

Chapter 77

Strategic Management in SMEs in Industry 4.0

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ABSTRACT

It is envisioned that the fourth industrial revolution contains many concepts such as modern automation and production systems, data collection, data processing, analysis, and data transfer and consists of intelligent factory applications such as augmented reality, the internet of things, cyber physical, and cyber security systems. It reveals the fact that a new era awaits enterprises in the relationship between technology and production due to these predictions for future changes. SMEs are one of the important segments that these triggers, which are the precursors of structural change, will affect. So how will SMEs experience the Industry 4.0 process? What do unmanned factories mean for SMEs? Which countries/ SMEs will have the Industry 4.0 technology and Industry 4.0 infrastructure which require high capital, Which of them will create opportunities? In this chapter, the problems that SMEs will face in the digital transformation process and the political and strategic approaches that can be developed to deal with these problems will be evaluated.

INTRODUCTION

Toffler describes his book “Shock” (1970-p.10-12), “This book tells what happens to people who are changing”. It focuses on our reasons for adopting or failing to adapt to the future. Much has been written about the future. Nevertheless, much of what is written about the world of the future is the product of a simple and rigid approach. However, Toffler (1970) says that the following pages are about the humane and “soft” side of tomorrow and the speed of change in our age is a fundamental force in itself. Furthermore, Toffler (1970) continues his words “this accelerating impulse has personal and psycho-

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logical consequences as well as sociological consequences “. These words are not said by targeting at any time. In other words, Toffler (1970) explains how the strategy should be learned and taught and explains that if the more accurate the concept of the future is learned in the dynamic structure of time, the more harmonious it will be.

Toffler’s words and a significant part of his writings in 1970 are meaningful before and after the time he wrote. It reminds us that the concept that will govern the change in the future is a strategy, and when the existence of the strategy is considered, it is a combination of a strong plan and smart application beyond being a prediction. Or strategy is change management itself. This issue is not clear whether this change is humanistic and soft as Toffler said, or is rigidity as Taylor said. The Industry 4.0 process or concept introduced by Hannover 2011 raises more new questions than the increasing amount of discussions and inferences in the constantly renewed scientific literature.

The efforts to understand and answer the questions are carried out through large scale enterprises rather than small scale enterprises. When the concepts are tried to be understood or executed, the concepts that will come up are: the fourth industrial revolution or digital transformation, modern automation and production systems, data collecting, data processing, analysis, and data transfer, augmented reality, Internet of Things, cyber-physical and cybersecurity systems, and integration of intelligent factory applications.

In this case, it will be inevitable to discuss what strategy should be developed for SMEs in the context of Industry 4.0.

INDUSTRY 4.0

Bringing together energy, raw materials, technology, and human beings forms the basis of the theoretical structure of industrialization. Although human beings are more binding and governing rather than being a component, he constantly seeks space for himself in the existence of the first three elements.

In the theories of organization, while pioneers of classics see man as a part of the machine, Bourdie considered production as a broad conceptual basis from the capital to strategy, and Galbraith thinks that making human beings ordinary and absentaneous in the development of the industry is as “the age of doubt”. The privatization and naming of the space include a new perspective with the development of the industry. the rationale for scaling and valuation also emerged with industrialization. This process led to emerging of workshops and then the factories and then the existence of integrated facilities in the rapidly future. electricity, sheet metal, motor and the story of engineer/technician/worker develops through these readings. The existence of speed is a time measurement for large-scale enterprises, whereas for small-scale enterprises, it means the limit between asset and absence is narrowed. SMEs who have survived with the first three revolutions thanks to their curvature, adaptability, and mobility, are preparing for a new but perhaps more difficult test.

What is the Concept of Industry 4.0?

When the concept of industry 4.0 is searched in the literature, the followings can be seen;

- § Big Data and Analytics
- § Autonomous Robots
- § Simulation

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