

DOES FLAPPING OF A BUTTERFLY IN AMAZON FORESTS CAN CAUSE A STORM IN USA? CHAOS THEORY AND A DISCUSSION IN ACCORDANCE WITH BUTTERFLY EFFECT

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Abstract

Some words, which are basic cues of determining actors of current time-like globalization and information age-, change, speed, competition, and diversity became nearly catchwords. All the world, have been grazing from the limited perception of history about place and time and have been facing the fact that the future is changing totally in different axis. This orbit has different coordinates, tools and methods and it is unavoidable. Likewise, basic dynamics of information age are not being able to explain with the paradigms of industrial age. In whole world, new coordinates of information age which guide a new era - so ist paradigm- is becoming chaos theory, its captains are becoming different leaders of different geographies. "Butterfly Effect", another concept , which is related to "Chos Theory" of Edward N. Lorenz, can define as small changes in initial datas in a system can cause big and unknown results. Globalization and information age make butterfly effect common. In this study, from the point of " A

butterfly's flapping in Amazon Forest can cause a storm in USA" view, possible effects of chaos theory and butterfly effect to social life and to organizations will be evaluated.,In the first part of this research will explained chaos theory ,in the the second part will mentioned from dominant metaphors in the past and future organizations ,in the third part will analyzed model of chaos management organization.

Keywords: Chaos Theory, Butterfly Effect, Knowledge Age, Globalization

JEL Code: M1,M19

1. INTRODUCTION

The butterfly effect is the name that given to small changes of a system in the initial data cause large and unpredictable results. It relates to Chaos Theory which is one of Edward N. Lorenz works. Later on he became renowned as the following example that gave on about the weather. "A butterfly's flapping in the Amazon Forests can cause a storm in the United States". With a different example this; a butterfly's flapping can cause a hurricane that be able to walk halfway around the world. Given the social reflection of this theory, the First World War started with a Serb teenager shoot Europe Hungary Crown down. United States acquainted the greatest anarchy as a result of murdered of a teenager. (We can give example of this looting incidents in France ,Greece, last in England). These days, Arab spring began with the death of a young Tunisian. These events led to chaos, big storm, and then after an order. In global world of the day in a term of increasingly economic crisis , Greece's economic bankruptcy firstly European banks and then American banks will sink with domino effect, and finally the risk of bankruptcy of a small country will lead to a global catastrophe. A leader engaged with commerce in a global enterprise can control dollar or the euro ups and downs if he constantly pursuit all of these countries both political and economical parameters. So we don't have chance to say to our production manager that sell more to win , we don't under the risk our market is strong. Today China is making money supplement in order to prevent Europe's bankruptcy and Europe and US prints money. The butterfly effect lead to small causes to big consequences. Therefore Just be wrong to say that 'Greece is bankrupting'.

In this case, for a global business manager is not possible to carry the company to the future with Keynesian economic model. Because in the Keynesian economy most of variable are isolated to say that "ceteris paribus" "all conditions being equal". In this way, we lock on the problem and we ignore

network of mutual relations between all areas of the world other than this problem (Toffler, an abstract entitled Science and Changing, Prolog and Stengers,1998:1). A business manager who doesn't consider globally, just with Newtonian perspective would not lost something a short-term to say "What happens if Greece bankruptcy, there is very small country" but if he consider this incident with Chaos Theory ,he might analyze and produce some scenarios for a lot of ideas in his mind. For example, you are a CEO in the big conglomerate in Turkey and you will carry out strategic investment plans with Chaos Theory for the next decade.

Scenario 1 : Greece go in default. European banks that have large amounts of Greek bonds refer to prevent bankruptcy their countries. Afterwards over-indebted countries of the European Union that serves as the carrier column have declined the state of Greece with financial problems and Europe goes bankrupt. China and United States try to save but they begin a period of decline. In this situation what direction should be determined for the future of the global market and the company?

Scenario 2 : Greece will not go bankrupt. Europe recovers slowly. What is the business opportunities and weaknesses of this recovery period?

Scenario 3: Europe gradually recovers, but aging. Can we market something to the old Europe? The existence of the business is in danger?

Scenario 4:How do global equals change, what is emerging trends if the Europe goes bankruptcy ? What happens the future of company in case of countries such as Turkey , Russia, India is the world leader.

Scenario 5 : If the European bankruptcy and if the Turkey is a global economic power, what is our company position in the market? Where does it make new initiatives? . How are we able to produce alternative energy? How can we merge with African culture which is emerging as a new market, How can we make investment?

Perhaps, with these long drawn out scenarios creates different scenarios that utilizing the fuzzy logic and artificial intelligence. The chaos theory and Newton's theory which dominate the world up to now differences are extreme sensitivity of the starting point and uncertainty, up to a certain level of mess, and also could not go back and forth in time. Therefore , Ceo that we gave at above seems like he is managing country , he is an economist, sociologist ,he is thinking the future with many of science and he is making investing plan according to this.

Variables are less and there is a certainty as to the Newtonian thought, Ceo who think like that design the questions of future such as what is the market share of the country that we compete, where is the cheapest raw materials that we can get?, how much will we grow up after ten years?, How do we destroy our competitors?. He only see the company and its immediate surroundings , suppliers and market. Thus, he doesn't pass being part to the whole and misses the big picture. The situation that we mentioned briefly above shows that chaos theory will dominate the future. Because the future is uncertain and involves too many variables.

2. CHAOS THEORY

In science , the definition of Chaos Theory comes from the disciplines of physics and mathematics. According to this disciplines Chaos is a behavior that arising in a system, non-periodic, unpredictable and shows sensitive adaption to the starting conditions (Singh vd., 2002). However , we need to add that inpredictable thing in here is related to the interactions between the components of behavior. Chaos approach rejected the notions that are 'everything is certain and predictable' and Newton's " clockwork universe ". According to the approach of Chaos, a predictable ,simple set of assets and laws might have a complex and unpredictable results. Stock market, the timing of a dripping tap can be shown as examples of this. Sensitive adherence to the initial conditions refer to the development of any event and its result to be depended on as extremely sensitive to initial conditions (Koçel, 2003). In fact, it is not a new insight. In the early 20th century, Henri Poincare said that 'the large changes in the first conditions can lead to the big changes in the ultimate phenomenon .' "A small mistake in the first will lead to a big mistake in the last". Making prediction will be impossible (Horgan, 2003). Accumulated result of small differences which is two initial condition that are exactly same at the initial points are excluded more and more from each other (Marshall vd., 2003).

3. BUSINESS ORGANIZATIONS IN THE PAST AND FUTURE

Mass production and marketing systems which based on repetitive process that are not required data entry is common in contrast to the period before the Second World War; today, confusion due to the globalization and uncertainty, information is an important strategic resource for businesses. Owning to the information and effective managing has emerged to be one of the most important conditions in the global competition. In the process of globalization we can say that there are some changes in paradigm of leadership system . Information might be regarded as compass of a leader in the globalization activities and changes that made in

this way (Şimşeker and Ünsar, 2009:1045). According to classical conception, manager is head of an organization, the rest are the stem of an organization. Based on classical understanding, management has to be up-down. Within the framework of logic to be valid physics, there are laws of science in management and the main features of this approach are control and prescience. On the other hand living in self-organizations may not be enough simple rule that running bottom-up process. adapt to the environment. In this context, social systems are similar to neural networks. These systems are working similar, These systems are self-employed such as the neural networks and pursuit of their needs in, processing information, adapting systems. Leaders may encounter questions that do not know the answer. When a different and new problem arises, leaders don't determine a social policy that proven and recognized. This is a problem related to adaptation. Such a framework, the leader does not know the answer (Gürsakal, 2007: 94). His task is to outline the problem, determining the urgency of problem and wait the answer piece by piece from community. In Self-adapting systems, probably the smart way is to allow -not exclusively but a certain period of time - to remain scattered. Complexity leadership theory has to prepare much productive future rather than control the future (Pascale, 2004).

4. ORGANIZATION MODEL OF CHAOS MANAGEMENT AND GLOBAL LEADERSHIP

Toffler states that Einstein's works on time relativity, quantum theory, Ilya Prigogin's works on order and chaos, chance and necessity better explained to social, economic and cultural structures in the information age. He emphasizes that changing paradigms of physics is reflected in the knowledge economy and management organizations and this reflections are a revolutionary. He express Newtonian organization models that are far from flexibility, spreading the power at the upper level, seen in control at all levels, excessively bureaucratic and rule-bound hierarchical organizations. As to the information age quantum organizations, he argues the view that should be dominant view based on team work, not hierarchical, live and breathe in their own environment, because they are part of its. Toffler states that goes a radical restructuring in the information age, began to use the flexible time at works, workers become independent from rhythm of assembly line, no hierarchies, management and organization boxes are getting horizontally, and this boxes changed shape even they vanished (Toffler, 1992:196).

Moving from this point and developments in the world, the question that "I wonder how can be the organizational structure of the new administration in

terms of chaos theory?” comes to our mind and we can comment like this business can be alive just one generation if it’s a global business that has top down management and As we think in classical business model of a global business has top down management and this situation is not necessary in terms of both time and connection and interdepartmental transitions just passes from top management. It will not wrong if we comment ‘ this business can be alive just one generation ‘ . We also think only an horizontal organization, but this will not be enough for us because only fast connection will not be enough ,therefore inside our model should be a structure that has the cellular, the neural networks and independent and moving fast, at the same time it should create a whole. This structure must be matrix structure because in order to create new markets in the global market there should be sociologist, statisticians, society engineers, international relations specialist, economists, cultural diversity specialists, all of these at the same time be able to do as a consultant in all other sections, at the same time this structure also be able to self-organization, and most importantly , in all that structure; information processing and synthesis experts, experts in fuzzy logic, artificial intelligence experts should inform to our Ceo doing the synthesis of information, hourly and daily such as meteorologist .

5. CONCLUSION

Whether chaos is perceived as breaking point of science, except for some scientific facts which are very precise , agreed determination of their accuracy , it shows the fact that many of situation in the universe can not be explained to us in the context of linear logic , the structure of the classical deterministic science is insufficient on this issue and a very definite cause-effect relationship may not be reached (Dereli et all, 2006). Along with the emergence of chaos theory, it has led to essential and radical changes in the understanding of science and scientific progression. Until the emergence, there had dominated a science system that mold the all nature and universe in a certain thought patterns with deterministic and precise pattern, observing the interdisciplinary coordination, difficulties brought by excessive specialization causing now almost a 'new thing not discoverable' thoughts . The discovery of relativity, quantum theory, and then chaos, in science, the process that is universe is such as a well-oiled machine has eliminated and the structure which caring the nature and livings and the smallest variable inside them has began to settle .

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