The New Paradigm of Supply Chain Performance: Orchestrated Structure

A.NagarajSubbarao[#1], Pierre Al-Khoury[*2], Mansour Al-Shamali[#3]

[1] *Dayananda Sagar University, DSU, India*

[2]*Lebanese German University, LGU, p.khoury@lgu.edu.lb*

[3]*Public Authority for Applied Education and Training, PAAET, Kuwait*

***Abstract*-Supply chain management (SCM) is crucial for increasing organisational effectiveness, enhancing competitiveness, customer service and profitability. We live in changing times and disruptive technologies threaten the very survival of organizations like never before. This paper looks at organization design from the viewpoint of organization structure, in determining how organizations may structure themselves in dealing effectively with a complex world. The article specifically looks at ambidextrous organizations as a possible solution to dealing with ambiguity and disruption. Ambidextrous organizations are new age enterprises that are an exciting blend of cross-functional teams and strategic free units that operate on frontier technologies, that do not lose out on either economies of scale or experience that large organizations acquire over time and at a substantive cost. For organizations to be free in a controlled manner is the ethos of this article. The proposed performance measures intend to evaluate the practices influence on operational, economic and environmental supply chain's performance.**

Keywords*-*Supply Chain Management, Ambidextrous Organization, Organization Design, Organization Structure, Change Management, Cross-Functional Teams.

1. Introduction

In the last decade of the Victorian era an obscure public schoolboy made a prophecy about the British Empire's fate in the coming century: "I can see vast changes coming over a now peaceful world; great upheavals, terrible struggles; wars such as one cannot imagine; and I tell you London will be in danger - London will be attacked and I shall be very prominent in the defence of London . . . I see further ahead than you do. I see into the future. The country will be subjected somehow to a tremendous invasion but I will tell you I shall be in command of the defences of London and I shall save London and the Empire from disaster". Companies are constantly looking for ways to increase their effectiveness and improve their bottom lines. One area of renewed interest is supply chain management. Sir Winston Churchill, the former Prime Minister of England and an empire that occupied about a quarter of the globe had made this prediction many years earlier. He could save England but not the British Empire. Organizations are like empires and have their moment in the sun. They wax and they wane. The British were able to rule the world because they had strong internal efficiencies – a parliamentary form of monarchy, sound educational system, disciplined armed forces and a nation hungry for trade and their sea farers, with royal patronage, were more than willing to explore the oceans of the world. It was an age of opportunity, risk and adventure, just as it is today [1].

2. Methodology

Change is inevitable and is to be expected. During the latter part of the 18th Century and early nineteenth century the Industrial Revolution ushered in tumultuous change. This was followed by electricity, the light bulb, automobiles and electronics that has in turn given way to the World Wide Web, computers and artificial intelligence. Change as we see it, is relentless and at the best of times disruptive. How do organizations cope? How do they expect the unexpected? [2].

In the year 2000 IBM decided to launch, an effort to create a cross business enterprise that would fetch it $ 1 Billion in a time frame of five years and it was called as Emerging Business Organization (EBO). The Life Sciences organization had netted a revenue of $ 5 Billion by 2005 on the back of the gnome

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revolution and the need for advanced computing. A new business unit was born [3].

The business environment presents a virtual minefield. To retain their completive advantage and thrive organizations need to do both: Exploit their internal resources and explore the external environment. This would allow them to be leaner and fitter internally and take advantage of opportunities that arise in the external world. This dexterity or as the author says: ambidexterity would create a culture of achievement rather than inertia.

To achieve this culture corporate executives must constantly look backward, attending to the products and processes of the past, while also gazing forward, preparing for the innovations that will define the future. This strategic balancing act is one of the toughest of all managerial challenges, and it's no surprise that few companies do it well or even attempt to it. However, as every businessperson knows, there are companies that do. What's their secret?

These organizations separate their new, exploratory units from their traditional, exploitative ones, allowing them to have different processes, structures, and cultures; at the same time, they maintain tight links across units at the senior executive level. Such *"ambidextrous organizations,"* allow executives to pioneer radical or disruptive innovations while also pursuing incremental gains. Of utmost importance to the ambidextrous organization are ambidextrous managers. These managers are strongly rooted, but have the flair to pursue opportunity. They possess the attributes of rigorous cost cutters and free-thinking entrepreneurs while also maintaining the objectivity required to make difficult trade-offs. Almost every company needs to renew itself through the creation of breakthrough products and processes, but it shouldn't do so at the expense of its traditional business by ignoring inherent strengths and past success. To foray out without domestic strength is suicide and an act of desperation. Change or innovation needs to be accomplished both inside the organization labelled as ‘incremental’ and ‘architectural’ with ‘discontinuous’ innovation creating new business models by exploiting the external environment and making a paradigm shift in how business is accomplished. This would constitute what is called as ‘breakthrough’ innovation. It is also to be understood that most change management initiatives fail and this holds true for innovative change too. This also goes on to explain why, many organizations are reluctant to spend money on change and innovation [4].

To make sound allocation of funds for exploitation of resources within your organization, you need to understand how your whole industry is changing. To understand truly where your industry is headed, you have to take a long-term, high-level look at the context in which you do business, says Boston University [5]. She studied a variety of businesses from a cross section of industries over a 10-year period, examining how industry structure affects business profitability and investor returns. Her research suggests that industries evolve along one of four distinct trajectories:

1. Radical
2. Progressive
3. Creative
4. Intermediating

These four trajectories are defined by two types of threats.

The first is when new, outside alternatives threaten to weaken or make obsolete core activities that have historically generated profits for an industry. The second is when an industry's core assets--its resources, knowledge, and brand capital--fail to generate value as they once did.

Industries undergo radical change when core assets and core activities are both threatened with obsolescence; they experience progressive change when neither is jeopardized. Creative change occurs when core assets are under threat but core activities are stable, and intermediating change happens when core activities are threatened while core assets retain their capacity to create value. If your company's innovation strategy is not aligned with your industry's change trajectory, your plan for achieving returns on invested capital is bound to fail. However, if you understand which path you're on, you can determine which strategies will succeed and which will backfire [6].

Kodak lived in changing times, with radical change staring them in the face, without them even comprehending the business environment. The photography industry was going through sweeping change and Kodak was oblivious of the radical change that was threatening them. It was as if they were trying to use postal mail in times of electronic mail. The nimbleness that was required to face radical change was missing. A similar story repeated itself with NOKIA, where its managers had no idea what the competition was doing. They too were facing radical change and due to a large market share refused to innovate.

Core Activities				
		Threatened	Not Threatened	
Core Assets	Threatened	Radical Change Everything is up in the air Example: Makers of land line telephones	Creative Change The industry is constantly redeveloping assets and resources Example: Motion Picture Industry	Threatened
	Not Threatened	Intermediating Change Relationships are fragile Example: Car Dealerships	Progressive Change Companies implement incremental testing and adapt to feedback Example: Commercial Airlines	Not Threatened

Table 1. Adapted from: Trajectories of Industry Change: How Industries Change: Harvard Business Review

3. Results of Organization Design

Organizations need to be designed to be internally efficient and externally flexible to allow them to be exploitative and explorative. As stated earlier anything short of this will result in an organization not reaching expected outcomes. Good organizational design also allows organizations to be rigid and flexible at the same time by having well defined control mechanisms with collaborative ones. One without the other is poor design. Organization Design is inherent to the process of value creation that an organization embarks upon. Without a proper design organizations will stifle themselves to a suffocating death.

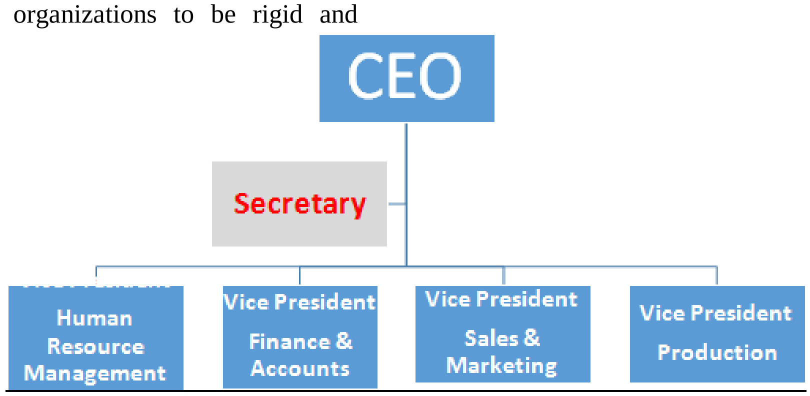

Figure1. Functional Design

A functional organization as shown above has great internal efficiencies as each function is headed by a senior member of the management with an ability to best for what is good for that function. Where it loses out is in terms of collaborative efficacy which would give it greater ability to be flexible in dealing with the external environment which would require the organization to react with speed and alacrity to change.

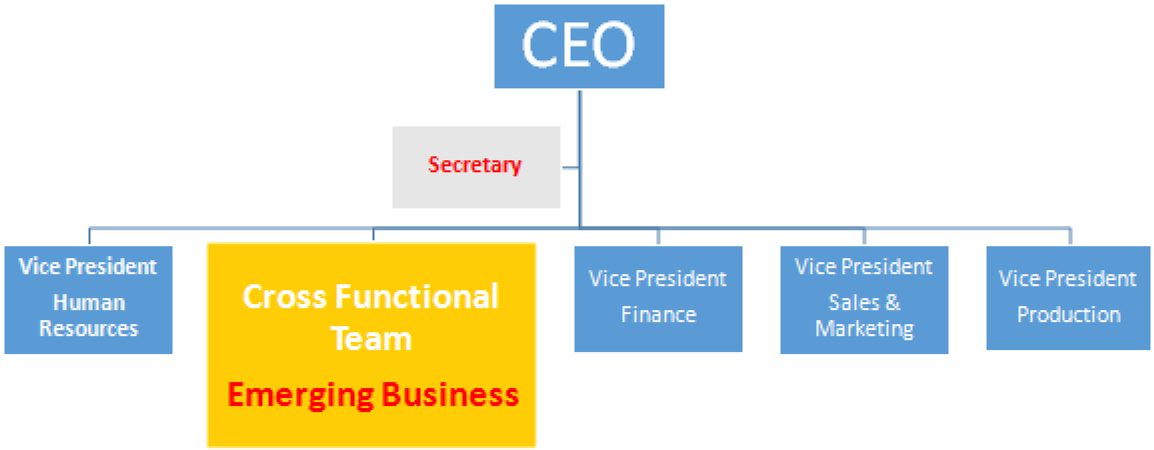

Figure2. Cross Functional Design

The cross functional team was seemingly the answer to the functional team and held sway for a while. Organizational rigidity was overcome by creating teams that drew functional experts from different department to deal with a changing external environment.

However, team culture was always seen as a causality and research seems to indicate as such. A study across twenty five organizations and ninety teams showed that seventy-five percent cross functional teams were dysfunctional.

They failed on five criteria:

1. Meeting customer expectations
2. Adhering to a laid down budget
3. Adhering to laid down organization goals
4. Staying on schedule
5. Adhering to specifications

It is obvious that control mechanisms were weak and not playing the role of keeping the organization on track [7]. Cross functional teams can at times also lack accountability.

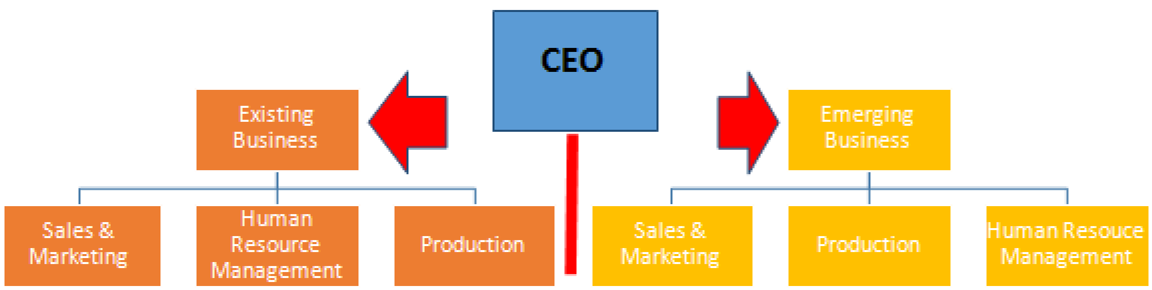

Figure3. Ambidextrous Organizational Design

The Ambidextrous Organizational design structure seems to provide an answer to the dichotomy between internal efficiency and external flexibility or in other words the ability of an organization to both exploit internal resources and explore the environment. It ceases to be a zero sum game.

Building an ambidextrous organization is not easy, but the structure itself, combining organizational separation with senior team integration, is not difficult to understand [8].

4. Discussion and Conclusion

Truly effective supply chain management is planned and purposive. A value-driven supply chain that is coupled to the strategic priorities of the firm is the result of deliberate management action and strategic corporate investments aimed to procure, develop and configure the appropriate resources, processes and metrics that define that firm's supply chain. In [8] has enunciated this extremely well. In his research, he shows that at its heart most good organizations establish a healthy tension where they keep a foot on external exploration while looking inwards too in exploiting internal resources to the hilt. Those organizations that do not do this are doomed to disappear. The concept of designing organizations to explore the external environment is not entirely new. The initial forays were in the form of 'unsupported structures' where loose autonomous units were established to make scouting trips in attempting to create new markets with fresh business models or products and services. However, these autonomous units or structures within a well-established hierarchy often lacked the authority to have their voice heard and stumbled at crucial junctures. It is not that Kodak did not know about digital cameras, it is that the few who did, were smothered under a sea of ignoramuses who represented the well-established old school [9].

[3] have argued that for the ambidextrous organization to succeed there are some critical components that managers need to accomplish: They need a keen nose for sensing change in the external environment and an ability to drive home solutions in taking advantage of these changes, without which being ambidextrous is futile. As always, success goes to those organizations that are able to ideate and execute. One without the other is a waste of resources. For this to happen, the primary requirements would be to have a culture that is suitable [10]. We now have two units one exploitative in nature and the other is exploratory in nature, independent of each other but under the umbrella of the top management coordination that allows them to share resources but presents an impervious screen to keep debilitating ideas out. Management orchestrates the two different units. It is interesting that ambidextrous organizations need different cultures within one organization and a leadership that is strong, accommodative and has strong self-belief:

1. A well-articulated common vision that buys into the new architecture

2. Fostering a collaborative culture among different divisions

3. A strategic intent that is well thought out and firm

4. The ability of the senior management to recognize and contain inherent tensions and conflict without allowing the fire to burn out.

5. A ruthless will to execute opportunities

Table1.

Design Strategy	Culture
Exploitative	Efficiency, Low Risk, Customers, Quality
Exploratory	Risk Taking, Speed, Flexibility & Experimentation

An example of an ambidextrous organization is Ciba-Geigy's crop protection division, a part of Novartis since 1996 when it merged with Sandoz. Ciba-Geigy's managers were able to *exploit* its internal efficiencies by cutting costs in its chemical plant protection business, while simultaneously *exploring* in its North Carolina R&D laboratory yielding a bio-engineered plant that was insect-resistant. A classic case of being exploitative and efficient at the same time.

Cleverly, both outcomes helped to realize Ciba-Geigy's "aspiration" of keeping plants healthy -- whether through chemicals or biotechnology. Thanks to this strategy and breakthrough innovation, the head of its agribusiness was able to engage people in both activities. Again the concordance of idea and action, autonomy and control. These are the cornerstones of an ambidextrous organization [11].

It is an established fact that resources are not unlimited and organizations look to spend carefully. Generally, organizations find comfort in spending money on fine-tuning their internal efficiency mechanisms or the exploitative nature of business rather than on the flexibility or explorative part. Lou Gerstner the iconic chief of IBM in their troubled years was apparently shocked to find that one of their departments working on new initiatives was forced to abandon the initiative because it they ran out of funds. It is to be understood that exploration is inherently risky and the top management needs to repose faith. Else, it would be a failed initiative [2].

As early as 1994, Hilton Hotels recognized the power of the Balanced Scorecard (BSC) to reverse declining guest satisfaction and loyalty across the global hotelier's diverse properties. By carefully phasing in the Balanced Scorecard, it aligned its many hotels behind a compelling vision and strategy--delighting customers, employees, and shareholders alike. This meant that the hotel chain tightened internal processes by bringing in a customer centric performance appraisal system and also embarked upon an exploratory spree that saw them spending upwards of a Billion Dollars in licensing hotels, significantly raising debt levels. The idea was to have Hilton as the preferred brand of hotel for a customer and also to have great market presence. Dieter Huckstering, President of Hilton Hotels also entered into a strategic association with Hilton Group PLC, the Hilton Company outside of the United States of America. A Key Performance Indicator (KPI) laid down was customer loyalty or the possibility of a customer returning to a Hilton Hotel at a later date [12].

In April 2016, the yoga guru, Baba Ramdev who started PatanjaliAyurved Limited declared that his company's revenue would exceed that of Colgate-Palmolive India by the end of the year and would overtake Hindustan Unilever in India in three years. To back his seemingly outrageous claims Patanjali's revenue grew 125-150 per cent from the previous year. The company aimed to continue growing at a rate of 100-125 per cent annually over the next three years, as a manufacturer and marketer of a wide range of products including flour, biscuits, noodles, spices, honey, and toothpaste. It also considered exploring international expansion to support its high growth targets. What systems can drive this exponential growth? [13].

Thus, we see that organizations evolve through periods of incremental or evolutionary change interspersed by discontinuous or revolutionary change. The challenge for managers is to adapt the culture and strategy of their organizations to its current environment, but to do so in a way that does not undermine its ability to adjust to radical changes in that environment. They must, in other words, create an ambidextrous organization--one capable of simultaneously pursuing both incremental and discontinuous innovation. In other words organizations must develop strong internal efficiencies with active exploratory instincts. Story after phenomenal growth story seems to indicate this [14].

Most organizations bend over backward to avoid failure. They shouldn't, says economist [15]. History shows that failure and success are inherently random, so firms should innovate and adapt. That is the only way that failure can be kept at bay. The idea is exciting and innovative in itself. To make the ambidextrous organization work, Tuchman argues the exploit and explore divisions must operate with different strategic intent, critical tasks, competencies, structures, controls/rewards, culture, and leadership roles. Therein lies the dichotomy because organizations would be dealing with two opposing contra veiling forces that might tear the organization apart. It is also very important for the CEO to have his eye on the ball at all times, without which the organization will implode. Also, this is change management in the truest sense and requires extremely careful nurturing. Many managers would see the new 'exploratory' division as competition and shrouded in secrecy. Top Management needs to be able to disseminate information and also play a controlling force. As all change management initiatives, this too needs - an iron hand in kid gloves to get it to work.

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