The effect of artificial intelligence on improving strategic management

Mohamed Kasrawy Sleem

E-mail: msleem136@yahoo.com
Received: 28 Dec. 2018, Revised: 7 Jan. 2019, Accepted: 20 Jan. 2019
Published online: 6 Feb. 2019.

Abstract

Artificial intelligence (AI) is a cornerstone at the business. It is a technology that has a great effect on the organizations and plays a basic role at management. AI changes the ways of business management and the strategic theories. It helps the companies to have a competitive edge at the market and leads the managers to achieve a great success. At this research we will indicate the effect of artificial intelligence on improving the strategic management, its impact on the organization, and how it redefines the theories and models of strategic management.

Keywords: artificial intelligence, strategic management, strategy, theory, models, SWOT analysis
Introduction

Strategic management is the planning, analysis, controlling, and assessment all things at the organization to achieve its goals and objectives. Strategic management is consisted of several steps, it start by the organization mission to know what is the organization's business, then its vision which means where the organization wants to be at the future, and to achieve that vision it will need to do a situation analysis (SWOT) to illustrate the strengths, weaknesses, opportunities and threats at the organization. After that, the organization does a strategic planning to achieve the objectives and goals which will lead to achieving the vision (Albescu, Pugna, & Paraschiv, 2008). The strategic management technique can be illustrated by the following chart:-

![Figure 1 the strategic management process](image)

After the phenomena of using artificial intelligence at the business, it redefines the concept of management and improving the strategic management process. This impacts the organization and achieves a great success at the business. Artificial intelligence isn't just a technology at the business, it is a huge program that controls all things at the organization, and it connects between people, strategy, and processes (Tsui, Garner, & Staab, 2000). At this research we will study the effect of artificial intelligence on strategic management at the organization and how will be the organization's strategy model after application of AI at the business.
The study problem

Artificial intelligence has a great impact on the business; it redefines the concept of strategic management and the style of leadership. So, at this research, we will focus on the relationship between the artificial intelligence and strategic management. Also, with AI, we will re-evaluate the strategic planning process. This research will answer the following questions:-
1- What is the strategic management after applying artificial intelligence?
2- How can artificial intelligence improve the organization's strategy?
3- How can artificial intelligence redefine the strategic management process?
4- How can artificial intelligence do SWOT analysis?

What distinguishes this study from previous studies

The previous studies indicated the importance of artificial intelligence at the work place and studied its effect on the organization's management. Here, we will study the effect of AI on the strategic management and how can it contributes in the design of organization's strategy depending on the facts and indicators resulting from the data analysis by AI. Also, this study will indicate the effect of AI on the SWOT analysis and this will have a great impact on the strategic planning process that will be applied according to evidence based resulted from AI, and this will help the organization to expected the results of their strategy and will achieve the strategy's vision.

The study content

1.0 Strategic management with artificial intelligence

Strategic management depends on data collection, data analysis, and get in information which helps the organization to evaluate its states. According to this information and key performance indicators, the organization can design its strategy according to evidence basis and indicators. The organization can set
where is it, what will be in the future, and how can it achieve that. By artificial intelligence the strategic management becomes more applicable and has the ability to design the organization's strategy depending on the data analysis from the internal resources of the organization and external environment to the organization. AI helps the top management strategic decision making to define realistic organization's goals and objectives that are alignment with the organization's vision and mission. Also, with artificial intelligence, the top strategic managers can develop and implement the strategies and achieve a great value to the organization that will be proactive and analyze the actions of its competitors, so will take steps to competing and be a market leader (Holloway, 1983).

2.0 Artificial intelligence improves the organization's strategy

Artificial intelligence improves the strategic planning design; it defines the levels of strategy vision, mission, and objectives. Then, formulating the strategy by doing internal and external analysis using SWOT analysis, setting strategies, analysis these strategies, choosing the suitable strategy, and preparing the strategic plan. Evaluating the strategic plan before implementation, then start at implementing and practice this strategic plan, controlling and monitoring during implementation, finally performing evaluation of the strategic plan (Liao, 2003).
3.0 Artificial intelligence redefines the strategic management process

Artificial intelligence is the core of all strategic planning process from gathering data to final reviews. It connects between the internal and external resources of the organization. AI is the ring between resources, process, marketing, competitors, and customers. Each step during construction strategic plan, implementation, and evaluation is controlled by artificial intelligence. At gathering facts step, artificial intelligence collecting data about stakeholders, customers, competitors, internal and external resources of the organization. It analysis all the data and evaluate the performance of the organization according to KIPS and states that if the organization has the ability to achieve its goals. AI redefines each step at the strategic process and it is the key of monitoring and controlling of all things at the strategic plan process. This changes the concept of the strategic management, improves the models and theories of strategic management, and improves strategic planning process where leads the organization to achieve its objectives and arrive to its vision with 100% success, this will save the organization's resources, time, and costs (Spangler, 1991).

4.0 SWOT analysis by artificial intelligence

The situation analysis (SWOT analysis) carried by artificial intelligence is more accurate and give a detailed chart about internal and external factors that affect the organization. The internal analysis includes the strengths and
weaknesses of the organization, where the external analysis includes the opportunities and threats. AI analyses the situation of the organization and indicates its strengths such as capabilities, competitive advantage, resources, experience, financial situation, and marketing. And its weaknesses like supply chain, cash flow, and gap of competitive strengths. Also, AI analyses the relation of organization with the market and competitors. It indicates the external factors that may affect the situation of organization and give the solution of how avoiding these threats and using the opportunities to be strengths which impact the organization (Orwig, Chen, Vogel, & Nunamaker, 1997).

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristics of a business which give it advantages over its competitors</td>
<td>Characteristics of a business which make it disadvantageous relative to competitors</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elements in a company's external environment that allow it to formulate and implement strategies to increase profitability</td>
<td>Elements in the external environment that could endanger the integrity and profitability of the business</td>
</tr>
</tbody>
</table>

**The results of the study**

Artificial intelligence changes the strategic management's technique; it is the tool for the managers and leaders to design a strategic plan that has no assumption to failure, and they know its results before implementation. By AI, each steps during preparation of the strategic plan is analyzed and controlled depending on the facts and KPIs of the organization. AI doesn't concern with internal resources and states of the organization only, but it concerns with the external environment that may be a risk that threatens the business of the
organization at the market. AI makes a detailed analysis to the case of competitors and the position of the organization related to the competitors. It indicates the ability of the organization to competing at the market and gives an indicator about the organization's position at the future, so AI helps in designing the strategic planning, expecting the vision of the strategy, controlling each step during implementation of the strategy, and improving any deviation to get the best result.

**The suggestions**

1- Artificial intelligence is the future of the business and must be inserted as one of the basic resources of the organization.

2- All process of management must be done by artificial intelligence.

3- Preparing and implementation the strategic plan by artificial intelligence will lead to success and achieving the organization's vision.

**The conclusion**

Artificial intelligence plays a basic role at business management not only at internal of the organization, but also at external of the organization. It redefines the strategic management and re-evaluates the strategic planning model. AI contributes at all steps of strategic planning, does an accurate SWOT analysis, and chooses the suitable strategy according to the capabilities of the organization and the risks that may has a negative impact on the performance of the organization. Artificial intelligence is the controller and monitor at the business; it does analysis to each step during strategy's implementation and corrects any deviation. Nowadays, human and AI work side by side to achieve the organization's goals and objectives. Artificial intelligence is not a technology or a tool for the managers and leaders only, it is like a colleague that manages and leads the organization by an effective strategic management. It is the time
for the leaders to delegate some of their authorization to the artificial intelligence.

References


