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Dynamic Capabilities as Source of Sustainable Competitive Advantage in Organizations

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An organization's long term success depends on its ability to exploit its current capabilities while simultaneously exploring fundamentally new competencies in a dynamic environment. Research has revealed that most successful enterprises are adept at refining their current offerings, but they falter when it comes to pioneering radically new products and services. This calls for organizations to develop both alignment and adaptability skills at the same time. How do organizations go about harnessing dynamic capabilities? How alignment of the dynamic capabilities can be a source of corporate renewal? The paper attempts to find some answers to the above questions by understanding how dynamic capabilities can be a pathway for sustainable competitive advantage.

Key words: Sustainable competitive advantage, organizational capabilities.

Introduction

L&T's growth strategy has been so successful that it is now able to offer technological solutions for developing many products and services that were once developed by other companies such as Mitsubishi Heavy Industries, Bechtel, etc. L&T's meteoric rise to technological preeminence over the past decade is due in part to the company's leading edge-technologies and its ability to acquire new capabilities.

It is an illustration about how distinct dynamic capabilities are made real and used to help the company succeed in both existing and new businesses. It is a lesson in how theory and practice combine to develop new insights that are useful for business and generate new thinking about strategy execution by promoting intrapreneurship in different ways within the organization through exploitation and exploration. The dynamic capability concept can be used as a foundation for understanding the processes of opportunity sensing and seizing as well as the process of building competitive advantage.

Defining Dynamic capabilities:

Dynamic capabilities are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve and die. With dynamic capabilities, sustained competitive advantage comes from the firm's ability to leverage and reconfigure its existing competencies and assets in ways that are valuable to the customer but difficult for other competitors to imitate. Dynamic capabilities help firm's sense opportunities and then seize them by successfully reallocating resources, often by adjusting existing competencies or developing new ones. To put it in simple words it is defined as the ability to sense and then to seize new opportunities and to reconfigure and protect knowledge assets, competencies and complementary assets with the aim of achieving a sustained competitive advantage.

Dynamic capabilities consist of specific strategic and organizational processes like product development; alliancing and strategic decision making that create value for firms within dynamic markets by manipulating resources into new-value creating strategies.

Research Methodology

A detailed case study of Larsen and Toubro (L&T) was done with the purpose of capturing the dynamic capabilities at work.

Literature Review:

The pace of globalization and technological change, for example, places significant pressure on companies to adapt. Because major transformations can pose great difficulties due to the extent of change required, companies may instead seek to continuously renew themselves in incremental ways in the hope of keeping pace with, and even leading, external environmental changes. This is an important lesson of research on ambidexterity (O'Reilly and Tushman, 2004, 2008), which focuses on ways in which firms can build mature businesses. In this sense promoting ambidexterity through exploitation and exploration of dynamic capabilities is one solution to the problems posed by major transformations. (Agarwal and Helfat, 2009).

Most recently, strategy approach has begun to emphasize an approach called dynamic capabilities, which builds on the notion of core competencies but focuses on the role of management in building and adapting these competencies to address rapidly changing environments (Teece, 2006, Eisenhardt and Martin, 2000). Eisenhardt and Martin defines dynamic capabilities as "the firm's processes to integrate, reconfigure, gain and release resources to match and even create

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market change. Unlike earlier strategic frameworks that were largely static, dynamic capabilities explicitly acknowledges that as markets and technologies evolve, firms need to adjust by reallocating assets and learning new skills. Dynamic capabilities are the antecedent organizational and strategic routines by which managers alter their resource base, acquire and shed resources, integrate them together and recombine them to generate value creating strategies (Grant, 1996).

Eisenhardt and Martin further mentions that effective patterns of dynamic capabilities vary with market dynamism. Moderately dynamic markets are ones in which change occurs frequently, but along roughly predictable and linear paths. When markets are moderately dynamic such that change occurs in the context of stable industry structure (market boundaries are clear and the players, i.e., competitors, customers, complementers are well known), dynamic capabilities resemble the traditional conception of routines. Detailed analytic processes rely extensively on existing knowledge and linear execution to produce predictable outcomes. Managers analyze situations in the context of their existing tacit knowledge and rules of thumb and then plan and organize their activities in a relatively ordered fashion.

In contrast, in highly dynamic markets where industry structure is blurring, dynamic capabilities take on a different character. When markets which are termed as high velocity exist, change is non-linear and less predictable. High velocity markets are ones in which market boundaries are blurred, successful business models are unclear and players are ambiguous and shifting. They are simple, experiential, unstable processes that rely on quickly created new knowledge and iterative intuition to produce adaptive, but unpredictable outcomes. In these markets, dynamic capabilities rely much less on existing knowledge and much more on rapidly creating situation-specific new knowledge. Existing knowledge can even be a disadvantage if managers overgeneralize from past situations.

It is the ability to adapt and extend existing competencies that differentiates dynamic capabilities from other strategic frameworks. This ability places a premium on senior management's ability to accomplish two critical tasks. First they must be able to accurately sense changes in their competitive environment, including potential shifts in technology, competition, customers and regulation. Second, they must be able to act on these opportunities and threats; to be able to seize them by reconfiguring both tangible and intangible assets to meet new challenges (Teece, 2006). These two fundamental capabilities are at the core of a firm's ability to survive and grow over time and represent the essence of dynamic capabilities. Winners in the global market place have been firms that can demonstrate timely responsiveness and rapid flexible product innovation, coupled with the management capability to effectively coordinate and re-deploy internal and external competencies.

One without the other is insufficient for long term success since the market place is ever changing. If a firm has resources and competencies but lacks these dynamic capabilities, it may make a competitive return in the short-run but is unlikely to sustain this in the face for change. Each of these approaches to strategy attempts to solve the puzzle of how a firm can out-compete its rivals by either developing useful firm-specific skills or positioning itself in ways that customers value and are willing to pay for and that rivals cannot easily imitate. While earlier approaches to strategy were largely static (e.g., develop a positional advantage and protect it), dynamic capabilities call attention to the need for organizations to change overtime and compete in both emerging and mature businesses. (Tushman and O'Reilly, 1996).

Exploiting and Exploring

Companies pursue two kinds of innovation- modest incremental innovations and more dramatic breakthrough innovations. The performance of the organizations focused on small innovations in traditional organizations vis-à-vis radical discontinuous innovations have a direct impact on the organization design arrangements and management practices followed in such organizations in building the management model (Foster, 1986). Of these discontinuous transformations tend to receive the most attention in analyses of strategic renewal (Floyd and Lane 2000). Major changes, such as in technology or customer demand, may cause a company to fundamentally alter one or more aspects of its strategy and organization. A firm may also attempt for strategic transformation because its primary market has matured or is declining, causing the firm to seek new avenues of growth. These types of transformations almost by definition involve replacing parts of a company and its strategy, and affect the long-term prospects of the firm. Thus, such transformations entail strategic renewal (Agarwal and Helfat, 2009). In what has been termed as "competence-destroying change" (Tushman and Anderson 1986) which has undermined entire industries because of environmental changes, it may render the firm to be useless in its current product market, and may pose severe challenges for major transformations. For example, even though Kodak survived the digital camera revolution, the firm had to overcome significant hurdles before it could regain part of its earlier market share (Deutsch 2005). If the firm has little left to renew, it may end up having to disband as in the case of Konica and Minolta, erstwhile giants in the camera industry (Reuters 2006)

Exemplification of Dynamic capabilities at L&T:

Larsen & Toubro Ltd (L&T) surprised the world with its association with the launch of India's first nuclear submarine 'Arihant' (Viswanathan, 2011). L&T was involved in the construction of Arihant since 1998 as most of the construction including hull casing was done by L&T on the basis of design supplied by DRDO. The contribution made by L&T was remarkable. L&T had gained an experience of building Arihant weighing 5000 tonnes, thrice as large as the average conventional submarine and significantly more complex. This exercise has given the company the expertise and the confidence to build conventional submarines. After the successful completion of 'Arihant' in 2009, L&T showed up its active involvement in the development of 'Nagan' a high tech under water surveillance mechanism developed to enhance anti-submarine warfare program. This is a critical aspect of leveraging the existing engineering skills which is the hallmark of L&T and finding high-end usages for it.

For a private player like L&T it was an extraordinary attempt to foray into the development of India's first nuclear submarine project. L&T did not make any money in these projects, what it had tried to display by involving in defence projects, was its engineering capabilities. In the later years, L&T made investments into nuclear power projects in India. It has widened its arena of business by entering into shipbuilding, power projects, metro rail, highways and defence. For Foreign defence contractors looking on to enter India, these demonstrate the readiness of the company as a potential partner in any defence business that they might get from the armed services. However, the investments made are not just about growth opportunities. They also signify a strategic shift-from being an engineering and construction services company to becoming a hi-tech, high-end engineering driven conglomerate that will enlarge scope for an already leading player in infrastructure –building and heavy industry, with a diverse portfolio of activities that takes projects of scale in areas where entry barriers are high.

As clearly articulated by the CMD of L& T, Mr. A.M. Naik, “We will be a very heavy core-infrastructure builder, we want to be the Indian equivalent of Mitsubishi Heavy Industries” (Shrikant, 2009).

How L&T Sense and Seize Opportunities:

1. Realizing domestic opportunities like huge demand in infrastructure arising out of government's public expenditure program
2. Entering into zones where entry barriers are high
3. Partnering with technological giants to learn technological skills and reap benefits of alliance.
4. Extension of geographical arena to emerge as an excellent company on global level.

The Capability Building Up Process

To meet its above purposes, L&T has made huge investments both in the people, processes and financing the following businesses (Viswanathan, 2011)-

In the shipbuilding facility at Kattupalli in Tamil Nadu, L&T has invested INR 3000 crores. The shipyard is incorporated with state of art design and engineering features. The Kattupalli shipyard will initially build defence related ships and later will be used for commercial shipbuilding and ship repairs. L&T has received orders for coastguard ships.

INR 1700 crores investment has been done in manufacturing supercritical boilers, for this L&T has formed a Joint Venture with Mitsubishi Industries limited for setting up a manufacturing facility for supercritical boilers. The purpose of this alliance is technology transfer and licensing agreement. Manufacturing capabilities for supercritical boilers integrates into L&Ts existing strength into power sector.

INR 1600 crores investment was made into nuclear forging business. In 2008, L&T started to tap the nuclear power opportunity ahead by firming up their forging plans. In 2009 L& T signed an MOU with Atomstroyexport (ASE) of Russia for cooperation between two companies for Russian design reactors VVER-100. L&T had played a leading role in equipment manufacture, construction and project management for Pressurized Heavy Water Reactors in India's domestic nuclear programme.

L&T has sensed the opportunity of a $1.5-billion (INR 6,690 Crores) annual business from nuclear power in another three to five years. The company realized that a major part of the growth in this business has to come from nuclear power producers outside India, in the US, Britain and France. "A number of reactors in these countries would go for replacements of some of the parts and upgrades. That would be an opportunity L&T will be looking at," said M V Kotwal, president-heavy engineering. As a part of its heavy engineering division, the company manufactures vessels for pressurized heavy water reactors, fast breeder reactors, steam generator assemblies, heat transport systems and other critical equipment. The company got engaged in engineering, procurement and construction of nuclear power plants.

To strengthen its hold on nuclear business, L& T formed a Joint venture with Nuclear Power Corporation of India Ltd (74:26 percent). Being set up with an investment of INR 1,700 crores, the new L&T-NPCIL facility, one of the seven L&T plants, would be a fully-integrated plant — covering the entire range on a turnkey basis, from melting of steel to finished equipment —

under the public-private partnership (PPP) model to indigenously produce special steels and ultra-heavy forgings for nuclear reactors, pressurizes and steam generators, in addition to heavy forgings for critical equipment in the hydrocarbon sector as well as for thermal power plants.

Domestic opportunities

The construction of 71.6 km of Hyderabad metro railway costing INR 16,500 crores has been taken up for the first time in the world. Besides Hyderabad metro rail, L&T is also involved in the construction of sections of Chennai metro rail and three underground stations.

All the four modern airports at Hyderabad, Bengaluru, Delhi and Mumbai have been constructed by L&T to tight schedules and budgets. The INR 7000 crores, Delhi airport was made ready well in time for the Commonwealth Games and was the crowning achievement for L&T. The major construction job taken by L&T is the 244 km four lane highway costing INR 2200 crores in Rajasthan linking the northern hinterland with the Mundra and Kandla ports in Gujarat.

How L& T Nurtures Alliances:

A critical skill of L&T right since inception has been to forge and nurture alliances which have helped the company to acquire new capabilities for growth. One critical success factor of the organization can be attributed to its numerous alliances in place in all businesses. The most important aspect of these alliances is that in any area where L&T senses opportunities, it seizes those by forming alliances and reaping the benefits. It is a perfect exhibition of how existing capabilities are driven towards a state of being dynamic in nature to learn new technologies which can be leveraged on the existing capabilities it already has.

Organizational Architecture

The organizational structure of L&T is complex with 12 operating companies between five and six divisions, many joint ventures and wholly owned subsidiaries. On actual scrutiny it would also be an equivalent of more than 100 small companies under its fold.

This complexity raises an important question: is L&T a diversified conglomerate or an integrated one? "The businesses we are in are inherently complex", says J.P Nayak, President - Machinery and industrial Products at L&T, who also oversees the company's strategy. "As you would have seen we have moved away from the commodities businesses and from businesses that have low entry barriers. We are an engineering powerhouse, which seeks the kind or complex projects that test our engineering mettle."

Company officials prefer to look at the operating company structure as a portfolio of businesses, rather than a vertical division of activity and labour. The restructuring of the firm got rid of the cement and other non-engineering related businesses and the moves into defence, power and nuclear power are readjustments of the business portfolio. Senior management sees the parts of the portfolio as an extension of scope, rather than as changes in scale, which already exists. L&T has been able to shed old uncompetitive businesses, and enter into new businesses, by reconfiguring itself and its resource allocation. It has deployed multiple strategies in place for sensing and seizing opportunities, which enables it to acquire dynamic capabilities. Please refer Fig-I for types of strategies employed by L&T.

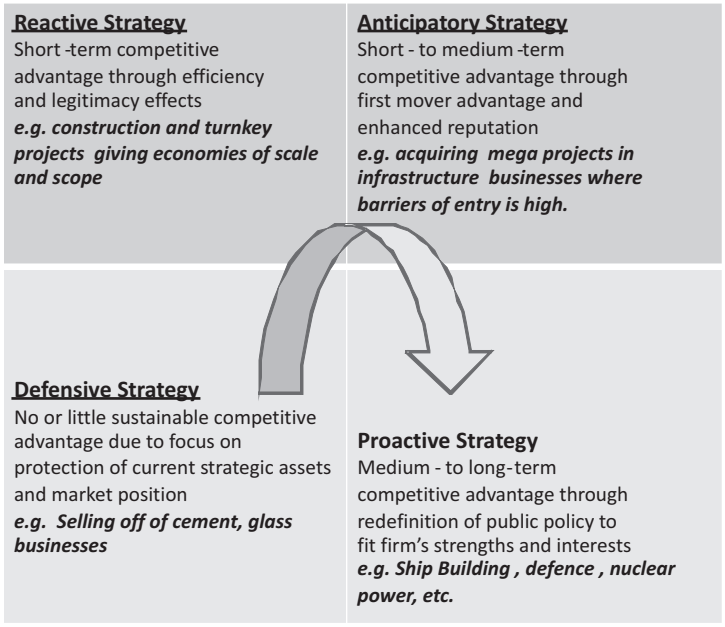


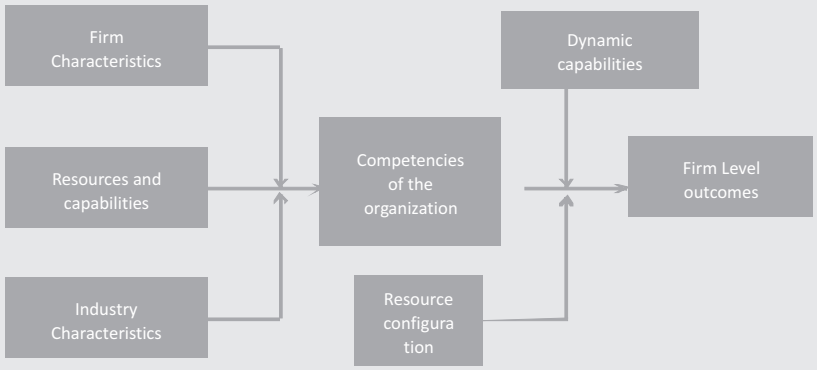
Fig-I- Types of Strategies employed by L&T
(Source: Adapted from Oliver and Holzinger, York University)

L&T manages to retain the benefits of size, especially in marketing and manufacturing. It is no exception when it comes to leveraging its brand power. L& T is one of the largest and most respected professionally managed groups in India. It has a strong brand name- it has built world's largest coal gasifier made in India and exported it to China, the world's biggest EO reactor for petrochemical complex in the Gulf and world's longest conveyor. The group is leveraging its strong brand name to gain competitive advantage for expansion into international markets. According to the L&T's former CEO Mr. Kulkarni "Only through empowerment and decentralized decision making can a highly diversified company like L&T be managed".

Taken together, these processes emphasize strategic insight and execution as well as general management leadership responsibility. While many organizations have several of these elements as a part of their strategy process, what is different about the L&T approach is that they have an integrated set of mechanisms to both sense and seize opportunities. This allows the firm to consider trends in markets and technology, to identify issues that are relevant to customers, to examine them in detail, and to reconfigure assets to address them.

The process begins with the recognition that mature, well established businesses need to operate differently from new, exploratory ones. To succeed, emerging businesses have different key success factors and different styles of leadership and different alignments of people, formal organizations and culture. L&T recognized that the current management system rewarded short-term execution aimed at current markets. Trying to operate new business within a mature one can be exceedingly difficult, with the result that the new business is often killed. Further the company lacked the discipline for selecting, experimenting, funding and terminating new businesses. This led to the development of a process to identify new growth opportunities - all with senior management oversight to ensure that the new businesses get the resources needs to explore the opportunity.

Dynamic Capabilities: Driving Strategy into Action



A frame work of Dynamic Capabilities at L&T
(Source: developed by the author)

Amidst all the praise he received for transforming L&T, Naik was also suitably modest and noted that L&T's forte is in engineering. What he tried to do was basically leverage the engineering capabilities L&T possessed into high end areas. Basically it was about sensing and seizing opportunities wherein L&T could make a significant impact with its engineering excellence.

The real change required was for the company to reallocate assets and to reconfigure itself to be able to compete in a different way. It meant walking away from history and long standing business model. This required seeing the market place differently. But Naik claimed that L&T already had the right strategies. More importantly, it required a cultural transformation that allowed the company to reconfigure itself and to reallocate resources so that they could execute those strategies.

What the transformation of L&T illustrates is that while organizations are often characterized by strong inertial forces that limit change, it is by no means impossible. Teece argues this in saying that "genetic engineering is possible with organizations but it is not easy". The key to sustained profitable growth is the ability to recombine and reconfigure assets and organizational structures as markets and technologies change (Teece, 2006). To accomplish such change, however requires that senior managers be able to not only sense the changes needed by their firms, but also to be able to seize by allocating resources and reconfiguring

the organization to address them. This involves seeing things realistically, being willing to cannibalize existing businesses when necessary, and being ambidextrous or able to manage both mature and emerging businesses.

Conclusion

As exemplified by L&T, acquiring dynamic capabilities offer a source of sustainable competitive advantage. What it translates to is the development of specific strategic and organizational processes like product development; alliancing and strategic decision making that create value for firms within dynamic markets by manipulating resources into new value creating strategies. The value for competitive advantage lies in their ability to alter the resource base: create, integrate, recombine and release resources. Dynamic capabilities also exhibit commonalities across firms that are associated with superior effectiveness. These commonalities lead to the understanding that dynamic capabilities can be exemplified by firms from different starting points following various paths. Long term competitive advantage lies in the resource configurations that managers build using dynamic capabilities, not in the capabilities themselves.

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