CISCO SYSTEM'S STRATEGIC USE OF THE INTERNET AND BUSINESS APPLICATIONS

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ABSTRACT

Information systems are the key decision component of a firm's business strategy. Cisco made use of internet and its information systems to accomplish its following strategies: to create a business ecology market its technology to networking world; to create a virtual organization and outsourcing many operational and customer services and focusing its resources on its own core product innovation strategy; to showcase its own internet use as a marketing tool. Cisco's strategy enabled it to sustain high growth rates throughout 1990s. In late 2000, however Cisco's market collapsed and experienced a loss of billions of dollars in unsold inventory.

KEYWORDS

Cisco, information systems, business strategy, internet, telecommunication, network

1. INTRODUCTION

Information systems play very crucial role in enabling or supporting different systems of the company's business strategy [1]. Cisco systems, the largest network equipment company has been using Internet, e-commerce and information systems as dominant technology in internet era. The technologies used by Cisco systems aim the following strategies: to create a business ecology market its technology to networking world; to create a virtual organization and outsourcing many operational and customer services and focusing its resources on its own core product innovation strategy; to showcase its own internet use as a marketing tool. The internet and the e-commerce are used to tie Cisco systems with its customers, suppliers and business partners.

Following the model of the other standard leaders such as Microsoft, Cisco improved its proprietary internet operating system IOS for controlling routers and switches by focusing on its product innovation. Cisco also was the leader in virtual organization models with reliance on its business partners to support its growth.

Cisco's investment and improvement in its product enabled it to achieve extraordinary growth in 1990s. The network market expanded through linking the PCs within organizations and internet which linked again the network of PCs. Hereby Cisco gained a huge market share.

In early 2000 Cisco had the largest market capitalization. However around 2005 Cisco's business was hit by collapse of various internet companies and the less demand for IT equipment. Cisco failed to anticipate this slowdown in the market [2].

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2. CISCO: COMPANY BACKGROUND

Cisco was created by two married couples, Sandy Lerner and Len Bosack, two specialists at Stanford University in late 1984. They have commercialized the router which was developed at Stanford University. Lerner and Bosack led Cisco until it was listed in public exchange stock nasdaq in 1990.

Cisco was producing only one product until 1993 when Boeing decided to develop network using switches from Crescendo Systems. After acquiring Crescendo for $ 95 Billion Cisco become a networking company from a router company.

Cisco continued to expand its computer networking product sales with an increase from $70 million in 1991 to more than $18.9 billion in 2000. Cisco achieved its remarkable growth by setting standards for its networking products through its proprietary IOS which runs on all Cisco routing devices.

Cisco continuously widened its area of focus. It has targeted telecommunication companies, home market and Internet Service Providers (ISPs). In 1997 Cisco allied with telecommunication equipment company Alcatel to develop products for telecommunication industry and Internet Service Providers (ISPs). Cisco also invested in wireless equipment and optical switching companies to enter those markets [3].

3. MARKET ENVIRONMENT

The global networking market grew from $10.7 billion in 1992 to $49.6 billion in 1999. In 1997, as in Table 1, Cisco was the leading provider of internet hardware followed by 3Com and Bay networks.

Table 1. Worldwide communications equipment market shares in % [4]

Company	Market share	
	1997	1992
Cisco	19.3	3.9
3Com	15.3	3.8
Bay networks	5.7	n.a.
Fujitsu	4.4	9.3
Cabletron	4.4	n.a.
IBM	3.9	12.0
Hewlett–Packard	3.8	n.a.
Toshiba	3.5	7.3
Ascend	3.2	n.a.
Motorola	3.0	5.2
Newbridge Networks	3.0	n.a.
Racal	n.a.	5.0
AT&T	n.a.	3.6
All others	30.9	49.9
Total market	$36 billion	$12 billion

This was a major change since the market for data networking was led by big companies such IBM, Fujitsu and Toshiba. Cisco, 3Com and Bay networks concentrated on IP products for fast growing PC LAN and Internet markets.

In 2000, demand for networking equipments decreased due to the demise of many dot.com firms and slow down in corporate. Telecommunications companies also were slow in switching their existing technology to internet technology to handle their traffic. The impact on the network equipment industry has led the leading companies such Cisco, Nortel Networks and Lucent loosing hundreds of billions of dollars of market value [2].

4. CISCOS'S STRATEGY AND ORGANISATION

4.1. Product innovation

Basically Cisco is a product innovation company but it pays attention to customer relationship as well. Cisco's strategy is to find end-to-end single vendor networking solution. That is why it offers a broad range of internet hardware products and the Internet Operating System (IOS) which allows network services on networking applications. Cisco's goal is to sustain its leadership in key technologies, thus remaining as first or second in all the area of market where it operates. The following sections will describe Cisco's product innovation, operation and customer relationship.

4.2. Operations

Cisco began its life in the emerging market as IP based network equipment. It gained advantages over other companies in the market such as Wellfleet because of its proprietary high standards. This standard called IGRP (Internet Gateway Routing Protocol) was an alternative to the open standard Routing Information Protocol and offered more advantages such as multipath routing.

Cisco was focused on producing routers initially but the customers were asking for hubs as well. The combination of routers and hubs improved the performance of local area networks. Cisco had developed the IOS that was running on hubs and routers. Cisco cooperated with hub vendors such as SynOptics to gain access to large corporate accounts. Cisco licensed IOS (Internet Operating System) to hub vendors to ensure compatibility between rooters. In that way Cisco highlighted its IOS with the purpose to be adopted from networking companies. In time, customers started to replace the hubs with the router which provides more features and capabilities [5].

4.3. Customer Relations and Support

Cisco is a product oriented company but it puts emphases on customer relationship to reach new markets. Its organizational structure is designed heavily based on customer relationship. John Chambers was saying: "If I find someone who looks at the customer as a burden or problem, I will strangle him or her. That is unacceptable" [6].

Although Cisco is aware with the importance of the customer relationship, it does not handle all the marketing, distribution and support functions internally. In 1996, when Cisco decided to expand its market by including small and medium businesses from relying mainly on direct sales to develop two-tier channel resellers.

5. THE INTERNET AND E-COMMERCE AT CISCO

Cisco's organizational model and product innovation strategy is supported by the use of the internet and e-commerce. Cisco refers to this approach as Global networked business model. It is defined by Cisco as following: "… any size company that strategically uses information and communications to build a network of strong, interactive relationships with all its key constituencies, opening the corporate information infrastructure and leveraging the network to achieve a competitive advantage".

According to the definition, this model is able to do much more than accepting orders online.

6. CONCLUSION

Cisco uses internet and information technology as part of its business strategy and designed organizational structure to become a leader in the networking market. This strategy enables Cisco to more focus on product innovation and acquisition.

Cisco used its strategy of product and technology to establish the IOS as a proprietary standard for networking equipment. It attracted users to IOS by building a business ecology consisting of many assets. As a result Cisco licensed the IOS to many hardware vendors, provided technical support for service providers and offered training for network engineers. Cisco has used internet as a major element in the process of its main strategy.

Cisco's organizational strategy enabled it to create a virtual organization that incorporates its suppliers and business partners to make its value chain more efficient. This strategy helped Cisco to maintain operational quality and flexibility in the dynamic market and a high level of customer service. It also reduced the cost in many areas, from product manufacturing to customer service and network integration services.

Cisco has used internet to implement its strategies and leverage its virtual organization. Built on its corporate enterprise strategy for product manufacturing and order fulfillment, Cisco developed an array of internet, intranet and extranet application that link all of its network elements.

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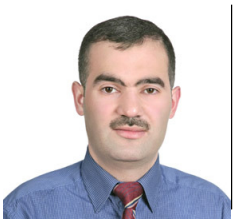

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