

Developing High Adaptive Capabilities: The Case of CISCO

Prashant Salwan & Kapil Sharma

The internet and power of intelligent network help firms to increase its enterprise value by entering new markets, developing new products, creating flexible operations structure, attracting good people and thus increasing the willingness to pay. CISCO predicted all these opportunities and enched its capabilities which helped them capitalize on the globalization advantages. CISCO developed high adaptive capabilities (HAC) and implemented choices that helped it invest rightly and kept the cost of business under control which helped in record superior returns on investment and shorter payback period. HAC not only helped CISCO in optimizing the total cost of ownership (TCO) but also maintaining benchmarked service level agreements (SLA). CISCO reinvented its business model to synergize the resources across the organization.

Prashant Salwan is Professor, Strategy & International Business, Indian Institute of Management Indore. E-mail:psalwan@iimdr.ac.in.
Kapil Sharma is Assistant Professor, Acropolis Institute of Technology, Indore

Background

A firm creates its enterprise value through four major strategies, viz. developing cost leadership, increasing value and increasing price, increasing its products or services consumption in current markets and entering new markets. Successful firms pre-empt the changes in the external environment and develop their organizational capabilities in such a way that helps the firm sustain its enterprise value (Porter, 1981).

Learnings from the market help organizations develop its repository of knowledge which in turn helps in sustaining its competitive advantage (Vorhies & Morgan, 2005). Companies need to develop high adaptive capabilities (HAC) to clock above average reruns. HAC helps in managing sustained performance even in high cost and operational stress environment (Tracy, Lim & Vonderembse, 2005). Market driven firms need to develop market sensing and customer linking capabilities (Moore & Fairhurst, 2003). R&D, manufacturing and marketing are regarded as core innovation assets, but they cannot alone help in increasing enterprise value.

Learning organization, resource allocation and strategy planning which are defined as supplementary innovating assets enable firms' technology assets to permeate into the entire competency integration (Gua & Ma, 2003).

To develop high adaptive capabilities, a firm needs to understand and use its business ecosystem. "Making strategic choices to compete between and within ecosystems is now an increasing focus on a firm's business strategy" (Yan-Ru li, 2009). In a high technology industry a firm faces issues ranging from shortening life cycle, consumer dynamics, value addition, globalization, convergence from external environment but also managing balance and synergies in internal activities which helps in creating and sustaining enterprise value. Firms need to analyze the whole business ecosystem to develop its strategies (Yan-Ru li 2009).

CISCO, a Fortune global 500 firm, quite successfully converted itself into a high tech HAC firm. In 2018 Jan the stocks of CISCO were up by 12%. Cisco transformed itself from a hardware company to more software. Cisco, regarded as "original gangsters" of the 1990s, reinvented itself and developed huge adaptive capabilities to be relevant in a dynamic high tech industry (Brian, 2018). Our research is on the learnings from CISCO's journey to develop as a firm having high tech adaptive capabilities.

Literature Review

For sustaining competitive advantage, a firm need to contentiously innovate and

reinvent its products and business model. The biggest challenge any firm faces is how to sustain its financial performance over time. As per research of Harvard Business School, the profitability of firms in one industry varies a lot. The research found out that the median returns on invested capital (ROIC) of S&P 500 companies recorded 12% growth in a 10 year period, out of which the bottom firms lost money and those firms which were at the top recorded ROIC of more than 25% to 40%. This concluded that being in a growing industry is not so important, but to capture and record above average returns are more important.

Being in a growing industry is not so important, but to capture and record above average returns are more important.

A firm needs to continuously increase the switching costs so that customers do not leave using its products. A firm increases its switching cost by creating unique value proposition through finding opportunities and developing strategies to minimize threats through analyzing the industrial and external forces effecting their business. In high tech industries network effects play a big role in creating and sustaining the competitive advantage. A firm needs to understand the whole ecosystem where it operates (Iansiti & Levien, 2004).

"Cisco created an enterprise ecosystem which seamlessly links together customer, suppliers, employees, contract manufacturers, and other supply chain

partners into a multisite, multi -location, electronics network based on practices and technology of internet” (Yan Ru Li, 2009). In high tech firms internet communication technology, consumer dynamics, globalization, entrepreneurships and networks have increased to hyper competitiveness. To counter these threats, high tech firms in IT and ITES services initially used merger and acquisition strategies to reposition themselves, but post 2008 these firms are using co-operation/collaboration among vertical channel partners and developing a symbiotic relationships to sustain their competitive advantage (Yan Ru Li, 2009).

Business ecosystem (BE) has three characteristics. First, BE has “a loose network of suppliers, distributors, outsourcing firms, makers of related products or services, technology providers and a host of other organizations and is affected by the creation and delivery of a company’s own offerings” (Iansiti & Levien, 2004). Second, BE is a “Platform” where majorly services, tools and technologies are used to enhance performance (Moore, 1993). Third, when BE develops a new landscape “Business ecology entails a broad community of firms and individuals that add value to a technology standard by supplying complementary assets to the core product” (Moore, 1993). Business ecosystem helps company to create value which no single member of BE could create individually (Adner 2006).

How a firm uses its business ecosystem to develop sustaining competitive advantage can be captured through busi-

ness model lenses. Business model (BM) is defined as the logic which a firm uses to create and capture value. BM is a reflection of the firm realized strategy (Ramon, 2010). Business model “consists of four interlocking elements (customer value proposition, profit formula, key resources and key processes) that taken together create and deliver value (Johnson et al, 2008). “A BM articulates the logic, the data and other evidence that supports a value proposition for the customer and a viable structure of revenues and costs for the enterprise delivering the value “(Teece, 2010)

Resource Based View (RBV)

A firm formulates its strategy through matching its resources and capabilities to the opportunities and threats that arise in the external environment. RBV advocates that resources and capabilities play an important role in the primary source of profitability for a firm (Kay, 1999). Industry attractiveness and competitive advantage are the major sources of superior profitability of firm. Research shows that the industry factors account for only a small proportion of inter firm profit differentials. Firm specific resources and capabilities help in creating and sustaining competitive advantage through the development and re-deployment of sources and capabilities. The profits arising from superior resources are defined as Ricardian rents. Economist David Ricardo proved that even when the market for wheat was competitive, fertile land would yield high returns. (Trailer, 2002)

As per RBV company resources are the productive assets owned by it and capabilities are what the company can do.

As per RBV company resources are the productive assets owned by it and capabilities are what the company can do. Synergy between resources and capabilities create competitive advantage. Resources and capabilities together create organizational capability. As per RBV a firm develops its strategy so that it is able to exploit the uniqueness of its portfolio of resources and capabilities (Petrash, 1996). According to Prahalad and Haemal (1990) "it is not the size of a firm's resource base that is the primary determinant of capability, but the firm's ability to leverage its resources". Resources can be leveraged through concentrating, accumulation, complementing and conserving.

Adaptive Capabilities

In their 1990 landmark paper, "The Core Competence of the Corporation," C. K. Prahalad and Gary Hamel pointed to the potential for capabilities to be the "roots of competitiveness," source of new products, and foundation for strategy. In high tech technology industries new companies are built around specific technological capabilities.

A firm has four levels of capabilities. First, managerial capabilities where in a firm nurture and develop people, empowered decision making and encourage creativity and innovation. Second, being stra-

tegic capabilities where in a firm developed stakeholders' focused vision and clear implementation plan which has an operating model and profit formula. Third, operational capability where in the firm align critical processes, resources and technologies to the overall guiding vision, and deliver these processes effectively and efficiently. At the fourth level we have adaptive capabilities where in the firm develops its capabilities to mobilize the "leadership, operational and strategic capabilities by rapidly changing the organization to adapt and shape the emerging environment." (Umit, Mauire & Lan, 2011)

Business Model

To manage and take strategic decisions on market forces, economy, internal resources and capabilities and competitor dynamics a firm has to consider six components of its business model, viz. the offer component (value proposition), the market component (market and customer selection), the economic component (pricing), the personal factor (core ambition), the internal capability component (resource management) and the competitive strategy component (product market position) (Morris et al, 2005). Business model answers the question of understanding how technology is converted into market outcomes and also how new networks are used for innovation (Zott et al, 2010).

Reinventing Business Model

A firm named "Diamond Multimedia" introduced the Rio, a digital music player

Business model answers the question of understanding how technology is converted into market outcomes and also how new networks are used for innovation.

in 1998 and another firm “best data” launched a stylish digital player in 2000 in the market and both of them were good in quality and design and were liked by customers but both of them were not successful. It was apple who succeeded in digital media player business. Apple went one step ahead of the industry pioneers by just not only using a good technology and put it in a good design instrument, but it took a good technology developed a great business model around it. It made accessing music easy and convenient. Apple developed resources such as hardware, software, and service and weaved a business model around it which helped in synergy, low cost and create huge willingness to pay. Apple used the blade and razor model of Gillett where in it gave low margin i Tune which can be regarded as blade with high margin iPod (razor). This strategy helped in increasing locking and hence the switching cost increased through increasing convenience. Firms like Wal-Mart and Target saw an opportunity in retail discounts and now account for more than 75% of the total valuation of the retail sector. Low cost airlines now control more than 55% of the market value of all carriers. These firms reinvent its business model and created huge value. There are four components of reinventing the business model, viz. customer value proposition, profit formula, key processes and resources. (Johnson et al, 2008)

Customer value proposition (CVP): A firm helps its customers satisfy their requirements by developing products which help in answering their latent and expressed needs. A firm needs to understand the needs of its customers in all its dimensions. Firm then needs to answer “how to get it done” and the differentiation (Johnson et al, 2008).

Profit formula: How the company creates value for itself while providing value to the customer? The constituents of profit formula are: revenue model, price x volume, margin model, given the expected volume and cost structure, the contribution needed from each transaction to achieve desired profits and resource velocity: how fast we need to turn over inventory, fixed assets, and other assets—and, overall, how well we need to utilize resources—to support our expected volume and achieve our anticipated profits (Johnson et al, 2008)

Key resources: The key resources are asset such as the people, technology, products, facilities, equipment, channels, and brand required to deliver the value proposition to the targeted customer. The focus here is on the key elements that create value for the customer and the company, and the way those elements interact. (Johnson et al, 2008)

Key Processes: Operational and managerial processes (Johnson et al, 2008)

Research Methods

The purpose of this paper is to provide an exploratory study of developing

high adaptive capabilities by CISCO through reinventing the business model lenses. The paper, therefore, aims to contribute to the extensive literature of capability development and reinventing business model at the firm level by extending our understanding of CISCO.

The choice of case study based research methodology is justified as the literature in capabilities and business models shows, capturing of the process requires an in-depth contextual assessment of the process of change by gathering data holistically from several levels of the firm, including single and cross-functional teams. As per Eisenhardt and Graebner (2007) case study is suitable for this research. Ethiraj Kale, Krishnan, and Singh (2005) aver that the preferred strategy in the studies related capability evolution is case study based research. The present study

does not aim to measure any quantifiable variable such as rate or frequency. Instead, our research questions are on “What” and “How” in nature and hence as per Yin (2013) case study based research is appropriate.

The CISCO study is an investigation into a real-life phenomenon in depth, and within the firm environment context, hence case study research is the best research process. The contextual conditions are not delineated and /or controlled but are the part of the investigation. The recent success of CISCO in a high technology industry indicates high potential in empirical research of adaptive capabilities. In CISCO case study research we collected data through interviews, archives, and observations. As we are finding out how did CISCO catapulted itself to a mature firm we need to undertake exploratory research.

Data Collection

Place	People & Designation	Captured
Corporate HQ Cisco Systems, Inc. San Jose, CA	Met Senior officials of Corporate Planning team and R&D.	Strategic orientation to the business model
India (Bangalore)	R&D and Marketing team members	The process of developing capabilities in R&D and marketing and business model frame work is integrated and operationalized

A total of twenty three senior members of the management team were met. Semi-structured interviews were taken. We interacted with them to learn how the business model was working, and open-ended questions were asked. As advised by Burns (2000) and Dooley (2002) we triangulated the data collected. The findings are cap-

tured across two activities, first being the process of reinventing the business model and the second being future fit model.

Secondary data was collected from CISCO archival data, documents and reports, news reports and industry associations.

Case Company

Cisco's first product was a router. It acquired Crescendo in 1993 and became a full network equipment company. Cisco invested in new product development and services and has become technology leader in internet infrastructure industry. In 2002 CISCO had become a standard wherein network engineers were trained in Cisco technologies, hardware producers produced products on Cisco Standard, software developers developed applications to Cisco products (Kramer & Dedrick, 2002). Cisco developed its initial resources and capabilities through inorganic growth it acquired 106 companies from 1993 to 2005. These acquisitions helped CISCO in developing hybrid network and diversify into telecommunication and other related business through consolidation of technology capabilities. From 2011 it started developing full solution firm capabilities through large acquisitions.

Cisco's leadership knew that it needs to develop capabilities both internally and through inorganic route to develop its competitive advantage. Two leaders which helped CISCO reinvent its business model were John Chambers and Charles H Robbins. John Chambers developed the capabilities of reading the market trends before anyone else does. He invented things like answering customers' problems directly through web. He developed an internal process wherein market transitions in social, economic and technological shifts would affect Cisco's and these shifts would be pre-

cursors to the market disruptions. As John Chambers said "it used to take three to five years to reach USD 1 Billion in revenue through a new product. There used to be two to three years' development cycle. Added to it are six to nine months to understand the transition opportunity". Hence knowing market transitions was very critical to timely develop new products. Cisco could analyze that not even data but also voice and video over IP networks. They centralized that firms would build voice over IP (VOIP) networks and also in homes (Werbach, September 2005 Issue).

Cisco team had ear to the ground and listened to its customers. A customer informed the Cisco team that they did not have a particular type of capability and it was available with a firm named Crescendo. John paid USD 92 million to acquire a firm which had a revenue of USD 10 million. Once the capabilities of crescendo were integrated with the firm, it gave Cisco USD 7 billion a year business to its switch unit. Scientific Atlanta was also acquired from the input from an customer who wanted network support for video. Under John's leadership Cisco developed capabilities (tying networks through architecture) which could help in connecting to different networks rolling seamlessly.

Cisco implemented open innovation philosophy when it launched "I-Prize" wherein any engineer in the world could advice Cisco on ideas on new product development. Cisco positioned itself

post 2008 as an “intelligent, network centric” wherein a whole range of communication experiences and seamless delivers information to the stake holders .Cisco’s reinventing of its business model can be learned from its John CEO quote “Our success at Cisco has been defined by how we anticipate, capture and lead through market transitions”. The future orientation of the leadership team helped Cisco in developing the critical success factors required in their industry in real time. Once the market trends are calculated,

resources and capabilities required to capture or counter them also start. Cisco implemented choices (assets, policy and governance) to enable develop the consequences of increasing willingness to pay (Table 1).

The future orientation of the leadership team helped Cisco in developing the critical success factors required in their industry in real time.

Table 1 Critical Success Factors and Choices & Organization Alignment

Critical Success Factors (post 2011)	Choices & Organization Alignment
Knowledge of customer needs, technology cycles.	Strong in-house research and development and develop aggressive acquisition and strategic partnering
End to end networking and security	Hardware & software / integrated products included all firewalls and security features, leveraged its core products by building applications around them and developing new technologies. Focus on developing network as a platform Nimble with portfolio orientation
Entry into new markets and geography	Focus on markets which required help to navigate complex transitions by leveraging power of the network Entering India and China Responded to market needs - more band width, decentralized to centralized Customer centric approach (CFI)
Developing synergy	Cisco’s culture of shared goals Accountable cross functional executive level committees to make customer centric decisions Refining of primary performance measures and discuss them in quarterly meetings – Accountability
Leadership development and knowledge sharing	Leaders had flexibility to investigate new opportunities, while still enjoying centralized decision making and product consistency designed into the functional structure Authentic leadership
Service quality	Services organized around customer segments and delivery models Sales and engineering share same financial goals (gross margins) and responsible for decisions The values are “Driven by customers and market transitions” Cisco was focused on the requirement of ‘my customer’ (Cisco’s customer’s customer), hence they were highly responsive to any market requirements By partnering with Apple, TCS, Wipro, Erickson, Accenture, Honeywell, it has strong strategic partner base

Fig. 1 CISCO Business Model Pre 2012

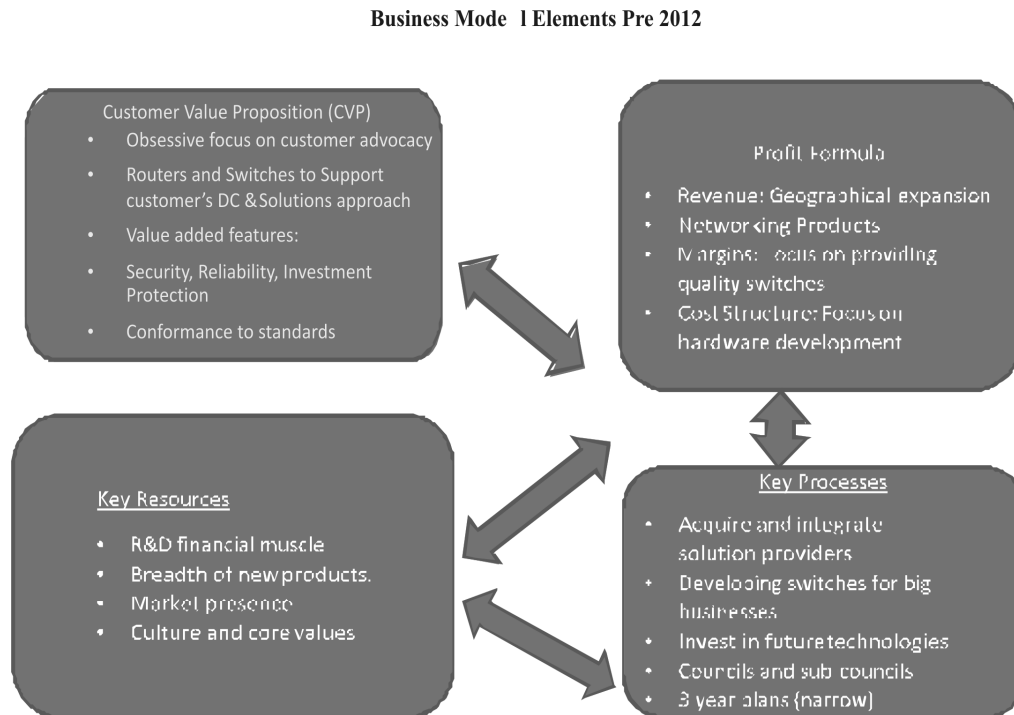


Fig. 2 CISCO Reinvented Business Model Elements 2017

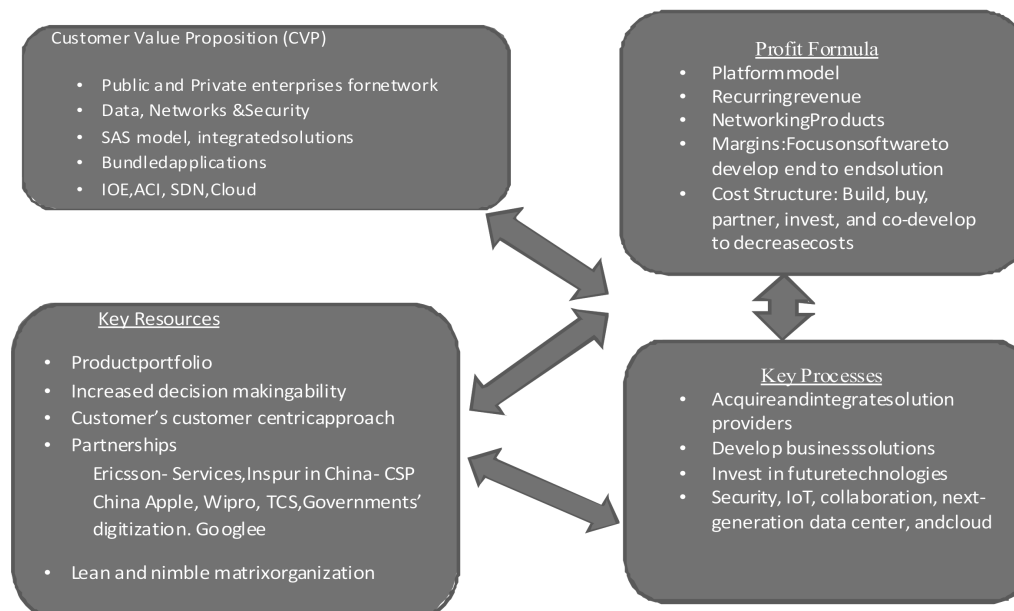


Fig.3 CISCO Value Chain Function wise

Procurement	Infrastructure	Technology	Human Resource
<ul style="list-style-type: none"> • End to END integration in SCM • Partner loyalty • Finished products directly flow to customer through logistic • Wallet share • Ease of doing business. 	<ul style="list-style-type: none"> • Limited investment in infrastructure • More than 190 acquisitions & Investment 	<ul style="list-style-type: none"> • Rapid pace in innovation • High concentration through Technology • Focus :Data centre, cloud, big data, security, IOT and its core networking 	<ul style="list-style-type: none"> • High Emphasis on Teamwork and collaborative culture- • councils and boards with CFT • Shared goals • Hire the best, fuel fun and creativity at work

Fig. 4 Value Chain Operational wise (2017)

INPUT	PROCESS	OUTPUT	MARKETING & SERVICES	AFTER SALES
Functional, R&D & Financial Muscle Breadth of new products Culture and core values Aggressive acquisitions and integration Customer focus Initiative Spin off/ Divestment	Consolidation of verticals Collaboration Flexibility Efficiency Shift to Matrix organization from Invest in the future Security, IoT, collaboration, next-generation data center, and cloud. 3 Year plans	Councils Boards Acquisitions in IoT space (Jasper), security space Heads of states- Digitization Partnerships Ericsson- Services, Inspur in China- CSP China Product revenue > \$37.2 bn Services revenue > \$12 bn Higher margins- topline growth 3%, Net Income grew 20%	Service Provider Commercial Enterprise Obsessive focus on customer advocacy Simplified product portfolio for customers (Integrated solution) Software based subscription based model	Security Reliability Investment Protection Conformance to standards Co- development Quick response and allocation of resources to new emergent customer needs

Business Model

Cisco developed an excellent value proposition by developing high perceived value over a perceived cost. Its new acquisitions benefited customers with integration to new platforms. High quality network devices such as

switches, routers and a wide array of network technologies integrated the computers. Cisco provided hardware and software for end to end network needs, ensuring no compatibility issues. Cisco had a very responsive customer support team ensuring least possible down time. Cisco, by virtue of being

market leader, could offer widest range of products and could also offer latest products which would be beneficial to the customer.

Cisco, by virtue of being market leader, could offer widest range of products and could also offer latest products which would be beneficial to the customer.

When became CEO, Charles S Robins launched the three pillar strategies in Cisco, viz. accelerate the pace of innovation, increase the value of network and deliver the right consumption models for its customers.

Convergence created a new level of complexity to do business. Cisco customers were using multi cloud environment wherein they were using private, public and hybrid cloud, multiple software as a service (SAAS) application. Vendors were also building capabilities around the new connections. Customers wanted visibility and control over their ability to formulate, implement and evaluate their strategy with high level of security. Cisco needed to create its own space and increase switching costs and willingness to pay. Cisco needed to develop a unique value proposition wherein customers could use its solutions and maximize business benefits.

As convergence initiated billions of things getting connected to internet, which resulted in huge amount of data being circulated and generated. Cisco found that the value creating with cus-

tomers is possible when they focus on challenges in complexity and security. Cisco started creating willingness to pay through focusing on consulting the customers how to manage the challenges in the convergence world as well as help in reducing operational expenses and become a more agile combined with security.

Cisco developed a highly secure, intelligent platform for digital business through reinventing networking, developing and enabling multi cloud world, unlocking power of data through analytics, enriching the employees' and customers' experiences through reducing complexity and increasing simplicity and deploying security.

Cisco provided end to end security approach (network to cloud). The company innovated an intuitive network named Encrypted Traffic Analytics (ETA) which detects malware in encrypted traffic without decrypting it. This helped the customers to enhance cyber security without eroding data protection and privacy. Cisco increased value for customers by reducing the time customer used to take in detection and response to threats.

Cisco developed intent based networking platform which was built on Cisco Digital Network architecture (CISCO DNA). This network constantly learns, adapts, automates and protects optimizing network operations and defends against any cyber threat. It worked with web scale players

(WSP) and used its capabilities in enterprise space and WSP technologies and solutions to increase willingness to pay.

Acquisition of Appdynamics and Viptela helped the company in developing capabilities of application visibility and automation through analytics innovation. Cisco expanded its analytics solutions into the public cloud. Cisco provided its customers real time data center analytics through Teration analytics.

To enhance and increase productivity in the internal processes of its customers, Cisco launched WebEx, Telepresence and Spark. The three are collaborative tools which allowed closer connections between teams hence increase innovations, research not only in home countries but also in host countries (across geographies). Cisco further enhanced its capabilities of collaborative solutions by adding machine to person communication to people to people communication.

These strategies added to the revenue model of the company. In FY 2017 Cisco had 48USD billion revenue (35.7 USD billion from product revenue and 12.3 USD billion from service revenue). Cisco deferred product revenue related to software and subscription grew by 50% and reached 5 USD billion in 2017. 11% of Cisco product revenue came from recurring offers.

Cisco is increasing innovation through: a) acquisition, partnering, investing and co-developing, b) using current

set of capabilities namely machine learning and advanced analytics to operate and define network and c) developing more programable, flexible and virtual networks /software defined networking (SDN).

Cisco Google Cloud Partnership

Cisco had high capabilities of network and security; it had private cloud infrastructure, experience in multi cloud management and enterprise class sales and support whereas Google Cloud had capabilities in cloud services, micro services/containers, API gateway and developer community.

Cisco and Google partnership resulted in creating huge value to the customers as now the partnership had the capabilities to develop in the cloud and deploy anywhere, increasing software velocity without compromising security or reducing control, using same management framework and tools of customers across internal firm and cloud. Customers could also choose cloud provider based on the needs, develop agility encompassing network and security policy and regulatory compliance. For Cisco and Google it helped in rationalizing investment in cloud as the partnership helped in bridging existing investments with new digital initiatives.

Cisco's increasing willingness to pay: a) helping customers aggregate, automate and draw actionable insights for data, b) security, hence reducing time on threat detection and minimize time of response across the architecture, and c) helping customer use multi cloud envi-

ronment in a simplified way, secure and transformational.

Cisco started working a total solutions provider. It started selling products and services integrated into architectures and solutions for both customer premises and the cloud. Cisco started selling more software and subscription based offerings designed to provide its customers with flexibility. By adding

Cisco started selling more software and subscription based offerings designed to provide its customers with flexibility.

more software features across its core networking platforms Cisco is expected to increase more recurring revenue streams.

Table 2 Future Ready

Efficient and effective delivery of a focused business model	Score
We have a clearly defined vision for the business based on knowledge of what the customer wants.	2
We have a deliberate strategy to achieve this vision which is supported by an appropriate operating model.	2
We know our critical processes and regularly measure and improve them to ensure maximum efficiency and performance.	1
We have invested in, or have access to, appropriate manufacturing and business management technologies.	2
Our employees are appropriately trained for the tasks they carry out and are regularly reviewed to identify development opportunities.	1
We have a clear view of our revenue streams and have defined cost and pricing structures that enable us to manage cash flow and profitability.	2
The vision, strategy and performance of the business is regularly communicated to all relevant personnel.	1
TOTAL	11
Ability to change, innovate, and adapt to the emerging environment	Score
We have identified the areas of the business environment that impact on our business and regularly scan these for potential opportunities and threats.	2
We evaluate the significance of opportunities and threats identified from the business environment based upon our guiding vision and customer value offering.	1
We generate options and make decisions quickly on how to respond to opportunities and threats based upon their significance to the business.	1
We review our business strategy in light of any changes in the business environment and change it as required.	2
Our business is flexible enough to reconfigure in order to respond to opportunities and threats.	2
We measure operational and financial performance indicators and review this information regularly to enable the business to foresee any potential issues.	1
Our employees embrace change as part of the norm and are continuously suggesting ways to improve their tasks.	2
TOTAL	11

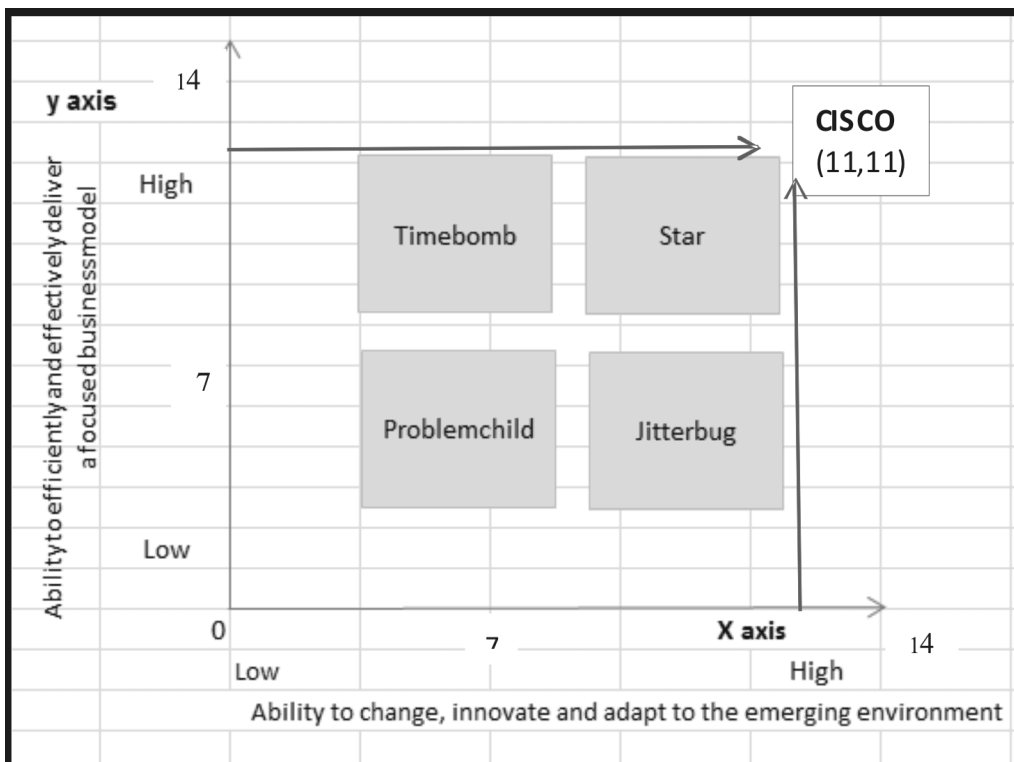
1 = agree, 1 = to some extent 0 = disagree

Developing High Adaptive Capabilities

We used UmitBititci-Catherine Maguire- Ian Gregory model of future ready. This model gives a quick assessment on a firm’s ability to deliver a focused business model effectively and

efficiently, and its ability to change, innovate, and adapt to the emerging environment. We delivered this instrument to Cisco top management team in India. After receiving the reply from all of TMT in India (fifteen in nos.) we averaged them out and came with the numbers.

Fig. 5: Future Fit Model



As per analysis Cisco comes under stars. We can infer that the company has focused business model that is delivered effectively and efficiently. They

The company has focused business model that is delivered effectively and efficiently.

understand the customers’ needs and have a clear value proposition that enables the company to fulfill them profitably. CISCO is innovative and flexible. Cisco’s borderless networks, collaboration, data center /cloud computing and video helped its customers solve their problems through standard based solutions and keeping Total Cost of Owner-

ship (TCO) low. Cisco enhanced its services by making its architecture work in an integrated way and realize maximum value to its clients through its IT solutions.

Emerging markets had their own challenges (volume challenge and low budget in IT systems). Cisco increased the effectiveness and efficiency of its systems. It used technologies like unified computing and unified fabric, which helped in reducing the spending on operating system by 60% in data center. Provisioning times for new services have helped reduce the time from nine days to less than an hour.

Cisco could develop its adaptive capabilities through preempting the technological and customer trends and subsequently proactively through organic and inorganic growth.

Cisco could develop its adaptive capabilities through preempting the technological and customer trends and subsequently proactively through organic and inorganic growth and developed operational and strategic capabilities through a focused and supportive leadership.

References

- Adner, Ron (2006), "Match Your Innovation Strategy to Your Innovation Ecosystem", *Harvard Business Review*, 84 (4): 98-107
- Casadesus-Masanell, Ramon, Ricart, Joan E (2011), "How to Design A Winning Business Model", *Harvard Business Review*, 89 (1/2):100-07
- Chambers, John (2015), "CISCO'S CEO on Staying Ahead of Technology Shifts", *Harvard Business Review*, 93(5):35-38
- CISCO Annual Report 2017
- Collis, David J., Montgomery, Cynthia, A. (2008), "Competing on Resources", *Harvard Business Review*, 86 (7/8):140-50.
- Eisenhardt, K.M. & Graebner, M.E. (2007), "Theory Building from Cases: Opportunities and Challenges", *Academy of Management Journal*, 50(1):25-32.
- Ethiraj, S.K., Kale, P., Krishnan, M.S. & Singh, J.V. (2005), "Where Do Capabilities Come from and How Do They Matter? A Study in the Software Services Industry", *Strategic Management Journal*, 26(1):25-45.
- Gluck, F. W., D. Gogel & A. Puri (2000), "The Business System: A New Tool for Strategy Formulation and Cost Analysis," in McKinsey on Strategy, Boston: McKinsey & Co
- Frangos, Cassandra (2015), "How Cisco Gets Brutally Honest Feedback to Top Leaders", *Harvard Business Review Digital Articles*, 12/29/2015
- Fryer, Bronwyn & Stewart, Thomas A. (2008), "CISCO Sees the Future" *Harvard Business Review*, 86(1):72-79
- Petrash, G. (1996), "Dow's Journey to a Knowledge Value Management Culture," *European Management Journal*, 14: 365-73
- Ghemawat, Pankaj (1986), "Sustainable Advantage", *Harvard Business Review*, 64 (5): 53-58.
- Greenley, Gordon E., Graham J. Hooley & John M. Rudd. (2005), "Market Orientation in a Multiple Stakeholder Orientation Context: Implications for Marketing Capabilities and Assets", *Journal of Business Research*, 58 (11): 1483 -94

- Hamel, Gary & Prahalad, C. K (1992), "Capabilities- based Competition", *Harvard Business Review*,70(3):164-70.
- Kay, J. (1999), "Resource Based Strategy, "Financial Times, September 27
- Trailer, J. W (2002), "On the Theory of Rent and the Mechanics of Profitability," The California State University, Chico, College of BusinessChico CSU Chico,
- Johnson, Mark W., Christensen, Clayton M. &Kagermann, Henning (2008), "Reinventing Your Business Model", *Harvard Business Review*. 86(12):50
- Jouret, Guido (2009), "Inside Cisco's Search for the Next Big Idea", *Harvard Business Review*,87(9): 43-45
- Johnson, Mark W., Christensen, Clayton M.,Kagermann,Henning(2008), "Reinventing Your Business Model (cover story)", *Harvard Business Review*, 86 (12): 57-68.
- Iansit, M., & Levien, R. (2004). Strategy as Ecology. *Harvard Business Review*, March.
- López, Salvador Vivas (2005), Competitive Advantage and Strategy Formulation - The Key Role of Dynamic Capabilities, *Management Decision*, 43 (5): 661-69.
- Magretta, J. (2002), "Why Business Models Matter," *Harvard Business Review*, 80: 3-8
- Monterde, Stephan (2016), "How We Think about Innovation at Cisco" *Harvard Business Review*, Digital Articles: 6/8/2016,
- Moore, J. F. (1993), Predators and Prey: a New Ecology of Competition", *Harvard Business Review*, 71(3): 75-86
- Moore, J. F. (1996), *The Death of Competition: Leadership and Strategy in the Age of Business Ecosystems*, New York: Harper Business.
- Moore, Marguerite &Ann Fairhurst (2003), "Marketing Capabilities and Firm Performance in Fashion Retailing", *Journal of Fashion Marketing and Management*, 7 (4): 386-97.
- Morris, M., Schindehutte, M. & Allen, J. (2005), "The Entrepreneur's Business Model: Toward a Unified Perspective", *Journal of Business Research*, 58: 726-35.
- Newbert, Scott L(2008), "Value, Rareness, Competitive Advantage, and Performance: a Conceptual-level Empirical Investigation of the Resource-based View of the Firm" *Strategic Management Journal*, 29(7):745-68.
- Pankaj Gemawat & Jan W Rivkin (1998, revised 2006) "Creating Competitive Advantage", HBS Note : 798 062
- Porter, M. E. (1985), *Competitive Advantage: Creating and Sustaining Superior Performance*, New York: The Free Press
- Porter, M. E. (1996), "What is Strategy? *Harvard Business Review*, 74: 61-78.
- Prahalad, C. K.; Hamel, Gary (1990), "The Core Competence of the Corporation", *Harvard Business Review*, 68(3):79-91.
- Prahalad, C. K. & Gary Hamel (1990), "The Core Competencies of the Corporation" *Harvard Business Review*, May-June 1990
- Shaligram, B. J. (2014) , "Organizational Capability and Their Strategic Impact on Firm's Market Share" ,*International Journal of Scientific and Research Publications*, 4(12)
- Teece, D. J. (2010), "Business Models, Business Strategy and Innovation," *Long Range Planning*,43: 172-94
- Tracey, Michel., Feen-Su Lim. & Mark, A. Vonderembse (2005), "The Impact of Supply-Chain Management Capabilities on Business Performance", *Supply Chain Management: An International Journal*, 10(3): 179-91.
- Umit, Bititci, Catherine Maguire, & Ian Gregory (2011), Adaptive Capability A Must for

- Manufacturing SMEs of the Future SMEs, research report *futuresme.edu*, .
- Vorhies, Douglas W. & Neil A Morgan (2005), "Benchmarking Marketing Capabilities for Sustainable Competitive Advantage", *Journal of Marketing*, 69 (January): 80 – 94.
- Wernferfelt, Birger (1984), "A Resource-based View of the Firm", *Strategic Management Journal*, 5(2):171-80.
- Yan ru li (2009), "The Technology Road Map of Cisco Business Model", *Technovation*, 29:379-86
- Yin, R K(2003), *Case Study Research Design and Methods*, Sage Publication, Beverley Hills
- Werbach, K. (September 2005 Issue), "Using VoIP to Compete", *Harvard Business Review*, 01 Sep 2005, 83(9):140-7, 160]