



The Enterprise Ontology for Modeling e-Business

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ABSTRACT

In this paper we introduce The Enterprise Ontology for e-Business model which is a set of carefully defined concepts that are widely used for describing enterprise in general and can help companies to understand, communicate, measure, imitate and find out more about the different aspects of e-business in their firm. The Enterprise ontology model highlights the appropriate e-business issues and elements that firms have to think of, in turn to operate successfully in the age of Internet. The Enterprise Ontology contains four main pillars of a business model these are Product Innovation, Infrastructure Management, Customer Relationship, and Financials.

Key words: e-Business Model, Enterprise Ontology, Product Innovation, Infrastructure Management, Customer Relationship, and Financials.

INTRODUCTION

Ontology is a rigorous framework that essentially gives a common understanding of a specific domain by defining its elements and the relationships between these elements.

The goal of this paper is to define an approach that brings e-business model one step forward, by providing a more precise methodology that describe the necessary concepts in e-business models and shows the relationships between them.

Product Innovation

What are the product and services a company is offering to the market?

Customer Relationship

How the company find its target customers, how it distributes the products and services to them, and the relationships it maintains its customers.

Infrastructure Management

The infrastructure is necessary in order to provide product and services to target customers.

Financials

It is the expression of any business success or failure. It consists of revenue model (transaction, membership, advertising, commission, licensing), and the cost model (cost of goods sold, operating expenses for R&D, sales and marketing, administrative).

The enterprise ontology

The Enterprise Ontology model of E-business defines the concepts that describe enterprise and can aid in specifying software requirements. The Enterprise Ontology contains the four main pillars of business model. First one is the product and services which are offered by a firm, second is firm's relationship with its customer, third is the infrastructure necessary in order to create and provide value, and finally the financials which are the basis of any business success or failure. So we can say that following are the four root elements of E-business model Ontology:

- ' Product Innovation
- ' Infrastructure Management
- ' Customer Relationship
- ' Financials

PRODUCT INNOVATION

The product innovation element covers all aspects related to the offering of the firm. This comprises not only its product and services, but also the manner which makes them different from their competitors. The three elements of product innovation are-

Value proposition

It represents the value the firm offers to a specific target customer segment. This can be achieved through (a) innovation through new, customized offerings. (b) Providing a lower price than the competitor. (c) Providing best customer service level and excellence customer relationship.

Target customer

The Company aims to deliver its product and services to a specific group of consumers. Target customers are those who are most likely to buy from you. So to discover target customers, companies divide the market/population into subgroups with similar attributes like-

- ' Demographics
- ' Lifestyle
- ' Needs/desires
- ' Hopes/aspirations
- ' Fears/concerns
- ' Product purchase behavior
- ' Product usage behavior

Specific capabilities

It can be understood as repeatable patterns of action with the use of assets to create, produce, and/or offer products and services to a market

Product Innovation is based on the Infrastructure management, which provides a resource for it.

Infrastructure Management

Infrastructure Management describes the value system configuration that is required to deliver the firm's offering and to establish customer relationship. The value system configuration comprises of the activity configuration, resources and assets of the firm, and the firm's partner network.

Activity configuration

Company's main purpose is to create value product and services that customers are ready to pay. This value can be achieved by the inside and outside activities and processes.

Resources and assets

The firm needs assets and resources in order to create product and services. Resources can be tangible, intangible and human. Tangible resources include plant, equipment, and cash. Intangible resource includes brands, firm's goodwill, patents, copyrights etc. Human resources are the employees of the firm who use these tangible and intangible resources to create value.

Partner network

These are the network which is strategically important for business. These are called stable interorganizational ties which include strategic alliances, joint-ventures, long-term buyer-supplier partnerships, and other ties.

Customer relationship

The heart of any business is relationship with customers. With customer relationship a company manages the interactions between its customers. Firstly company uses information strategy to gather customer information. Secondly, a distribution channel that allows a company to

deliver value to its customers, finally the company must define its plan to gain customers trust and loyalty.

Information strategy

The objective of information strategy is to gather customer information. Through the use of ICT (Information & Communication Technology) companies organize their customer relationship. Companies are using databases for collecting and managing customer related information. The company’s call centers are the new source for collecting customer data. The distribution of the Internet has further increased the range of possibilities of interacting with customers. With the use of Data warehousing, Data mining and Artificial intelligence managers are able to explore buying behavior of their customers.

Distribution CHANNEL

A company must define a distribution channel to deliver value to its customers. Its purpose is to make the right quantities of the right products or services available at the right place, at the right time to the right people (Pitt *et al.*, 1999).The company must define its channel of distribution either direct channel such as company’s Website or through a sales force or indirectly through intermediaries agent such as wholesaler, resellers, brokers or cybermediaries. ICT based channel especially the Internet has completely changed the existing business channels. Companies are using Web for direct selling, where selling through new Internet mediation services (cybermediaries) could suggest new market opportunities.

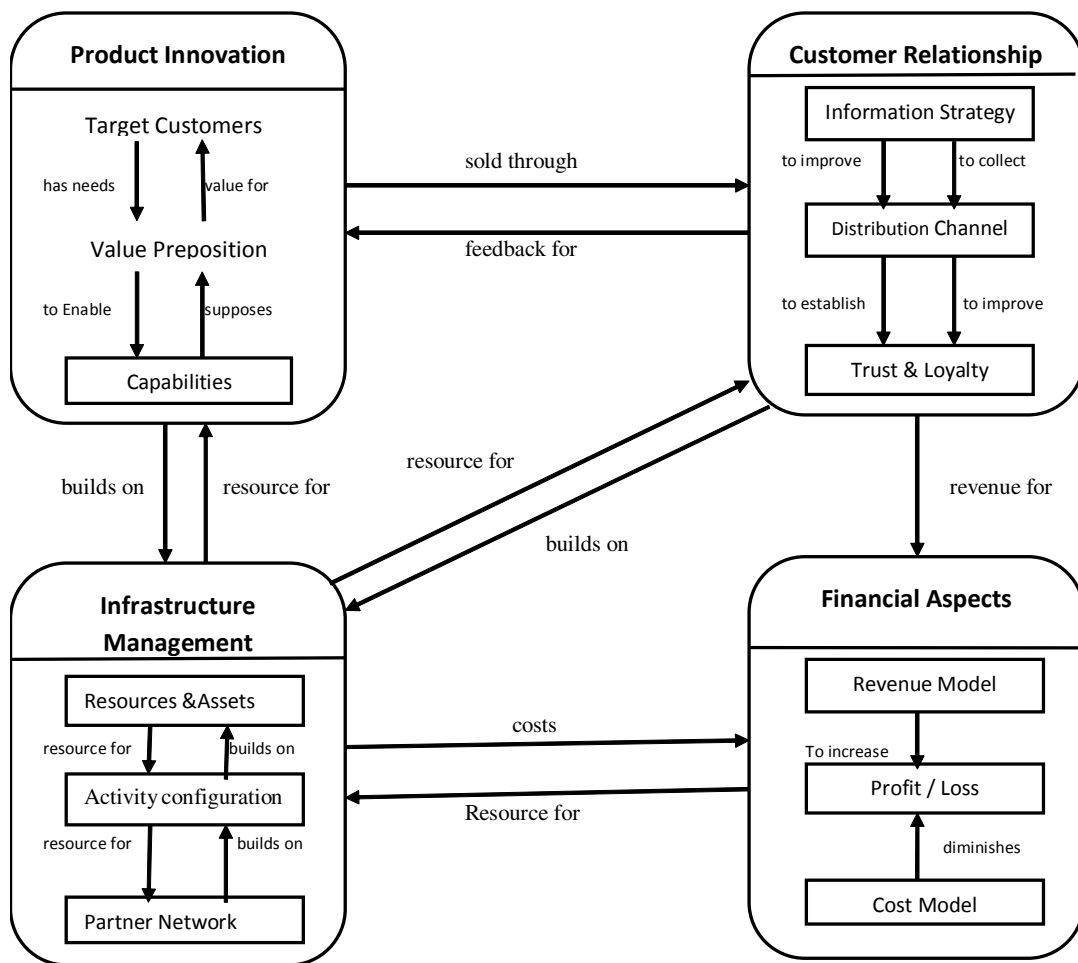


Fig. 1: Enterprise Ontology Model for e-Business

Trust and loyalty

In this global business environment where the business partners do not know each other before conducting business, establish trust between two parties is very essential. After the emergence of the Internet in business and E-commerce, companies conducted research on what types of mechanism they can build for establishing trust between business parties in cyberspace. Today there are certain mechanism for building trust in e-business, such as virtual communities (Hagel *et al.*, 1997), performance history, mediation services or insurance in case of harm, and third party verification and authorization. Loyalty of customer can be understood as the result of the trust and satisfaction of customers.

Financials

Financial element is the culmination of an E-business model. The best product and services and the finest customers relationship are only valuable to a firm if it guarantees long term financial success. The financial element is composed of the company's Revenue model and its Cost structure, which finally describes the profit/loss of firm.

Revenue Model

It describes the ability to transform the value by a firm, by offering its customers products and services and thus generate revenue.

Cost Structure

Cost structure is a measurement of cost which is acquired by the firm in order to produce product and services for their customers and market to sell them. It also includes cost of assets, resources, activities and partner network relationship and converts that cost into company money.

CONCLUSION

We propose the enterprise ontology for e-business in this paper to make easy management under ambiguous conditions. The e-business model is important to be studied because it can be an adequate methodology for managerial tools and business infrastructure requirement in a dynamic business environment.

This e-business model is interesting & useful in various ways like product life cycle becomes shorter, competition becomes global with the use of ICT. It helps managers to find business solution in this complex business environment. In this present global competitive business situation managers have to understand the opportunities offered by ICT, incorporate them into their business and share them with other stakeholders.

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