

THE GENESIS OF THE ESTABLISHMENT AND DEVELOPMENT OF THE ENTERPRISE

*Anna Góral*¹, *Piotr Wawak*², *Jan Žukovskis*³

¹*University of Natural Sciences and Humanities, Poland, E-mail address: ag86974@stud.uph.edu.pl*

²*University of Natural Sciences and Humanities, Poland, E-mail address: pw81852@stud.uph.edu.pl*

³*Prof., Vytautas Magnus University, Lithuania, Phone No. +37069816243, E-mail address: jan.zukovskis@vdu.lt*

Received 12 07 2022; Accepted 13 07 2022

Abstract

Civilization, and therefore also enterprises, have been creating and developing over thousands of years. Previous practices in the production of consumer goods have changed: from primitive tools to highly innovative production facilities and lines. The purpose of the study is to present the genesis of the establishment and development of business enterprises, which is often the basis of the production of the final product. During the study, the periods of development of business enterprises and how the methods of production of goods changed were examined. Henry Ford is examined as an example, who contributed to the prosperity of the automobile industry by developing mass production. It is known that over the years, the ways of producing goods have changed a lot. The scientific problem is to investigate how the methods of producing goods have changed and what impact this has had on the entire industry. Main research methods: analysis and synthesis of literature and documents, process modeling.

Keywords: *production, manufacture, evolution, line production, development.*

JEL Codes: *B1, M1.*

Introduction

Manufacturing companies are an indispensable part of the landscape of every country. The beginnings of man's productive activity can be traced back to prehistoric times. A simple nomadic people, after starting a sedentary lifestyle, had to learn to create simple tools for tilling the land and harvesting agricultural crops. Over time, the creation of handicrafts for personal use turned into workshops of masters creating for the needs of a given village or region. The growing demand for various types of tools along with technological progress has resulted in the creation of manufacturing. Thanks to the steam engine and electrification, the number of manufactured products increased and their quality repeatability improved. Another breakthrough came with Henry Ford and his line production model. This technique with

many electronic and computer improvements is used to this day with great success. The article below describes the various stages of the evolution of production methods and presents, on the basis of the assembly line of the FSO Polonez 1500 MR 85 car, the characteristics of the method developed by Henry Ford.

The scientific problem is to investigate how the methods of producing goods have changed and what impact this has had on the entire industry.

The purpose of the study is to present the genesis of the establishment and development of business enterprises, which is often the basis of the production of the final product.

Main research methods: analysis and synthesis of literature and documents, process modeling.

Results

The enterprise is a strategic unit operating within the economic system of each country. It is focused on the development of specific benefits by meeting the needs and expectations of other business entities and natural persons, in summary, of their clients. Running a business, as the most popularized way to create economic activity, has not been associated with the human race since its inception. This entity was born only at a certain stage of the evolution of economic life. We can, therefore, regard the enterprise as a historical product, the result of socio-cultural development (2007).

Manufacture (Latin *manus* “hand”, *manufactura* “handicraft”) - a production plant in which mass production of a complex final product is carried out by hand and is based on the division of labor: the individual stages of production are performed by employees specialized in their implementation. Manufactories are divided into dispersed - when the production takes place in several small, specialized plants under common management, and centralized - when the manufacturers are gathered in one place. This first way of organizing production is called overhead production (2008).

Factory (Latin *fabrica* “worth craftsmanship”) - an industrial plant in which production takes place with the use of machines (2018).

Civilization changes, the evolution of science and technology over the centuries are closely related to the “birth” and development of an enterprise. According to Alvin and Heidi Toffler, we can distinguish three stages in the establishment of an enterprise (1996):

- The Agrarian Age: Its beginning dates back to about eight thousand years BC, a period that dominated continuously until the first half of the eighteenth century AD. At that time, mankind began to lead a sedentary lifestyle, hence the beginning of a nice animal husbandry and the cultivation of cereals. Inventions such as bronze, iron, wheel and lever developed agriculture at that time and helped build cities and settlements.

- The Industrial Age: Its beginning is considered to be the invention of the steam engine by James Watt in the nineteen hundred and sixty-three years and the related development of industry and transport. It is also a time of a boom in the commodity-money economy. The beginning of the 1950s in the United States of America is considered to be the apogee of this era.

- Information Age: Beginning in the late 1950s in the USA. It puts the main emphasis on the recent and evolution of information technologies, the perception of knowledge as a fundamental element of innovative enterprises and the popularization of hearing as the basic subject of economic activity. Its characteristic moments are the spread of consumer electronics and the possibility of free access to the Internet.

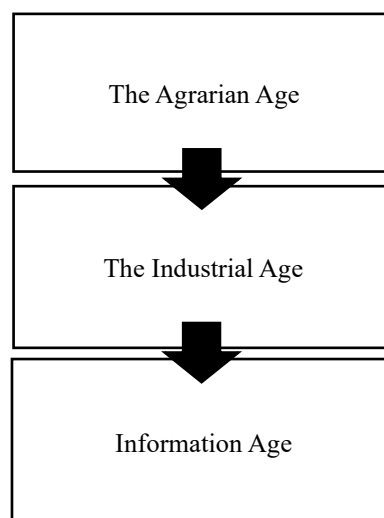


Figure 1. Epochs of enterprise revolution

The first signs of human productive activity can be found over three million years ago, as are the stone prototypes of the knife discovered in Ethiopia. We look for the next stage of technical development about eight thousand years BC at the beginning of the so-called agrarian era (2010). People giving up the nomadic lifestyle, settled in the areas of their choice. This resulted in the need to feed and create a place of refuge for his family. The cultivation of the soil and the construction of settlements required the use of various types of rough tools and simple machines. Handcrafted by our ancestors from bronze and iron, tools such as hoes and plows were used for field work, while hammers and chisels were used to build wooden, stone residential structures, as well as transport wagons and cranes, helpful in transporting and extracting minerals. In this way, they satisfied their own needs or exchanged their products on the basis of a simple trade referred to as barter (2006). Primitive methods of production and

distribution resulted in the slow development of their economy.

The beginnings of the Middle Ages were a period of popularization of craft workshops. The master, i.e. the owner of the workshop, employed journeymen and their apprentices who dealt with the production of goods. While walking along the street of a medieval town, we could come across a blacksmith's workshop (making horseshoes and shoeing horses), saddlery (making harnesses and saddles for horses), wheelers (manufacturing of wheels and carts called "wasong"), armor's workshop (making armor and weapons), cloth workshop (weaving materials, e.g. woolen cloth), cooperage (production of barrels, vats, butter churns) and many others. A characteristic feature of such establishments was belonging to a guild that determined the type and duration of work as well as payment for employees. The guild also acted as a kind of quality controllers and raw material administrators (2006).

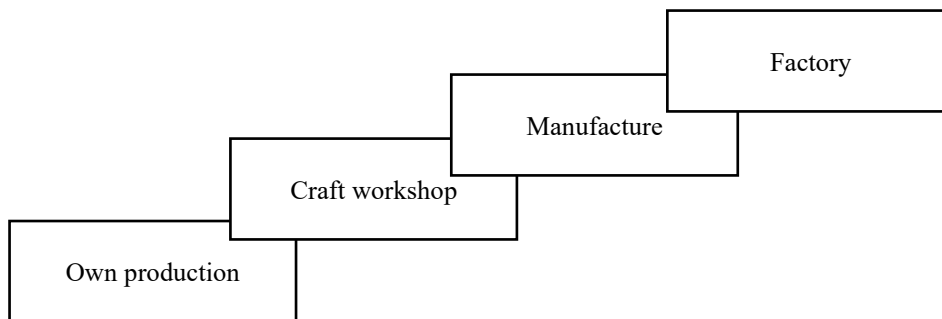


Figure 2. Evolution of production sites

The second half of the 17th century saw the collapse of the guild system, which inhibited the growth of the quantity of production due to low efficiency. New economic entities called manufactories began to emerge in Europe. The founder learned in them a certain number of craftsmen who, using simple technical facilities, under the supervision of the owner and from his raw materials, produced ready-made products. It is also the end of the agrarian age and the beginning of the industrial age.

Ford car producing factory

The end of the 17th century was a time of great changes in enterprises. The flourishing of inventiveness and the implementation of new inventions in everyday life causes the transformation of manufactories into factories. Thanks to the use of steam engines, it was possible to gradually change from manual production to machine production. The implementation of electricity is another step that allowed to improve the quality of work

and extend its time, which resulted in an increase in the production potential. Further development of technology and science resulted in new ways of organizing the work of enterprises. The next breakthrough moment in the functioning of the factories was the development and promotion by Henry Ford of the mass production, which he used to make his cars. The basis of the Ford method was the

proper coordination of work and the division of duties between the staff. Appropriate alignment of machines and work stations created technological lines. Based on the car factory, we can distinguish the following stages and processes of assembly line production (2017):

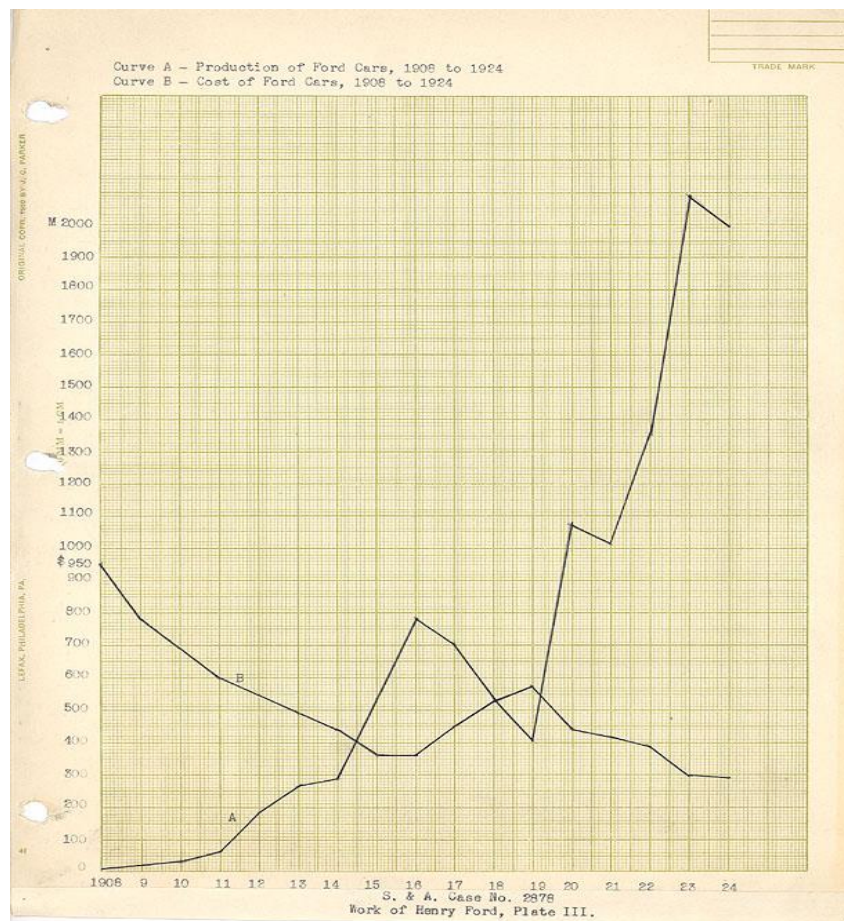


Figure 3. Engineering sub-committee report on the investigation of the work of H. Ford

*Source: (<https://www.emaze.com/@AILQQFFW>, 2022).

- Press Metal Sheet: properly cut sheet metal goes to presses embossing body elements such as the skeleton, doors and hood as well as car accessories. They are then transferred to the next stage of production to the welding shop.

-- Foundry: engine blocks, heads and components for the production of crankshafts, pistons and other engine components are cast there. The production stage is transferred to the ruts.

- Processing: products from foundries are sent to it and subjected to machining. Ready

components are transferred to the next stage of production.

- Welding of metal: the car skeleton is pre-assembled in it and the car body elements produced in the stamping plant are precisely welded.

- Car Paint: fabrications from the welding shop are delivered to it, the process of anti-corrosion protection and painting of body elements takes place there.

- Car Body Assembly: the skeleton and all body elements were placed here. The body is assembled in stages.

- Engine Assembly: parts transferred from the processing line are segregated and the engine is assembled.

- Final Assembly: finished bodies and engines are assembled, calibrated and adjusted. The finished car is transferred to the quality acceptance section.

- Quality Control: this is the last production process, in this stage the finished product is checked in terms of its performance and compliance with the data contained in the vehicle's data plate. Then the car is put to the test drive test. After eliminating the revealed defects, the car is washed and goes to the distributor.

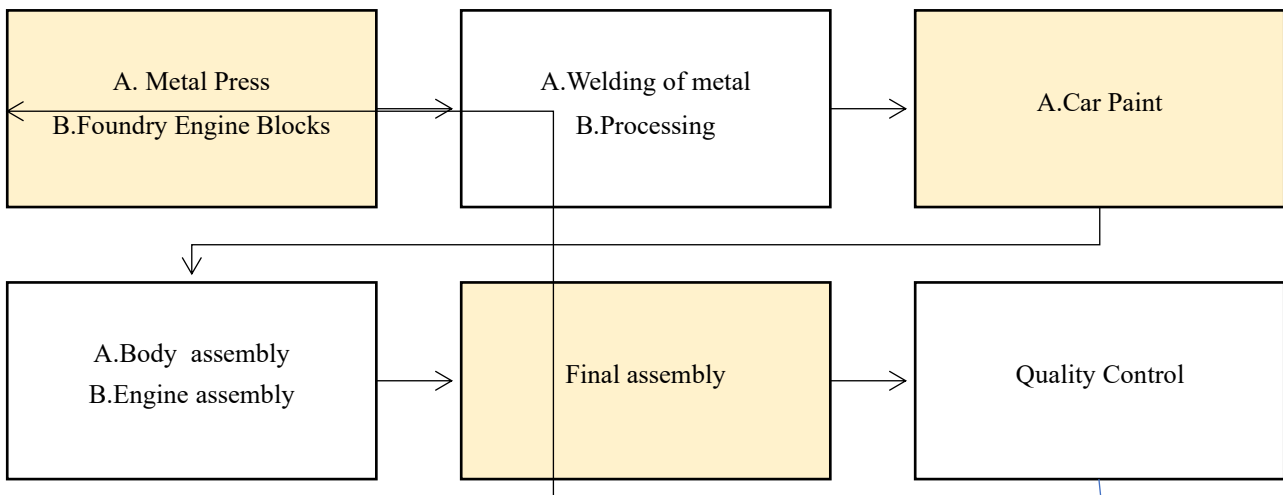


Figure 4. Passenger car production process in FSO Passenger Car Factory in Warsaw

Figure 1 shows the production processes of a passenger car factory. The letters A and B stand for the process line, A for the construction and assembly of the body, B for the construction and assembly of the engine. The line production lines for A are also distinguished: Pressing, Welding, Body Assembly lines. The final stage is the Main Assembly line, which receives components from the A and B technological lines, and the Quality Control process to which finished cars are directed.

Each production stage is followed by inspection and technical acceptance of components, which minimizes possible manufacturing defects of the final product. This method also allows for the appropriate training of employees. Creating a permanent workplace located at a specific stage of production helps to streamline and organize work. A person who knows the scope of their work learns from scratch a given activity, which allows them to improve their competences and perform tasks faster. The

method of performing a specific stage of production by one employee or their team resulted in increased efficiency and a significant reduction in costs. The versatility of H. Ford's idea resulted in mass modernization of enterprises in order to adapt them to line production. The advantages of the belt production system include high repeatability and high product quality. The Ford method made it possible for enterprises to move to high-volume mass production, which guaranteed that the market would be satisfied with specific goods. Tape-type production is used with improvements up to the present day. The dynamic increase in the level of knowledge and technological advancement initiated the information age.

Conclusion

The information age that began in the second half of the twentieth century is primarily the development of knowledge about enterprise resource management. Knowledge

has become a key factor in the functioning of the enterprise. Data obtained by companies are used to improve their activities and increase their competitiveness.

The presented historical outline shows the characteristics of the period of space in which enterprises were formed and developed. We can clearly indicate that the development of civilization has a strong impact on the

formation of the enterprise. Dynamic cultural, social and technological development ensured that enterprises entered the so-called the fourth industrial revolution (2018). We can clearly define that the invention of the steam engine, Ford assembly line production and the era of computerization are the three key events shaping the present appearance of enterprises around the world.

References

- Brzeziński, M., Czop, K. (2007). Istota i zakres funkcjonowania przedsiębiorstwa. w Wprowadzenie do nauki o przedsiębiorstwie, Warszawa: Difin, p. 15-16.
- Encyklopedia PWN (2022). <https://encyklopedia.pwn.pl/> [2022-05-09]
- Kamiński, M., Śniegocki, R. (2006) Przemiany gospodarczo-społeczne w Europie. Warszawa: Nowa Era, p 195.
- Lesson 3- Henry Ford <https://www.emaze.com/@AILQQFFW> [2022-05-09]
- McPherron, S. (2010). Evidence for stone-tool-assisted consumption of animal tissues before 3.39 million years ago at Dikika, Ethiopia. *Nature*. Cambridge: Nature Partner Journals, Nr.466, p. 857–860.
- Passenger car production process in FSO Passenger Car Factory in Warsaw (2017) <https://www.youtube.com/watch?v=UnQ3OaFJduU> [2022-05-09]
- Postołowicz, L. (2008). Zarys dziejów Sokółki i okolic do 1807 roku. Sokółka: Biblioteka Publiczna w Sokółce, p.19–21.
- Schwab, K. (2018). Czwarta rewolucja przemysłowa. Warszawa: Studio EMKA, p.13- 68
- Sudoł, S. (2006). Przedsiębiorstwo. Podstawy nauki o przedsiębiorstwie. Zarządzanie przedsiębiorstwem. Warszawa: PWE, p.13.
- Toffler, A., Toffler H. (1996). Budowa nowej cywilizacji: Polityka trzeciej fali. Poznan: Zysk i Spółka, p. 21, p. 22.