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Coping With Chaotic Age of Turbulence and Achieving Enterprise Resilience and Sustainability

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Abstract

The world has entered a new age of economic stage- a stage from normality to turbulence. Breakthrough advances and the information technologies have made upheaval and revolution of the present economic system obtaining all over the world. As the fallout from financial meltdown and crisis of 2008 grows progressively worse, corporate sectors/companies (industries) and the entire business market cling precariously to life- making it worst that the turbulence may not be over any time soon.

Whereas, ITES, Globalisation and technology in the form of computers, internet and mobile phones enables information to course through the world at lightning speed, it has also created a new level of 'interlocking fragility' in the world of chaotic economy. Globalisation certainly means that producers in one country are increasingly importing resources from other countries and at the same time increasingly exporting their output to other countries.

In the present economic downturn, which is part of continuously age of turbulence, wherein both risk and opportunities are felt around the world- India is also traversing with other part of the Western world. This requires robust system to be evolved for quickly anticipating and effectively responding to the potential threats. At this chaotic juncture, an innovative Chaotic Management System (CMS) is required for coping with vulnerability and exploiting opportunities for survival and going ahead of the competitors.

In the present paper some Early Warning System (EWS) and designing of resilient and sustainable system as a built-in-self-restoring equilibrium measure have been suggested with some case-studies for coping with the chaotic problems obtaining in the world.

Introduction

The world has entered precariously a new age of economic turbulence, which is the of shoot of US financial meltdown of 2008. Infact, the economic downturn is a part of a continually oscillating age of turbulence, wherein both risk and opportunity exist at the same time. It is primarily the strategic flexibility which plays the dominant role to cope with the economic discordant, obtaining due to meltdown. The world is more interconnected and interdependent than ever before.

As the fallout from financial downturn or bubble and the origin of 2008 grows progressively worse, corporate sectors/companies (industries) and the entire business market way make the people feel more worse than turbulence has made. Also, the breakthrough/ technologies/

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advancement and information technologies boom all over the world has made the business scenario more complex and competitive.

Whereas ITES, Globalisation and technology- in the form of computer, internet and mobile phones enables information to course through the world at lightning speed, it has also created

a new level of 'interlocking fragility' in the world of chaotic economy. Globalisation certainly means that producers of one country are increasingly importing from other countries and at the same time increasingly exporting their output to other countries.

India is also facing the economic brunt as well as of the economic recession. As per Nilekani (2009), and Navi Radjou (2008), India is being certainly acknowledged today as world status, which is dominated by vendors like Infosys, TCS and Wipro. And further if the corporate sector and India monolithic firm transform them into Globally Adaptive Organizations (GAOs) by adopting creativity, flexibility and performance matrices they will decisively reckon with world class dynamic organizations. Pathak (2009) has briefly described about Indian economic scenario, which is having a bright future.

In the present paper economic downturn, which is part of continuously age of turbulence- wherein both risk and opportunities are felt around the world. India is also traversing with other part of the Western World. This requires a robust system to be evolved for quickly anticipating and effectively responding to the potential threats. At this chaotic juncture an innovative Chaotic Management System (CMS) is required for coping with vulnerability and exploiting opportunities for survival and going ahead of the competitors.

In the present paper some Early Warning System (EWS) and designing of resilient and sustainable system as a built-in-self-restoring equilibrium measure has been suggested with some case-studies for coping with the chaotic problems obtaining in the world.

Concept of Chaos Theory and Turbulence

It has been rightly remarked by Gibson (2002) and Toffler (2002),

"**Roads are linear and linear thinking is useless in a non-linear world".**

It is widely observed that world's business functions in a non-linear fashion. Engineers, Scientists and historians have long ago abandoned linear thinking. It also leads to chaos theory of disorder-a- predictable non-linearity.

The chaos theory expert Edward Lorenz (1972) asks, " Does the flap of a butterfly's wings in Brazil set off a tornado in Texas?", Prophets have failed to foretell the arrival of major environmental hazards, political, economic upheavals/ melt-down etc. (Refer Figure 1) and as a result contemporary seers have little credibility. About over a decade back, only heretics would have dauntlessly forecast the fall of Berlin wall, the demise of USSR, the end of apartheid, the free market in Eastern Europe etc. Planning is an instrument in man's search for meaning. And biggest problem is that the world as a whole is very complex and chaotic. Forecasting the future is a hallowed profession and confidence in the ability to forecast is surely the crux of success. The future turbulence can be visualised by insight and experiential learning. (Allio, 2002, Kotler *et al* 2009; Prahlad *et al* 2004; Pathak, 2006).

It will be observed from the Figure 1 of Chaos Theory, that from overall unstable system some small local and temporary regions can be harnessed for regions of stability and from them some end products A, B and C still can be produced effectively (Refer Figure 1a and 1b).

And the next question is what is market turbulence and its effect on business. Actually, speaking

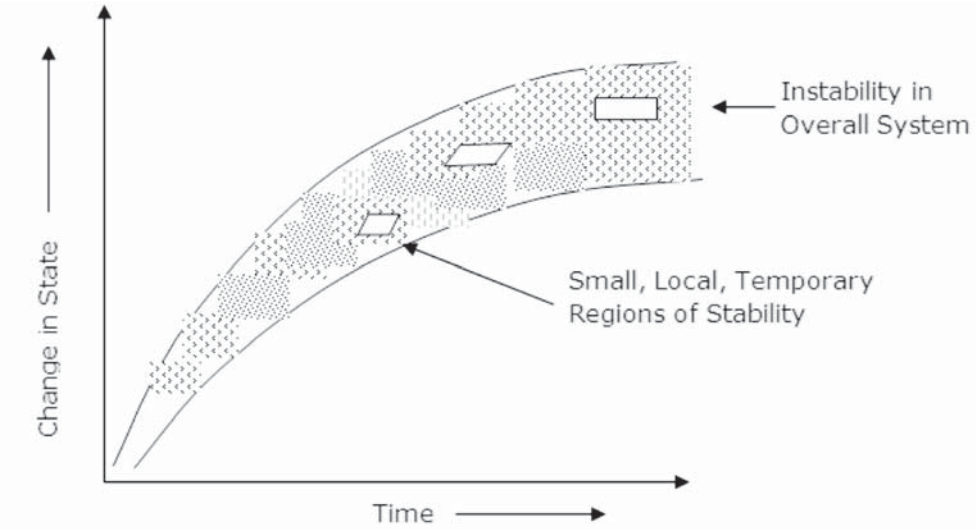

Figure 1 (a): Chaos Theory

(Adapted from Allied, J. Robert 2002; A paper presentation by chaos theory expert, Edward, M. Lorenz (1979)

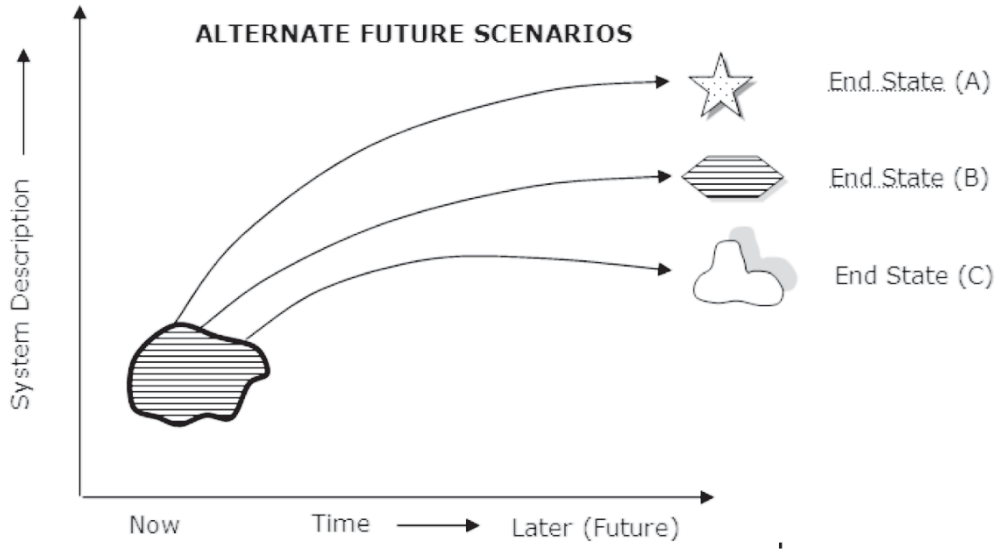

Figure 1 (b): Future Products - Scenario concept

turbulence in nature, science and physics etc. can be clubbed with hurricanes, wind- storms, tornados, cyclones, tsunamis etc. And otherwise in some aspects it may be described by violent or agitated behaviour. Their defining characteristics may be violence, randomness and unpredictably the behaviour of system flexibility and may be defined by temporal (time) and spatial (space) theory, somewhat chaos theory of Lorenz (1972) as well as butterfly wings effect in the atmospheric turmoil.

'Business turbulence' may be attempted and be defined as the unpredictable and swift changes in organization's external or internal environments that affect its performances (Kotler *et al.* 2009, Chaos theory, http:// en.wikipedia.org). The "butterfly effect" occurs because ours is an increasingly interconnected, inter-dependent globalizing world that is accelerating in its 'globalness'.

The world today-all governments, all people and every entity in this world are now connected and interconnected at some level, and the impact of the turbulence of each will be felt in some way or the other in our globally connected environment.

Factors Causing Chaos

The critical factors which raise the business risks may be as under:

- Technical and information revolution.
- Disruptive technologies and innovation.
- The rise of the Rest.
- Hyper competition.
- Sovereign Wealth Funds.
- The environment.
- Customer empowerment.

The full description / discussion of the above factors are beyond the scope of this paper. However, few salient points like technical advances and disruptive technologies may be touched upon briefly to understand the business chaotic turbulence vis-à-vis its impact on normality to 'economic turbulence'. Today, the world has entered a 'new economic stage'. Commercial business is at the speed of light over the internet and mobile phones.

At one side it is very beneficial speedy deliverables and at the same time it causes immense turbulence from one country to other by giving / sending the information of bank failure, stock market or real estate crash, political assassination or currency default by the way of speedy spread of news causing massive turbulence. Turbulence always causes an increase in risk and uncertainty. Turbulence should be understood in the context of 'a mutual economy' verses a 'new normality economy'.

Economic Recession and Turbulence

According to shinkin (1974) a ***'recession'*** can be defined as:

"A decline in the seasonally and calendar adjusted real 'gross domestic product' (GDP) in at least two successive quarters".

NBER (National Bureau of Economic Research) of United States the Business Cycle Dating Committee is primarily responsible for the definition / dating. As per NBER (The Week 28 Mar 2008, and Samulson *et al* 2005),

"A recession is a significant decline in economic activity spread across the economy, lasting more than a few months normally visible in real GDP, real income employment industrial production and whole sale- retail sales".

However, in the NBER specification shows that the term is not narrowly defined and contains some leeway for determining whether an economy is in recession or not. Certainly for complete analysis one requires extensive economic data.

In most simplistic terms, recession, depression and prosperity are described below. (Mathai, 2009). Also simple curve of supply and demand with point of equilibrium explains (Figure 2) this phenomenon. Pathak (2009) — also this amply describes the Indian and world economic crisis.

Again the recession and depression is described simply as below:

- ***Recession***: A deep wide steered downward movement of the business and economic activity.
- ***Depression:*** A prolonged period of dealings (more than two years) business and economic activity".

Or

"Also depression is a recession which lasts longer than two years with unemployment of 25% or more." Great depression was during 1929-30, has been reckoned as the worst among the approximately 23 recessions occurred and has been recorded so far in the human history.

- ***Prosperity:*** "A prolonged period of growing business and economic activity."

However, GDP is the inbuilt measure and one single most dominant factor for the measurement yardstick of the above phenomenon as well as supply and demand curves (Refer Figure 2). The Figure 2 distinctly depicts that:

- ***Surplus:*** "Excess of quantity supplied over quantity demanded". Arrows depict price going up and down.
- ***Shortage:*** "Excess of quantity demanded over quantity supplied". Arrows depict movement of price up and down.

The above explanation and Figure 2 very clearly describes the causes of recession. It is very simple

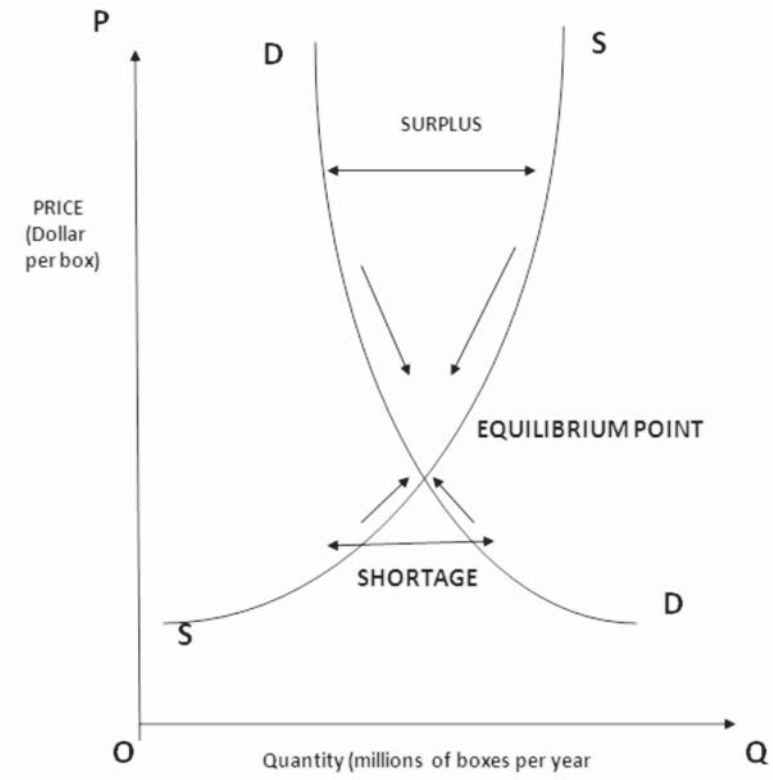

Figure 2: Market Equilibrium Comes at the Intersection of Supply and Demand Curves

infrastructure."

The cloud allows digital technology to penetrate every nook and cranny of the economy and of society and have been significantly successful information provider (AWS): Amazon.com andits

Table 1: Normal versus New Normality Economies

Feature	Normal Economy	New Normality Economy
Economic Cycles	Predictable	Absent
Upturns/Booms	Definable (Avg. 7 years)	Unpredictable, erratic
Downturns/ Recessions	Definable (Avg. 10 months)	Unpredictable, erratic
Potential impact of issues	Low	High
Overall investment profile	Expansive, Broad	Caution, Focused
Market risk tolerance	Acceptance	Avoidance
Customer attitudes	Confident	Insecure
Customer preferences	Steady, evolving	Apprehensive, flight to safety

"When supply exceeds demand i.e. it results into excess capacity ; and other way around once economy is expanding more industry, business houses in expansion takes place and people are hired, means herein, "demand exceeds supply - this is the prosperity growth of the economy."

Normal versus New Normality Economies

Today's economy, with its 'heightened turbulence' is markedly different than normal economy. Generally business turbulence within two levels, micro and macro (people/business) has lived with this situation. There are two essential swings that mark a normal economy: One is that upswing that has historically lasted between six and seven years on average, often referred as "Bull Market", Second is the downswing, lasting an average of ten months is often referred to as "Bear Market", or sometimes as "market correction". These two are somewhat can be predicted.

The stage of 'heightened turbulence' is called 'New Normality' which challenges business and government leaders alike to better understand, fully accept and then create new ways, new strategies to deal with it as if we are to succeed in the years ahead. (Refer the Table 1), which gives the comparison of *Normal Vs. New Normality Economies.*

Cloud Computing and Disruptive Technologies

Cloud Computing and Disruptive Technologies leave a substantial effect on the growing economy, as it turns to be turbulent by changing the market and the status quo technologies to be quickly rendered obsolete. Disruptive technology and cloud-computing have lot of potential and are "game changer" that can create a chaos in the industry. Briefly both can be discussed as under:

Cloud Computing: "Cloud Computing is the complex-internet based infrastructure in which IT related capabilities are provided as a service. Users access 'computing' services from the internet 'cloud' without needing knowledge of expertise in or control over the supporting technology

Amazon web services. The impact of web-based services is felt on a macroeconomic level, as cloud computing makes small firms more competitive with large ones.

Disruptive Technologies and Innovation

"Disruptive Technology or disruptive innovation is a term describing a technological innovation, product or service that uses disruptive strategy rather than a 'revolutionary' or sustaining strategy to overturn the existing dominant technology or status quo products in a market.

It has been systematically shown to the research community that most disruptive innovations are in a minority compared to evolutionary innovations, which introduce an innovation of higher performance to the market; though examples of disruptive innovations are rare. (Christensen, 1995, Kotler *et al*., 2008, Raynor *et al*., 2007).

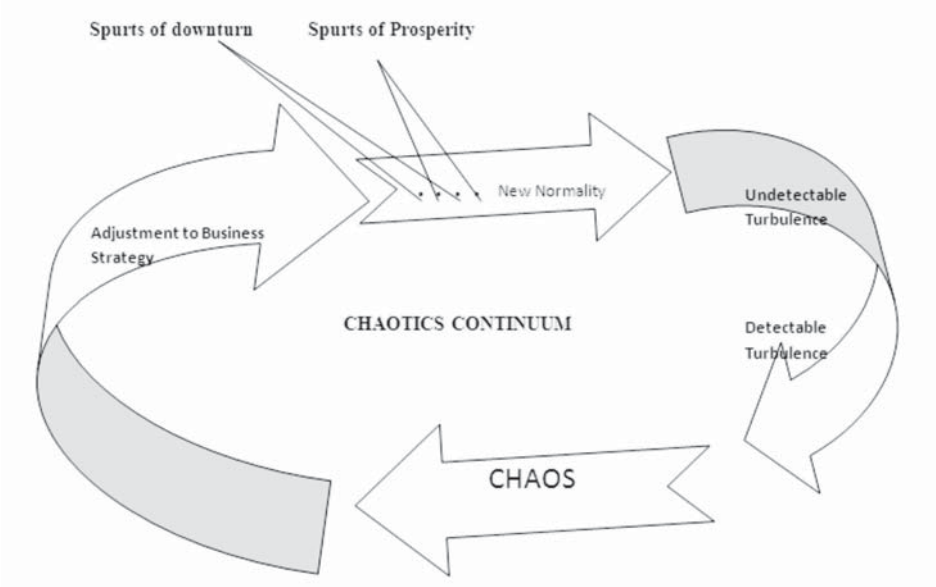

Figure 3: Chaotic Continuum

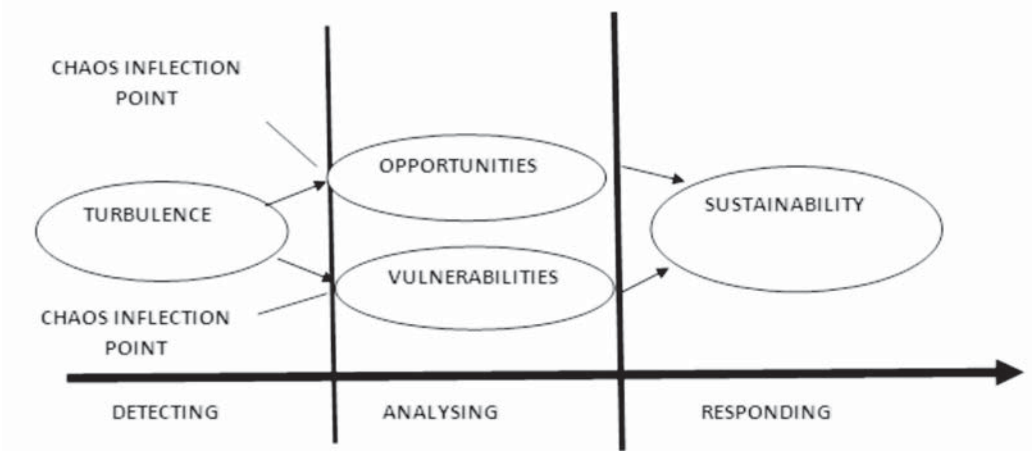

Figure 4: From Turbulence to Sustainability

Chaotic Model and Early Warning System (EWS)

Chaotic continuous model (Figure 3) is to be managed encashing vulnerability and opportunity as shown in Figure 4. The ultimate goal of all business leaders is to create a viable, growing and profitable company that can sustain itself for the benefit of all of its stakeholders and do so for as long as possible. Figure 4 explains that one has to exploit 'opportunities' created by chaos- seen at the chaos inflection point- and take necessary precaution from exposed vulnerability to minimize any potential damage. A company's failure to successfully navigate its way through a 'strategic inflection point' causes business to decline- successful company has to transform into new business models.

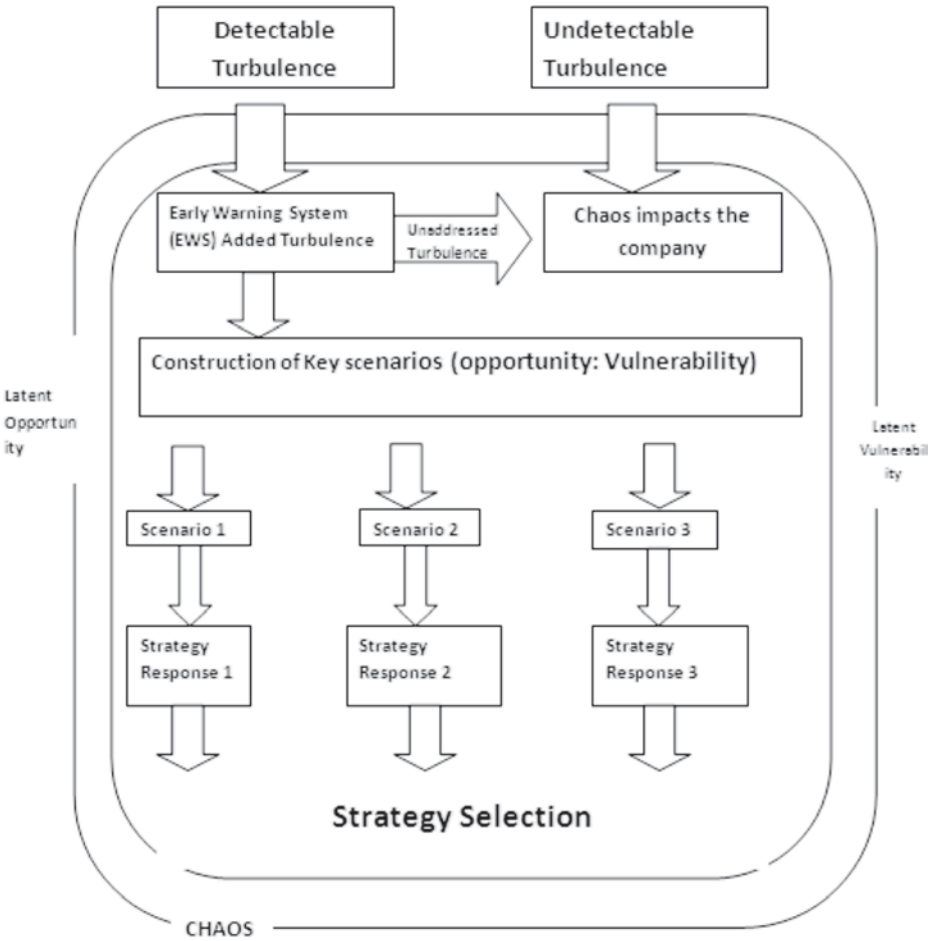

Figure 5: Chaotic Management System – Early Warning System

Business turbulence may come at any time or from any place and some of it may be detectable and some of it will not- it should be analyzed for identifying. One, the opportunities that may be revealed and exploited; and two, the vulnerabilities to the business so they can be minimized or negated altogether.

As shown in Figure 5, an effective early warning system has been depicted. The top management of the companies must issue an effective warning to identify clear goals and the following three distinct components emerge/ should be viewed:

Risk identification: Specially identifying vulnerability in the company.

Risk Monitoring: Which movements of competitors are causing threat

Management Action: Executives must be aware of risk dynamics and should be equipped for swift and aggressive response action before the organization is harmed.

The above actions will lead into findings of blind spots, important signals who is skilled worker, future surprises, emerging technologies changing the game and is there any unthinkable scenario. The above signs and signals with more focus or how to overcome them decidedly will minimize the uncertainty/risk.

Achieving Business Enterprise Sustainability

Achieving Business Enterprise Sustainability aims for a comprehensive strategy to maximize – value and faith of the companies in the extended long term, while optimizing company's performance in the short and medium term. But one should never compromise the long term value.

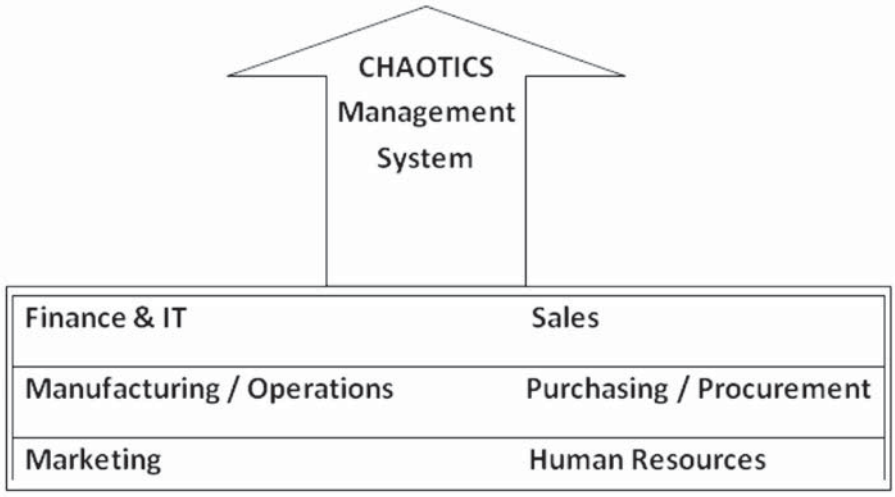

Figure 6: Designing Management and Marketing Systems for Resiliency

Long term sustainability may override any short term or even medium term options especially in turbulent and chaotic environment. For any business enterprise sustainability that is the organization to live and thrive there are three major threats – Responsive, Robust, Resilient. Their understanding provides inside into the goal of all business leader (Wikipedia, http:// en.wikipedia .org) Refer Figure 6.

- ***Being Responsive***: this is the quality of being able to react quickly to the external stimuli.
- ***Being Robust:*** this deals about coping with unpredictable uncertainties to withstand, stress, pressure or change in procedures or circumstances.
- ***Being Resilient:*** this simply means being able to spring back or rebound after being compressed or so.

Chaotic Management System – Chaotic Implementation Cycle

For creating a sustainable business enterprise which is capable of withstanding stress even in the most turbulent environment, the following components help: –

- Identified sources of turbulence and chaos.

- Identify management's wrong response to turbulence.
- Establishing early warning systems.
- Construct key scenario and strategies.
- Priorities key scenarios and select strategy.
- Implement chaotic strategy management behaviour.
- Implement chaotic strategy marketing behaviour.
- Achieve business enterprise sustainability.

Apart from the above there are four key changes available to be done in marketing landscape these are:

- Customers are better informed than ever. They are empowered.
- Customers are increasingly ready to buy & trust well-known store brand which they are priced lower than well-advertised rational brand.
- Competitors are able to copy faster any new product or service thus shortening the innovators return on investment (ROI). Competitive advantages have much short life today.
- The internet and social networks, web 2.0 etc. have created radically new media and information success as well as new means for direct to customer selling (Hamel, 2007).

All the BES endeavours require a strategic planning to become more dynamic interactive and compress into short time cycle. This also will lead to breaking large organization into smaller one for better control / command and upshot productivity (Gibson 2002, Kotler et. 2009). Even John Naisbitt & Jackwell (2002) have retorted that: "what we should do relentlessly is to get that small companies soul & small companies speed inside the big company body" (Welch, 2005).

Characteristics of Sustainable Companies

As we have observed in earlier marketing landscape competitive advantages & shortening the innovators return on investment (ROI) are one of the most dominant factors during new economic normality and chaotic turbulence. Once revising ROI is spelt / defined by Gopalkrishnan (2001) ROI is shown in eqn. (1)

$$ROI = \frac{\text{Profit}}{\text{Sale}} \times \frac{\text{Sale}}{\text{(Fixed assets) + (Current}} \quad \text{----------(1)}$$

Here in, fixed assets is sunk in capital so only efficient improvement can be had by management and better control of current assets. We have also seen that long term, short term planning also essential, but long term planning & better execution results in sustainable company. The short term as well as mid term mid-term planning are also essential to fill the performance gap and opportunity gap and filling new space folding in the future are latest trend now a days (Prahalad, 2008) these are not at all conceptual, but if we can plan for future say 2020 – 25 & execution is done in that direction we will achieve the result.

Arie de Geus (2009) spent 38 years on 3 continents as a line manager at Royal Dutch Shell & finished his career as corporate planning director. He has suggested, rather given four distinct traits & practices which are followed by sustainable companies. These are:

- Sensitivity to the world around them.

- Awareness of their identity.
- Tolerance to the new ideas.
- Conversion in finance.

About 30 long live companies have been adopting the following four practices as per De Geus as under:

- Valuing people not assets.
- Loosening steering & control.
- Organising for learning.
- Shaping the human community.

Common Characteristics of Firm's of Endearment

Some of the prominent characteristics are as under –

- They align the interest of all stakeholder groups.
- Their executives' salaries are relatively modest.
- They operate on open door policy, that allows access to top management.
- Their employee compensation and benefits are high for the category.
- They hire people who are passionate about customers.
- They view suppliers as true partners to join hands in improvement productivity, quality & lowering costs.
- They believe that their corporate culture is the greatest assets and primary source of competitive advantage.
- Their marketing costs are much lower than their peer's while customer satisfaction and retention are much higher.

Apart from above 'corporate social responsibility' (CSR) & ecological sustainability (ES) practices are also important for BES for tending them to longer life. Companies today has to be human & environmental friendly.

Corporate Social Responsibility (CSR) and Ecological Sustainability (ES)

For sustenance companies have to practice Corporate Social Responsibility (CSR) and ecological, sustainability meticulously. The companies have to show their humanity and take care of social problems as well as environments obtaining around us. Some of the American examples are: American Express, Avon Ben, Jerry's and 'The Body Shop'. The CSR and ES show distinctly the marked difference and the market system for consumer preference if other things are equal among the competitors. Those companies which has championed social causes that bound more closely to the customers and market place.

Some examples of CSR, ES, including 'ethical behaviour' some demonstrated in above traits are as under:

Company	Social Cause
Aleve	Arthritis
Avon	Breast cancer
Best Buy	Recycling used electronics

General Mills	Better nutrition
General Motors	Traffic safety
Home Depots	Habitat for humanity
Kraft foods	Reducing obesity
Motorola	Reducing solid waste
Starbucks	Protecting tropical rainforests

Case Study I: Companies That Have Lived a Long Life

Arie de Geus after spending 38 years in Royal Dutch Shell writes that the natural average lifespan of a corporation should be as long as two or three centuries.

Also average life expectancy of a multinational corporation- Fortune 500 or its equivalent is between 40-50 years.

Stora Company began more than 700 years ago as a copper-mine in central Sweden, or Sumitomo, which had its origin in copper- casting shop in Kyoto, Japan founded in 1590.

Dupont is around 200 years old was founded in 1802.

About 30 companies have been founded for about 100 years. They are:

W.R. Grace (founded in 1854)

Kodak (founded in 1888)

Mitsui (founded in 1876), and

Siemens (founded in 1847)

De Geus has published his findings in the book “The Living Company”. He believes that surviving and further thriving companies can live for centuries provided they focus on their characteristics and operations. The common characteristics traits and practices have been depicted in the earlier paragraphs.

Case Study II

Herein, we discuss the case of ABB (Asea Brown Boveri), wherein every really huge companies are restyling themselves as network of small entrepreneurs. The big company is breaking up into confederations of small autonomous companies and outsourcing, delayering / downsizing.

ABB is a great company actually the world’s largest power engineering group. But it has sub-divided itself into 1300 companies and 500 autonomous units.

For the above scenario, Jack Welch retorts that: “What we are trying relentlessly to do is to get that small company soul and small company speed inside our big company body”(Welch, 2005).

Case Study III

Herein, a case study of automotive study has been discussed with reference to its confidence, faith reliability and finally reputation level.

As is well known the most prized automobiles of US market, place use: General Motors, Ford and Chrysler (“The Big Three”). Though Chinese auto industries all companies like manufacturers such as Geely or Shanghai Automotive industry are steadily coming in the world market like manufacturers such as Chery, Geely or Shanghai Automotive Industry Corporation. Though

company size has lot to do with reputation but, there are other factors as well Chinese auto-industry may take some time for its brand- equity to be known to outside of China (Kotler *et al* 2009, Gopalkrishnan P. and Sundaresan, 2001).

Today, the best reputations in the U.S. auto-market reputations belongs not to "The Big Three" but rather companies such as Toyota, Honda, Mercedes, BMW and few others.

For having a good reputation (Liker, 2011), one should have the following parameters:

- Delivering more reliable automobiles.
- More innovative automobiles.
- Provide better service.

Thus, it will be noted herein, that US auto manufacturers of General Motors, Ford or Chrysler, have to radically improve upon their reputations through innovation, customer care as well strategic flexibility eventually.

Conclusion

The world has entered a New Age of Economies- a stage of normality to Chaotic turbulence. Breakthrough technology and advances in information technology like cloud computing, disruptive innovations have made the economic turbulence more complex, the financial meltdown and economic scenario of the world more unstable and precarious all over the world.

In the present economic downturn or hubris provides both risk and opportunities. This situation requires a robust, resilient system to be evolved as well as early warning system (EWS), for combating with instability, EWS addresses three major components: One, risk identification, two, risk monitoring and three management swift actions. This decidedly demands an innovative chaotic management system (CMS) for coping with vulnerability and exploiting the opportunity.

The present paper suitably deals with Early Warning System (EWS) and designing of Business Enterprise Sustainability (BES) system as built- in self-restoring equilibrium measure in a company with some relevant case-studies ABB, old companies and 'Big Three' of USA for coping with the alarming chaotic situations obtaining in the world.

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