consumer's idea about music choice, transparent kitchens, menu alternatives that enables basis weight

and waste products, special promotions, purchase on network (yemeksepeti), selection and design of product (Şahin, 2016, p. 77).

DISCUSSION AND CONCLUSION

Industry 4.0 implementations mainly express whole attempts in order to improve the indispensable producing processes by information systems and practices emerge from those. The purpose of Industry 4.0 signal is esthe integration of ergonomy, adaptation and whole partners during the business process (Endüstri 4.0a, 2016; Endüstri 4.0b, 2017).. Industry 4.0 implementations consist of 9 main structure; giant base and analyse, smart robots, simulation, vertical & horizontal integration system, network of objects, cyber security, cloud, additive production and enriched reality. The main objectives are horizontal integration between enterprises and other enterprises, also to enable vertical integration between suppliers and consumers. Accordingly, it is possible to provide cooperation and concord in this system so mistakes and costs could be minimized. This minimization is based on the massive data analysis. (Ötleş, 2016, p. 92-93).

Device, system, processing phase of products and check can become accessible with an efficient data system within the scope of cloud technology. At the same time Industry 4.0 cyber security system offers a serious protection about the threats that can be occurred by cloud technology. Otherwise, augmented reality implementations which is identified directly or indirectly with a sense environment occurred by integrating the virtual elements with the real world reality, are also take an important place within Industry 4. Industry 4.0 provides substructure about creating brainstorm between personels and others, creating the communication base, suitable and easy solutions for the products and innovative ideas. Another weighty matter is simulations about Industry 4.0. It is expected that products in the phase of design, 3d simulations of materials and production processes will become widespread by manufactory operations. In this imaginary models which is created by using real- time datas, virtual reality of the real world is created together with machines, products and people. Thanks to this ; operators have the opportunity to test the machine parameters virtually for products in production line before they make them real so the setup time of machine will be shortened and the production quality will increase. (Ötleş, 2016: p. 92).

The objects of network is also significant fact about Industry 4.0.This implementation helps more devices and bulk products to benefit from transactions linked with a standart technology without the integrated data. Other conspicuous fact is additive production. This production type creates additional production methods such as 3d prints in order to form the prototypes of them. This method will be used to produce the unique products in less numbers. Additive production also will be preffered both to decrease the stockpile level and logistic costs. (TÜSİAD Sanayi 4.0 Raporu, 2016).From this point of view, evaluating the prosumers within the scope of food&beverage sector can be summed up below:

Prosumers use technology often,well and can adapt a technology-based life easily. In this context, Industry 4.0 implementations can attract prosumers at the first stage.

Prosumers use internet actively so they give importance the consumption on network. Industry 4.0 implementations are also related to communications between objects, massive data analysis, cloud systems and high-tech infrastructure oppurtunities.

Prosumers have the impression of intensed communication life so they expect immediatly feedbacks, interest and solutions. Industry 4.0 also is advantageous for prosumers because Industry 4.0 gives importance to cloud system, massive data system, supporting the integration of vertical/horizontal, mutual creation and feedbacks.

Prosumers highly are interested in time within postmodern age. Industry 4.0 implementations focus on decreasing time within sectors, and create satisfactory result about velocity. In accordance with this purpose, Industry 4.0 jibes with prosumers.

Prosumers have tendencies to try different, innovative things as well as Industry 4.0 has the same purpose.

Industry 4.0 suggests a significant result in possible cultural shock for prosumers who searches new experiences. For example, A simulational catalog menu which demonstrate the production process of foods can introduce the whole content of food & beverage.

As an example of Industry 4.0, Food Ink Restaurant in London which serves with the help 3d writers, offers delicious and unique foods by gathering other chefs, architects, artists, designers etc. Furthermore It is not harmful for the health, that is also an attractive implementing. (Endüstri 4.0c, 2016). So with the help of 3d writers, losses will be decreased, non wasted systems will reveal for the environment-friendly prosumers. That will also bring a different experience. Hence; Industry 4.0 is a system that satisfy the prosumers together with their design, difference, wishes of experience and technology.

Industry 4.0 can donate farm machineries with sensors (the objects of internet) so the machineries could communicate with each other. This communication provides a precise knowledge about quantity of fertilizer, weather conditions, minerals and also make the work easy for producers. This implementation type aims the productivity level to reach the top level. (Endüstri 4.0e, 2016). By Industry 4.0, the heat and velocity problem of certain restaurants can be solved, products which got complaint can be recorded systematically, operating speed and tolerances can be observed, these infos can be shared simultaneously and can be recorded with cloud technology before distributing to relevant units. Hence, Industry 4.0 targets a splendid experience for prosumers.

Industry 4.0 can also provide remotal reservation system to prosumers to visit restaurants and order the meal in advance on a virtual platform. In this sense, A different experience can be created for prosumer within the scope of consumption.

Prosumers' creativity, mutual creation and tendency to technology, show similar features in comparison with Industry 4.0 implementations. We can give an example of smart robotics(first humanoid robot Pepper W). This robot is able to receive orders, get payments and offers food and beverage options. This robot presents a unique and technological experience for prosumers. (Endüstri 4.0d, 2016).

Besides, Prosumers of a community based age and a world manifestation covered with robotical systems and virtual networks constitute a different question of debate. The subjects concerning Dominant electrical systems, intense technological implementations and robotics in Food & Beverage Sector , are also disputable matters ethically