

Artificial Intelligence, Competitive Intelligence and Strategic Thinking

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Abstract: The article draws on contemporary concepts of artificial intelligence and data sciences. It blends that with recent trends in strategic thinking. The article could be useful in redefining intelligence systems and their use as a tool of competitive advantage.

Keywords: Artificial intelligence, Insurance, Jordan.

1 Introduction

Artificial intelligence is contagious. It changes everything it touches. The impact is wide and far reaching. One of the areas being touched and altered is competitive intelligence. Competitive intelligence used to connote the gathering of information about competitors and the use of that information to gain a business advantage. Businesses did that, with success. Yet the emergence of artificial intelligence has changed the core of the process, the scope of application and the ultimate impact on strategic thinking. Collecting information process has given way to data analytics. Competitors lost stability and changed texture. Products are giving way to functions. Those and other developments have changed the essence of competitive intelligence. And strategic thinking.

This will be the focus of the following article.

A definition of the artificial intelligence system is the point of entry. The implications of this system to the process of competitive intelligence or information collection, and analysis and conversion into viable business advantage, are then explored. The impact of all of that on modes and concepts of strategic thinking follows.

The article draws on contemporary concepts of artificial intelligence and data sciences. It blends that with recent trends in strategic thinking. The article could be useful in redefining intelligence systems and their use as a tool of competitive advantage.

2 Artificial Intelligence: The System

Let us recall that Artificial Intelligence (AI) is “A branch of computer science dealing with the simulation of intelligent behavior “. It is also “the capability of a machine to imitate intelligent human behavior.” (Forbes, Feb 14, 2018,). The processes of simulation of human intelligence by machines, especially computer systems, include learning (the acquisition of information and rules for using the information), reasoning (using the rules to reach approximate or definite conclusions) and self-correction. AI blends several sciences from computing and data sciences to psychology, philosophy and linguistics, among others. (El Namaki, 2019)

AI fragments could acquire a coherent whole if put within a systems theory framework. AI is pictured, then, as a system with inputs, transformations, outputs and a feedback loop. Data, raw and other wise, as well as artificial neural sub-systems constitute the inputs. Learning (machine and otherwise) and analysis (diagnostic, predictive and otherwise) provide the transformation. Insights, technologies as well as derived sub-systems constitute the output. Feedback loop conveys outputs to the input and transformation segments and triggers essential adjustments. (Figure (1). (El Namaki, 2019).

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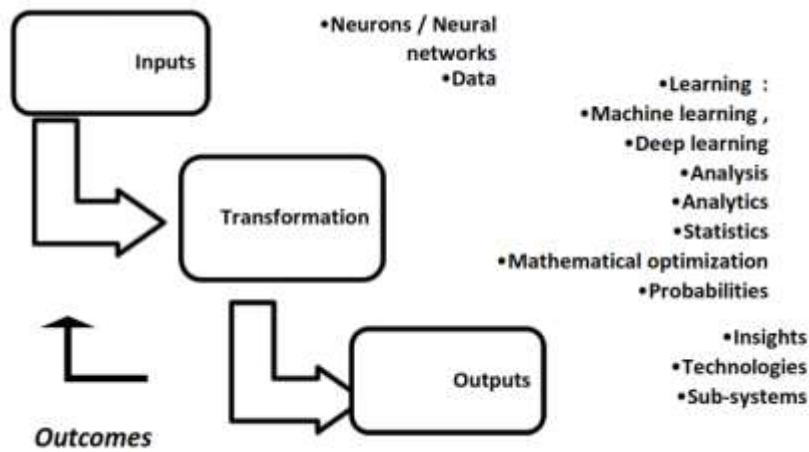


Fig. 1: AI system constructs Source: El Namaki, 2019.

3 Competitive Intelligence: The concept

The concept of competitive intelligence has deep roots and one of those is Ansoff's "silent signals" (Ansoff, 1980). It is essentially the process of monitoring the firm's industry and market in order to identify forces of competitive advantage and take better informed decisions. It could be tactical or strategic. Tactical intelligence is shorter-term focusing on narrow issues as market share and revenues. Strategic intelligence focuses on the longer-term with shifts in underlying technology and capital markets taking central position. It covers the entire competitive environment, not just the competition.

Sources of competitive intelligence inputs vary. Among the most common are competitor websites, competitors annual reports, databases, analyst reports, social media contents, patent data bases as well as primary research. (Investopedia, 2020)

Competitive intelligence outputs should ideally reveal trends and insights. Those could include industry structure, competitor profile, client context, key company and industry performance parameters and technology trends. It may also include competitive benchmarking; early warning signals, market or industry trends; supply chain elements, economic/and political forces; and executive profiles. (Calof and Wright, 2008).

4 How Artificial Intelligence is changing the Competitive Intelligence Concept

One may hypothesize that artificial intelligence is inducing a fundamental shift in the inputs and processes of competitive intelligence. Also that the emerging conceptual and operational framework of competitive intelligence is having far reaching impact on enterprise strategic thinking and conduct.

• Inputs

○ Big data

Big data is changing the essence of competitive intelligence by creating a data-driven approach to decisions and strategies. Scope, depth, reliability and reach of business decisions are developing close correlation to approach to data acquisition and management. Transaction data, interactive data and perception data enhance the quality and reliability of business insights and with those competitive intelligence competencies. Transaction data, stored in databases, interactive data generated from social networks, and, perception data, drawn from, among others, the Internet of Things, integrate in order to deliver an enhanced capacity for competitive intelligence. Socialized data also allows businesses to be close to customers and to monitor their behaviors, (Ruo, 2016).

○ Data culture

Data culture is a fairly novel concept that connotes the existence of a set of values conveying a belief in the pivotal role of data in firm's performance and results. For this culture to take hold data must be viewed as a strategic asset. Data – related skills become central to recruiting, developing, promoting and retaining of human resources. And top management invests in data collection, data management and data analysis (Forbes, 2018)

Drawing a correlation between data analysis and decision making is a central dimension of data culture. (McKinsey, 2018)

- **Analytical tools**

- **Predictive analytics**

Predictive analytics is an emerging powerful competitive intelligence tool. It connotes resorting to advanced analytical tools in order to reveal present day insights and project possible future trends. The process implies understanding and analyzing data, building data models and employing and training models for AI purposes. Data, statistical algorithms and machine learning techniques are resorted to in order to explore historical data and identify the probability of future outcomes. The goal is to go beyond knowing the past to projecting the future (Data analysis, Revolvly, <https://www.revolvly.com/page/Data-analysis?>).

- **Diagnostic analytics**

Diagnostic analytics precedes from a descriptive data foundations to provide an explanation for the occurrence of the event or the emergence of the phenomenon. Often, diagnostic analysis is referred to as root cause analysis. This includes using processes such as data discovery, data mining, drill down, drill through and correlations to provide the diagnosis. Diagnostic analytics explores data in an attempt at understanding the causes of events and behaviors.

- **Implicit learning**

Learning is the process of acquiring new, or modifying existing knowledge, behaviors, skills, values or preferences (Houwe, 2013). Organizations learn along explicit and implicit lines. Implicit learning by organizations connotes developing algorithms and sub technologies that are not immediately relevant to the organizations today's functions but stored in the organizations implicit memory. Organizations resort to what is termed the "Implicit knowledge" when events and disruptive forces create a need. Implicit knowledge of this nature is one of the prime sources of competitive intelligence. (El Namaki, 2020).

- **Social media analysis**

Social media monitoring and data intelligence platforms collect data from social media channels and online sources, and identify engagement, followers, key influencers and sentiment. Those are prime sources of competitive intelligence. Google's Alerts is one of those. It provides, through several tools, analysis of website traffic and behavior, keywords that are optimized for search, as well as samples of media coverage for news and thought leadership. The trends instrument shows, for example, how a specific keyword or search query is searched compared to the total number of Google searches over a specified period of time. (Ruhi, 2014).

5 And what impact would that have on strategic thinking"

- **Identifying forces of prospective disruption**

Competitive intelligence could reveal emerging sources of business disruption.

Disruption is an occurrence that interrupts events, processes, systems or paradigms. It is a violating force. Disruption of an event, a system, or a process is tantamount to discontinuity and a suspension or even a reversal of what is considered a normal flow. There is generic disruption and functional disruption (El Namaki, 2018).

Generic disruption is a force or a bundle of forces that cut across systems and reconfigure constituent elements. Generic disruption cuts across industries, markets organizations and functions. It does not arise from competitors in the same industry or even from companies with a remotely similar business model but from distant and previously unidentified driving force. It blends forces drawn from separate seemingly unrelated strands of technology, primarily, in order to create dramatic value enhancing and rule changing propositions (El Namaki, 2018).

Functional disruption, on the other hand, is a force that undermines one or the other aspect of system-related functional performance. One can think of it in terms of four segments of functional disruption: a technology segment, an economic segment, a political segment and a sociology segment; with of far reaching economic disruption (El Namaki, 2015).

Big data – rooted analysis along perspective or diagnostic lines coupled with implicit learning could reveal possible future disruptions whether generic or functional, and alerts the organization to the need for conducive strategies. This enhances competitive intelligence and puts it at the heart of strategic thinking in organizations.

- **Assessing organizational compliance with emerging conditions**

Competitive intelligence will create new standards for enterprise continuity.

AI technologies will more likely than not, lead to measurable change in the premises of enterprise continuity or enterprise-goal-resource congruence. This congruence will depend on factual and timely identification of shifts in enterprise ultimate goals and the corresponding adjustment in enterprise capability constructs. Both goals and capabilities will depend on the forces of technology, capital and managerial competency. Artificial intelligence derived technologies as cognitive computing; deep Learning and image recognition will bear heavily on the emerging picture. . And those will alter some of the basic foundations of industries from healthcare and banking to logistics and communication.

Enterprise capability constructs and construct – goal congruence constitute a fundamental element of competitive intelligence. There is for each vision- induced strategic thrust a capability construct and a goal profile conducive to that specific vision.

- **Identifying parameters for strategic control**

Competitive intelligence will, more likely than not, redefine parameters of strategic control.

Strategic control is the process of aligning the organization with its potential. It connotes a measurement of the organizations ‘achievements against prospective opportunities and the degree to which goals and strategies are in line with those opportunities. It relies heavily on a high measure of competitive intelligence being the source of prospective opportunity frameworks.

Strategic control parameters measure two key variables strategic fitness and prospective business potential. Strategic fitness is defined in terms of enterprise fit within the arena where it operates, the competencies that it possess, the resources that it commands and the potential that it has. Arena fitness reflects the relationship between enterprise competencies and environmental change, competency fitness measures benchmarking against leading and potential competitors, resource fitness reflects the ability to acquire capital and technology compatible with the evolving strategic profile and potential fitness measures ability to respond to potential. (El Namaki, 2006)

- **Inducing strategic shift from products to functions.**

Competitive intelligence will play a key role in the strategic shift from product thinking to function orientation.

AI technologies will lead to a fundamental restructuring of industries and the emergence of new arenas. AI frameworks will very likely lead to a shift from strategic product and market focus to functional focus. Functions will determine the instrument, being a product or a service, congruent with business environment conditions. Function analysis derived from big data will contrast with ‘need analysis drawn from market parameters. (Mirko Karakašić ,2016)) Rather than relying on customers to tell a business what they want from a product, data analysis will point to the ultimate function fulfilling medium (El Namaki, 2019).

This strategic search for novel function fulfilling products will induce venturing beyond the familiar boundaries of today’s industries. New arenas will be explored and competitive intelligence will lead the way. Artificial intelligence will thus disrupt traditional industry segmentation leading to “leapfrogging” in the development of new industries, the reconfiguration of existing industries and the emergence of new business arenas. Internet of things IOT, Mobility, Digital logistics, 3D printing, Robotics, Advanced Life Sciences, Cyber security and Big Data are all examples of those emerging arenas. (Ransbotham, et al., 2017).

- **Developing prospective scenarios**

Competitive intelligence provides an essential inputs into strategy based business scenarios. “Scenarios are consistent and coherent descriptions of alternative hypothetical futures that reflect different perspectives on past, present, and future developments, which can serve as a basis for action”. (Van Notten, 2005). They provide a flexible approach to exploring the future which can be shaped to fit different tasks? Competitive intelligence processes and outputs provide a prime source of scenario configuration whether exploratory and decision-oriented or intuitive and analytical.

Scenario building is essentially a hunt for weak signals. It continuously pushes the boundaries of opportunities and instills a deeper appreciation for the myriad of forces shaping the future. This requires a profound measure of competitive intelligence.

6 Summary and Conclusions

Artificial intelligence is contagious. It changes everything it touches. The impact is wide and far reaching. One of the areas being touched and altered is competitive intelligence. Competitive intelligence used to connote the gathering of information about competitors and the use of that information to gain a business advantage. Businesses did that, with success. Yet the emergence of artificial intelligence has changed the core of the process, the scope of application and the ultimate impact on strategic thinking. Collecting information process has given way to data analytics. Competitors lost

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One may hypothesize that artificial intelligence is inducing a fundamental shift in the inputs and processes of competitive intelligence. Also that the emerging conceptual and operational framework of competitive intelligence is having far reaching impact on enterprise strategic thinking and conduct

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