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Modelling Customer Relationships in eBusiness Illustrated through the Mobile Industry

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Abstract

The goal of this paper is to provide an ontological approach to modelling customer relationships, which helps managers optimize channels, improve customer acquisition, retention and add-on selling particularly in an e-business context. The advantages of a systematic approach are multiple. Modelling and mapping customer relationships allows a better understanding of the way a company interacts with its customers. A formal description is also communicable between the various stakeholders. Further, conceptually seized customer relationships are comparable to the customer relationships of competitors. Finally, a formal approach eases design and transformation. We illustrate the model with two examples of the mobile industry at the level of distribution channels and customer relationships for acquiring and retaining customers.

1. Introduction

Customer Relationship Management, short CRM, is one of the current management and Information Systems (IS) buzzwords and hundreds of application vendors praise the merits and miracles of their CRM software. Consequently, Chief Executive Officers (CEOs) and (Chief Information Officers CIOs) sometimes tend to reduce managing customer relationships to a problem that can be resolved by technology. Rather, they should perceive CRM as a conceptual management problem that can be resolved with the assistance of Information Technology (IT). In this paper we outline a conceptual approach to customer relationship that shall help understanding the essence of and the relation between a company's value proposition, target customer segments, distribution channels and the actual customer interactions. This understanding is particularly important in a time where e-business multiplies the number of channels, intermediaries and customer interactions and therefore causes more complexity. By capturing customer relationships formally and systematically one can easily provide a picture of the entire customer strategy. Such a quick overview is important according to a series of interviews with Swiss senior managers, in order to improve communication, decision making and innovation.

The paper is structured as follows. In the second section we explain the role of the customer relationship ontology outlined in this paper in the more general business model ontology of Osterwalder & Pigneur (2002). In section 3 to 5 we give a general overview of how to define target customers and distribution channels. The following section treats of channel strategy and channel conflict. The paper continues explaining the model's last elements, namely the relationship strategy for acquiring and retaining customers, which we illustrate through a mobile telecom operator case study. We conclude in the last section.

2.   Customer Relationships – an Integral Part of a Business Model

The conceptual approach to customer relationships that we explain in detail in this paper is an integral part of the wider concept of the business model ontology (Osterwalder and Pigneur 2002). A business model is a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm. It allows to easily capture, model, understand, share (Peterovic et al. 2001), observe over time, and, maybe even measure and simulate business models. Further, some authors see it as a new unit of analysis and interesting tool for innovation (Stähler 2002). A business model can be broken down into four simple pillars, which are the "what", the "who", the "how" (Markides 1999) and the "how much" of a firm. In other words, these pillars allow to express *what* a company offers, *who* it targets with this, *how* this can be realised and *how much* can be earned by doing it. These pillars can be translated into four main business model blocks that can then be further decomposed: Firstly, the product innovation block, which describes the value proposition of a firm. Secondly, the customer relationship block, which describes how a firm gets in touch with its customers and what kind of relationships it wants to establish with them. Thirdly, the infrastructure management block that describes what activities, resources and partners are necessary to provide the first two blocks. And finally, the financial aspects block, which describes the revenue flows and the pricing mechanisms of a firm, or, in other words, how a company makes money through the other three blocks (see figure 1). In this paper we focus on the customer relationship block and specify how it is conceptualized. It consists of three elements, which are channels, relationships and target customer segments.
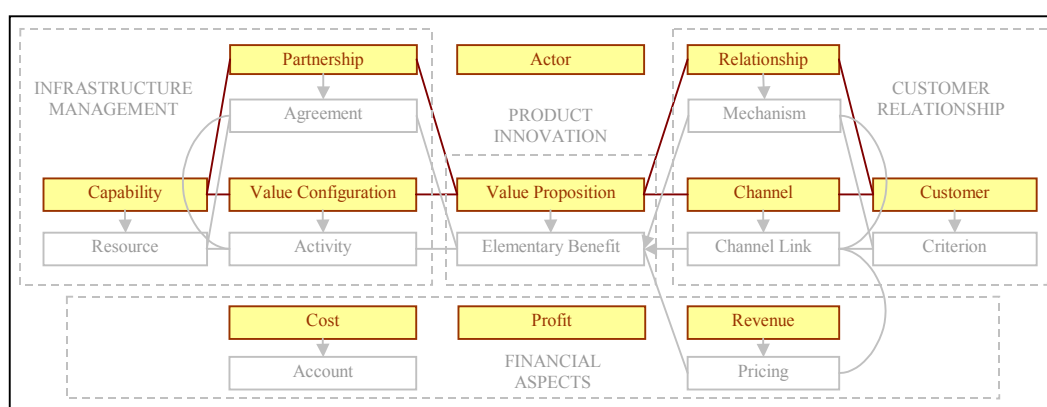

Figure 1: *Business Model Framework*

Customer relationship refers to the way a firm goes to market, how it actually reaches its customers and how it interacts with them. Information and Communication Technology (ICT) has traditionally had a very strong influence on the ways companies organize their

customer relationships. The use of databases for managing customer related information, the introduction of scanners in supermarkets, the offering of toll-free numbers connected to call centres or the use of new distribution and communication channels are just some of the numerous applications that have transformed customer relationship. Especially the dissemination of the Internet has further increased the range of possibilities of interacting with customers. Generally, it can be said that the falling cost and improving performance of ICT has contributed to the facilitation of customer-related information gathering and customer- and product-related information diffusion. Data warehousing, data mining and business intelligence are just some of the technologies that have allowed managers to gain insight on their customers buying behaviour and improve customer relationship. Exploiting customer information can allow managers to discover new and profitable business opportunities and to ameliorate customer satisfaction. ICT also helps companies to provide their customers and prospects with ever richer information (Evans and Wurster 1997) and offer them innovative ways of interaction and thus contribute to the firms value proposition. Finally, in order to serve customers better or to reach new markets companies introduce new distribution and communication channels, such as the Internet or mobile phones, but also new relationship mechanisms, such as personalization and trust.

The CUSTOMER RELATIONSHIP ontology covers all customer related aspects. This comprises the choice of a firm's TARGET CUSTOMERs, the CHANNELs through which it gets in touch with them and the kind of RELATIONSHIPs the company wants to establish with its customers. The CUSTOMER RELATIONSHIP describes how and to whom it delivers its VALUE PROPOSITION, which is the firm's bundle of products and services.
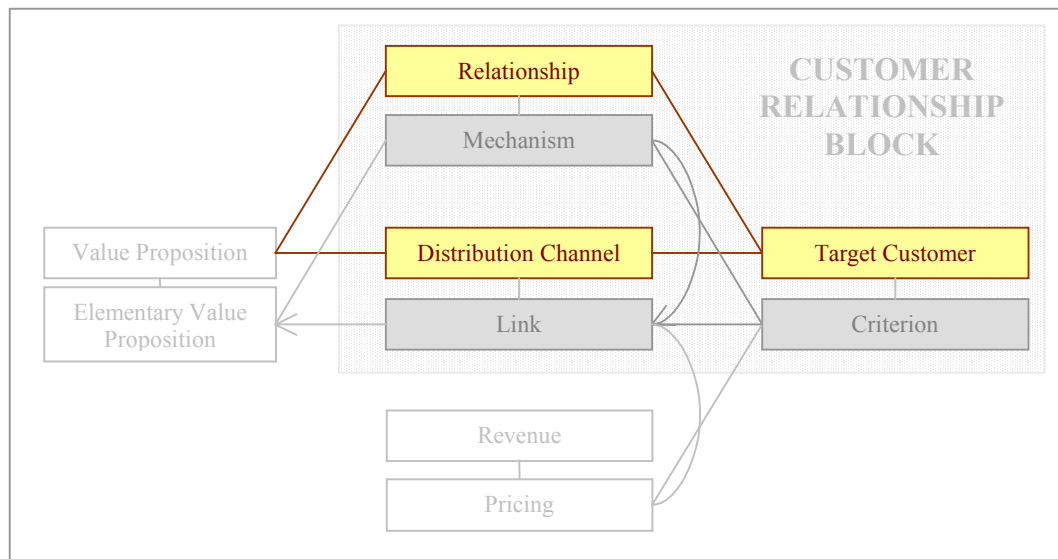
Figure 2: *Customer Relationship Ontology*

3.   Target Customer

Selecting a company's target customers is an important issue in e-business and it is often related to segmentation. Effective segmentation enables a company to allocate investment resources to target customers that will be most attracted by its value proposition. The most general distinction of target customers exists between business and/or individual customers, commonly referred to as business-to-business (B2B) and business-to-

consumer (B2C). The TARGET CUSTOMER definition will also help a firm define through which channels it effectively wants to reach its clients.

Name of BM-Element	TARGET CUSTOMER
Definition	A TARGET CUSTOMER segment defines the type of customers a company wants to address.
Part of	CUSTOMER RELATIONSHIP
Related to	VALUE PROPOSITION
Set of	CRITERION(s) (see figure 3)

Segmentation has a long history and goes back to the 1950s (Winter 1984). But even nowadays, in the one-to-one marketing era, where customers can potentially be addressed one by one, market segmentation keeps its value. In fact, ICT helps companies make the strategic choice to target their market at any level between "mass" and "one-to-one by balancing revenue against cost (Wedel 2001). Especially post-hoc market segmentation techniques like data mining, multidimensional segmentation and data clustering with artificial neural networks can lead to more efficient marketing and enhance profitabnility (Neal and Wurst 2001).

With the expansion of reach through ICT, such as the Internet, companies increasingly target not only groups that are geographically localisable, but also widely dispersed online communities with common characteristics. Hagel and Armstrong (1997) divide these into communities of transaction, interest, fantasy and relationship.

Figure 3: *Target Customer*
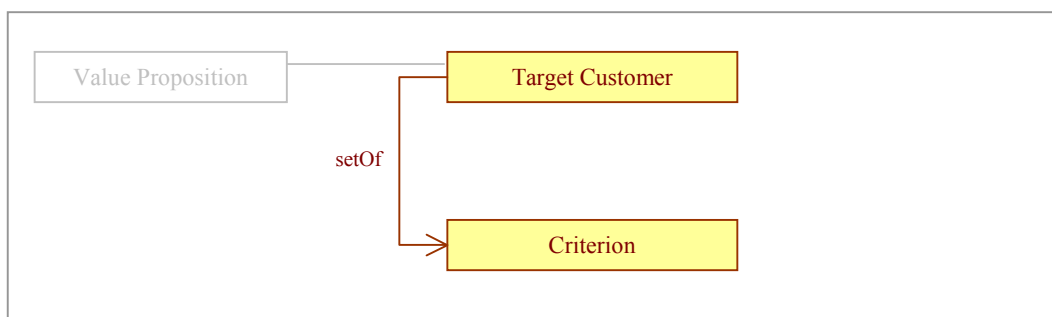
In order to refine a customer segmentation companies decompose a TARGET CUSTOMER segment into a set of characteristics, which we call CRITERION. These could be, for example, of geographical or socio-demographic nature (Kotler 1999).

Name of BM-Element	CRITERION
Definition	A CRITERION defines the characteristics of a TARGET CUSTOMER
Element of	TARGET CUSTOMER

4. Distribution Channel

Distribution channels are the connection between a firm's VALUE PROPOSITIONs and its TARGET CUSTOMERs (see figure 4). A CHANNEL allows a company to deliver value to its customers, either directly, for example through a sales force or over a Website, or indirectly through intermediaries, such as resellers, brokers or cybermediaries. The topic of channels has become exciting in recent years with the proliferation of new successful channels and the promise of a stream of more new ones resulting from advances in ICT (Wyner 1995). But this magnitude of change demands a strategic perspective that views channel decisions as choices from a continually changing array of alternatives for achieving market converge and competitive advantage (Anderson et al. 1997). ICT, and particularly the Internet, has a great potential to complement rather than to cannibalize a business's existing channels (Porter 2001; Steinfield et al. 2002). However, selling through several channels simultaneously eventually causes channel conflict when they compete to reach the same set of customers (Bucklin et al. 1997).

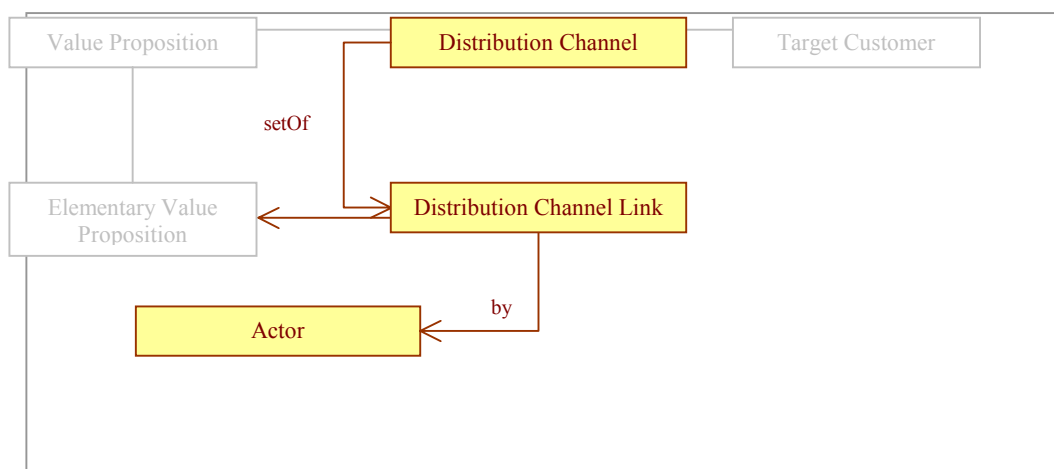| Name of BM-Element	CHANNEL
Definition	A CHANNEL describes how a company gets in touch with its customers. Its purpose is to make the right quantities of the right products or services available at the right place, at the right time to the right people (Pitt et al. 1999) - subject of course, to the constraints of cost, investment, and flexibility (Anderson et al. 1997). A CHANNEL links a company's VALUE PROPOSITION to its CUSTOMER(s) and can be maintained by a firm itself or by its partners. Normally a firm disposes of one or several direct or indirect CHANNEL(s) that can be decomposed into their CHANNEL LINK(s).
Part of	CUSTOMER RELATIONSHIP
Related to	*Delivers* VALUE PROPOSITION (1-n)
	Delivers to TARGET CUSTOMER (1-n)
Set of	CHANNEL LINK(s) (0-n)

Figure 4: *Distribution Channel*

5. Distribution Channel Link and Customer Buying Cycle

While the CHANNEL element gives an aggregated view of how a company reaches its customers it can be further decomposed into its CHANNEL LINK(s). We do this because channels are not the basic building blocks of a marketing systems; the channel tasks or roles are (Moriarty and Moran 1990).

Name of BM-Element	CHANNEL LINK
Definition	A CHANNEL LINK describes a part of a firm's CHANNEL and illustrates specific marketing roles. A set of CHANNEL LINK(s) together represent a CHANNEL. The CHANNEL LINK(s) of the different CHANNELs may sometimes be interrelated, in order to exploit cross-channel synergies. In addition to the traditional role of simply delivering value, modern channels and their CHANNEL LINKs increasingly have a potential for value creation and thus contribute to a firm's VALUE PROPOSTION (Wyner 1995)
Element of	CHANNEL
Related to	A CHANNEL LINK can be *connected to* an other CHANNEL LINK
	The channel role described by a CHANNEL LINK is *delivered by* an ACTOR
Cardinality	0-n
Attributes	Name
	Description
	Reasoning
	Customer Buying Cycle
	Value level
	Price level

REASONING: A CHANNEL LINK can (but does not necessarily have to) contribute to value creation in three distinct ways: Either through use, reducing risk or reducing a customer's efforts (Osterwalder and Pigneur 2002).

Use

ICT has extended simple distribution channels to value adding components of value propositions. Corporate Websites for instance are a place for ordering products, a source for product and service information, for online problem solving and specific after sales services.

Risk (based on Kambil et al. (1997))

A CHANNEL LINK may also reduce risk. A relatively inexperienced customer buying a PC over the Internet may have the higher risk of buying an inappropriate model than in a specialized store with vendor assistance. Although these two channel functions fulfil the same role, the store adds value for the specific segment of inexperienced PC buyers by reducing their risk of making a bad choice.

Efforts

One of the most recognized impacts of ICT on channels and value creation has been on the reduction of customer efforts. This can be through online ordering, troubleshooting, offering manuals, FAQs or even direct links to product engineers.

CUSTOMER BUYING CYCLE: A channel should be studied over the customer's entire buying cycle. Therefore we create an attribute, which has the goal of identifying which one of the functions of the customer buying cycle a CHANNEL LINK fulfils (based on (Ives and Learmonth 1984; Ives 1999; Muther 2002)). The customer buying cycle reflects all possible contact points between a supplier and a customer (Muther 2002). The cycle is divided into four phases, namely the customer's awareness, his evaluation of the company's VALUE PROPOSTION, the moment of purchase and after sales (see figure 5).
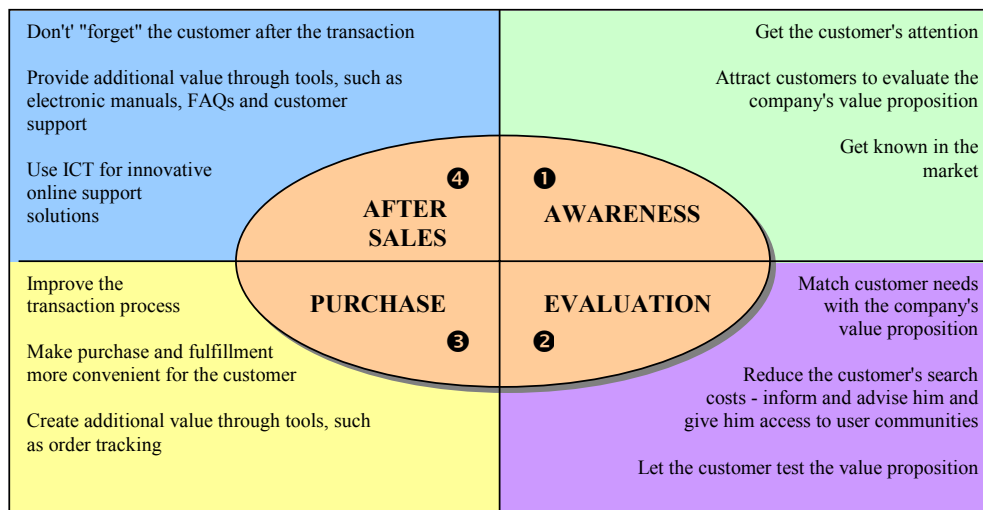

Don't' "forget" the customer after the transaction Provide additional value through tools, such as electronic manuals, FAQs and customer support Use ICT for innovative online support solutions	Get the customer's attention Attract customers to evaluate the company's value proposition Get known in the market

❹ AFTER SALES ❶ AWARENESS
PURCHASE ❸ EVALUATION ❷

Improve the transaction process Make purchase and fulfillment more convenient for the customer Create additional value through tools, such as order tracking	Match customer needs with the company's value proposition Reduce the customer's search costs - inform and advise him and give him access to user communities Let the customer test the value proposition

Figure 5: *Customer Buying Cycle (CBC)*

Awareness

At this stage of the Customer Buying Cycle the customer identifies a company's VALUE PROPOSITION that may match his needs. He develops an awareness that an organization exists and that it might be able to fulfil his requests. The company tries to reach its TARGET CUSTOMER segments by means of advertising, promotions, public relations and partnerships. Amazon.com also used affiliated Websites to attract customers. Affiliate or associate programs pay commissions to people or companies that refer visitors to their products or services.

Evaluation

Once a customer has identified a specific firm as a potential solution provider to his problem or his needs he will want to learn more about the organization and the bundle of products and services it offers. As mentioned earlier, ICT helps firms improve reach and richness of the information they offer (Evans and Wurster 1997), which helps customers evaluate a firm's VALUE PROPOSITION. Besides traditional sales forces or value added resellers (VAR), companies increasingly make use multimedia applications to help customers in their evaluation process. Several tools, such as Online Chat, Voice-over-IP or Web cams streamline the consulting process and may make physical face-to-face contact unnecessary. Further, customers may also want to rely on more independent information from user communities or consumer groups.

Purchase

During the purchase phase the actual transaction takes place. This includes negotiation, decision, contract, order & tracking, billing & payment and fulfilment. Whereas negotiation, decision and contracting are very important in B2B they are less significant in B2C. However, electronic channels may help to streamline the purchasing process and add value through "memorizing" customer information or through real-time order tracking.

After sales

This last phase of the buying cycle has the potential to create loyal customers. After sales services enormously contribute to a customer's satisfaction by helping him maximize profiting from the value proposition and by assisting him in case of problems. It can embrace implementation, use, training, maintenance, monitoring, troubleshooting and reverse logistics (i.e. disposal).

VALUE LEVEL: If a CHANNEL LINK contributes to the company's VALUE PROPOSITION we measure its value level. To do this we have created a qualitative value scale that relates to the value offered by competitors rather than using a quantitative scale that ranges from low to high. Our measure goes from *me-too* value (e.g. commodities), over *innovative imitation* (e.g. pocket pc) and *excellence* (e.g. Swiss watches) to *innovation* (e.g. Viagra in the 90's) (Osterwalder and Pigneur 2002).

PRICE LEVEL: If the CHANNEL LINK costs the customer something we indicate its relative price level compared to the firm's competitors. The scale goes from *free* (e.g. online newspapers) over *economy* (e.g. Southwest, EasyJet, RyanAir) and *market* (e.g. stocks) to *high-end* (e.g. Rolex) (Osterwalder and Pigneur 2002).

6.   Channel Strategy & Channel Conflict

Companies reach their customers through various different channels. While the sports brand The Gap owns a network of over 2000 retail stores, Tupperware sells its food storage containers through over 950'000 independent Tupperware "consultants". The car manufacturer BMW reaches its customers in the United States through about 300 franchised dealers selling its automobiles, but designs and implements national advertising itself (Dolan 2000). The computer manufacture Compaq (now HP) sells its products primarily through third-party resellers, whereas Dell concentrates on direct channels, such as the Internet and telephone. These examples illustrate just some of the multiple ways to go to market, while the advances in ICT promise even more to come (Wyner 1995). This evolution increases the complexity of channel issues and demands an integrated approach to channel design. Therefore we propose a tool for channel design and management that is based on the Customer Buying Cycle (Ives and Learmonth 1984; Ives 1999; Muther 2002) and the so-called Hybrid Grid (Moriarty and Moran 1990; Dolan 2000).

This tool consists of a matrix with the different phases of the customer buying cycle on the one axis and a company's range of CHANNELs on the other axis. We illustrate this in figure 6 with a simplified example of the mobile phone manufacturer Nokia, who has a wide range of virtual, physical, owned and partner CHANNELs. The boxes in figure 6 which you find at the intersection of the CHANNELs and the four phases of the customer buying cycle represent the aggregated CHANNEL LINKs of the company. These CHANNEL LINKs are connected to each other inside and/or across different CHANNELs. Nokia's most important sales channels are the national mobile phone

network operators, which sell the bulk of its phones, and, the various electronics or other retailers. But the other channels, such as Nokia.com, Club Nokia or Nokia Academy (a place to learn about Nokia phone features) also have a very important role to play. Club Nokia, for instance, re-establishes a direct communication link between Nokia and the final customer, which has traditionally been the operators' sphere of influence. This link has an enormous value in loyalizing customers, selling them additional products and collecting information on their behavior.
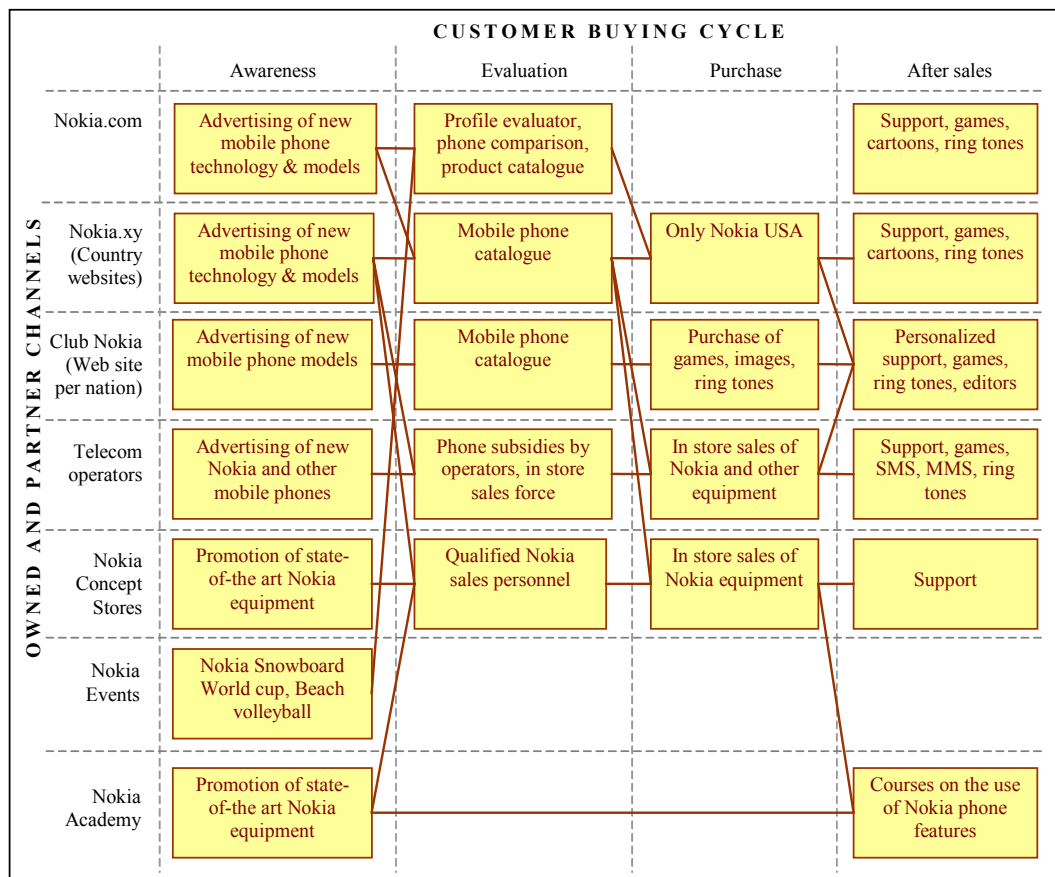
	CUSTOMER BUYING CYCLE			
	Awareness	Evaluation	Purchase	After sales
Nokia.com	Advertising of new mobile phone technology & models	Profile evaluator, phone comparison, product catalogue		Support, games, cartoons, ring tones
Nokia.xy (Country websites)	Advertising of new mobile phone technology & models	Mobile phone catalogue	Only Nokia USA	Support, games, cartoons, ring tones
Club Nokia (Web site per nation)	Advertising of new mobile phone models	Mobile phone catalogue	Purchase of games, images, ring tones	Personalized support, games, ring tones, editors
Telecom operators	Advertising of new Nokia and other mobile phones	Phone subsidies by operators, in store sales force	In store sales of Nokia and other equipment	Support, games, SMS, MMS, ring tones
Nokia Concept Stores	Promotion of state-of-the art Nokia equipment	Qualified Nokia sales personnel	In store sales of Nokia equipment	Support
Nokia Events	Nokia Snowboard World cup, Beach volleyball			
Nokia Academy	Promotion of state-of-the art Nokia equipment			Courses on the use of Nokia phone features

(Row label: OWNED AND PARTNER CHANNELS)

Figure 6: *Channel Strategy at Nokia Mobile Phones*

An important element of a channel strategy is managing channel conflicts. When more than one channel competes for the same customers there is a high chance of channel conflict (Bucklin et al. 1997). An illustrative example is the one of the computer manufacture Compaq (now HP), a company that sells a majority of its products through resellers. When it started to copy Dell's direct channel strategy in the late 90's it drew a hostile reaction from its resellers, who correctly felt the company was competing with them. This conflict delayed the introduction of a new direct channel (HBSS 1999). In the record industry the majors, such as Sony Music, EMI or Warner Music long hesitated to introduce digital music distribution (e.g. online channels, MP3 players, in-store CD burning) because they were frightened of profit cannibalization, channel conflict and illegal copying. Sony for instance, who disposes of a huge consumer electronics and a strong music department, could have easily introduced a device capable of storing and playing the popular digital music format MP3. But Sony was not favorable to the proliferation of its content in a digital form. The record companies' hesitation to act on the Internet was an even bigger disaster, because through their initial indecision to

introduce a viable online distribution channel the market was soon dominated by free music trading platforms, like the infamous Napster. Though the record companies avoided profit cannibalization and channel conflict with traditional retailing(i.e. retailing) they let customers get used to free content (although mostly illegal). Clearly, evaluating the trade-off between channel conflict, cannibalization and introducing new channels is a difficult task.

7.   Customer Relationship for Acquisition, Retention & Add-on Selling

Besides the customer interaction points (i.e. channels), companies must also analyze the nature of the interactions, because they affect the strength of the relationship a company builds with its customers. But as interactions come at a given cost, firms must carefully define what kind of relationship they want to establish with what kind of customer. Profits from customer relationships are the lifeblood of all businesses. These profits can be achieved through the acquisition of new customers, the enhancement of profitability of existing customers and the extension of the duration of existing customer relationships (Grant and Schlesinger 1995). Companies must analyze customer data in order to evaluate the type of customer they want to seduce and acquire, are profitable and worth spending retention efforts and are likely to be subject to add-on selling (Blattberg et al. 2001). The trend to move from simple transactions to more complex customer relations makes sense, since an arsenal of new ICT tools has made this possible at reasonable costs.

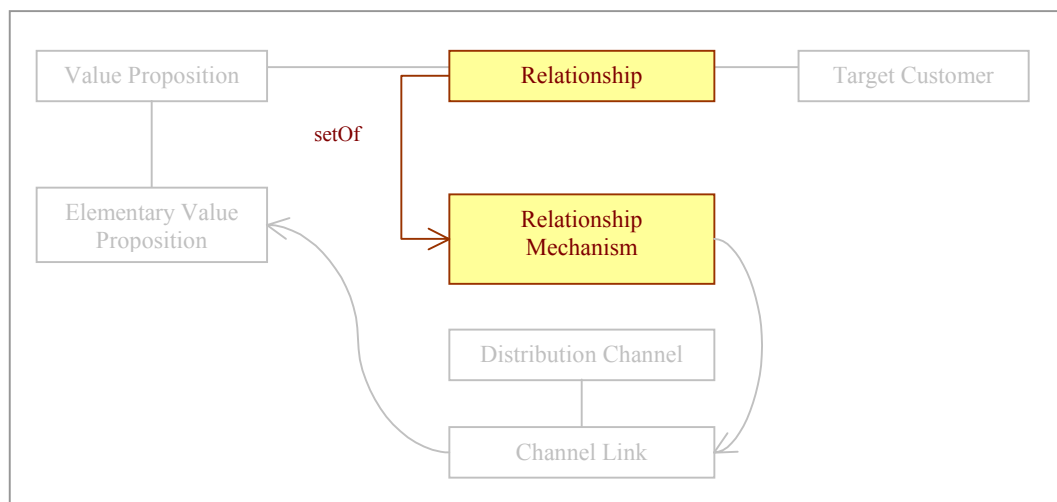| Name of BM-Element	RELATIONSHIP
Definition	The RELATIONSHIP element describes the relationship a company establishes with a target CUSTOMER SEGMENT. A RELATIONSHIP has a goal and consists of several RELATIONSHIP MECHANISMs.
Part of	CUSTOMER RELATIONSHIP
Attributes	Goal

Figure 7: *Relationship Element*

GOAL: In our framework we classify relationships according to their goals which are acquisition, retention and add-on selling (Blattberg et al., 2001).

Acquisition

It's very straightforward to say that companies must acquire customers to make business. Even firms with high retention rates lose customers and thus must continuously acquire new customers to stay in business. Because customer acquisition is a very expensive affair and because the relationship developed during the acquisition phase strongly influences retention and add-on selling it must be carefully managed and evaluated. Hewlett Packard, for instance, sells very cheap inkjet printers and makes money from ink cartridges. Many mobile phone operators subsidize new and expensive mobile phone models to make them affordable to customers and cash in on the new services they can sell them (e.g. data and multimedia services).

Retention

The goal of customer retention is to leverage customer acquisition investments. Because customer acquisition is normally more expensive than retention it makes sense to find ways and mechanisms to extend the duration of the relationship between firm and customer. Of course the focus must be set mainly on the most profitable customers. Blattberg et al. (2001) mention the following drivers that affect customer retention: customer expectation versus delivered quality, the value of the good or service, product uniqueness and suitability, loyalty mechanisms, ease of purchase, customer service and ease of exit. In our model we consider only the mechanisms that can be directly assigned to retaining customers, such as loyalty programs, customer defection programs or installing switching cost. An customer changing airlines will lose his loyalty "miles", while a customer leaving Amazon.com will have to re-enter his personal data, re-create his wish lists, and re-create a profile for personalized book recommendations based on purchase history.

Add-on selling

Add-on selling is the activity associated with selling any additional products and services to current customers (Blattberg et al. 2001). These products can, but do not necessarily have to be related to each other. getAbstracts.com, a start-up that sells abstracts of business books online also allows its customers to purchase these books directly over their website. Telecommunication companies and recently also mobile phone operators try to increase their revenues by selling their existing customers additional data services.

8.   Personalization, Trust and Brand Mechanisms

A RELATIONSHIP MECHANISM is a specific mechanism that has a function in relationship building with a company's customers. It can contribute to personalization, trust and brand building.

Name of BM-Element	RELATIONSHIP MECHANISM
Definition	A RELATIONSHIP MECHANISM is part of a RELATIONSHIP and describes the function it accomplishes between the company and its customers. It may also be a CHANNEL LINK or a part of the VALUE PROPOSITION.
Element of	RELATIONSHIP
Attributes	Function

FUNCTION: This attribute describes which function the REALTIONSHIP MECHANISM fulfils. It can personalize a relationship, contribute to customer trust, or contribute to brand building.

Personalization

Historically, vendors had a personal relationship with their customers (e.g. the Mom and Pop grocery store where the shopkeeper knows every client personally and is familiar with his needs and habits). But the size of today's companies, their lower employee-to-customer ratios and the high turnover among employees has made personal one-to-one human relationships between customer and supplier rare. ICT now allows companies to re-introduce a more personalized relationship with their customers at a reasonable cost. Customer profiles with historical buying behavior, tastes and needs and their contact history with the firm are stored in large databases. Afterwards, this data can be used to simulate a kind of Mom and Pop store relationship. But personalization does not necessarily mean a one-to-one relationship. Rather it could also mean personalizing for a group of customers with common characteristics, which is known as one-to-tribe marketing. The choice between one-to-one and one-to-tribe depends on the relationship a company wants to establish and the cost factor.

An important field of personalized mechanisms is one-to-one marketing. This is nothing else than tailoring marketing activities to specific customers, their needs, behavior and their particular transaction history. Imagine the impact on customer loyalty of an airline customer that by accident has taken two delayed flights the same week. Wouldn't he be pleased if his airline were able to detect this incidence and address him personally with an excuse letter or maybe even a goodie? Another field of one-to-one marketing are so-called personalized product recommending systems, which are based on attributes, item-to-item correlation or user-to-user correlation (Schafer et al. 2000). The first technique is based on a set of rules that makes recommendations derived from a customer's profile of attributes. The second technique identifies items frequently found in association with items in which a customer has expressed interest. The third technique, also known as collaborative filtering and to date the most powerful method (Sarwar et al. 2000), recommends products to a customer based on the correlation between that customer and other customers who have a similar purchase behavior.

Trust

"Trust of a party A in a party B for a service X is the measurable belief of A in that B will behave dependably for a specified period within a specified context" (Dimitrakos 2001). This shows that the notion of expectation is central to the concept of trust (Jones 2002). In a business environment that has become increasingly global, transactions more and more virtual and where the implicated parties do not necessarily know each other anymore before conducting business, new trust mechanism have gained importance. ICT offers a

large range of innovative or improved mechanisms to build trust in e-business environments (Friedman et al. 2000) by improving the expected output of a transaction.

Especially the role of reputation in contributing to trust has received a boost through ICT. The large body of literature on this subject shows how reputation is based on independent user communities (Hagel and Armstrong 1997; McWilliam 2000), dedicated reputation systems or third parties. Labeling services, such as TRUSTe's Privacy Seal (McKnight et al. 2000), certification services as provided by VeriSign, or authorization and verification services are just some of the trust mechanisms offered by third parties. Further, rating companies also receive much attention by customers. SmartMoney.com, the online branch of the well-known investor's magazine provides annual ratings of online and offline brokers and a fancy little tool called "broker meter" that will show you how fast your broker's site is compared to other brokers. An exemplary company concerning trust is the online auction site eBay. Their trust mechanisms embrace a feedback forum, escrow services, online dispute resolution (ODR), rights owner verification (VeRo), an ID verification and an authentication service.
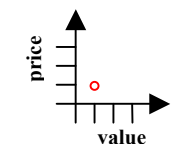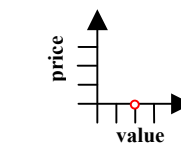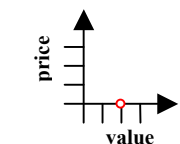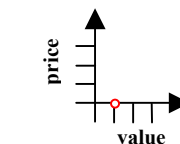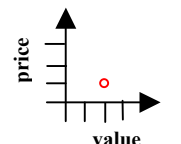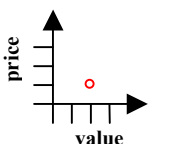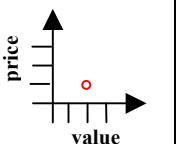
More traditional, but often ICT enhanced trust instruments are mediation services in case of disputes or insurance guaranties to prevent financial loss. Technology and its perception can also play a role in establishing trust. Credit card transactions on the Internet, for example, are often perceived as particularly insecure, even though it might be more dangerous to hand over your credit card to a malicious waitress in a restaurant.

Brand

Brands constitute a pivotal resource for generating and sustaining competitive advantage (Aaker 1989). They help creating a distinction among entities that may satisfy a costumer's need (Berthon et al. 1999) and they help the communications programs do not inadvertently send conflicting or confusing messages to customers (Joachimsthaler and Aaker 1997). Nokia, the Finnish mobile phone manufacturer, established an incredibly strong brand in the mobile phone market by creating an image of a young and dynamic innovator. It achieved this through sponsoring such events as the Nokia Snowboard World Cup tour and a number of top-ranked beach volleyball professionals. Further, Nokia also uses ICT for branding proposes. Owners of a Nokia phone can join the Club Nokia online by entering the serial number of their phone and then benefit from games, cartoons, movies, images and ring tones. This branding strategy proved to be very successful resulting in a No.6 ranking in Interbrand's year 2002 list of the world's top 100 brands (Bensinger 2003).

9.   Mini Case: Customer Relationships at Orange Switzerland

Orange is one of the three mobile telecommunication operators in Switzerland and is a 100% subsidiary of France Télécom. With about 1'600 employees, 78 points of sale and its Network that covers 98% of the Swiss population it makes a turnover of CHF475 million and an EBIDTA of CHF33 million. Besides building and maintaining its networks, managing customer contracts belongs to Orange's main business tasks. In the following lines we outline a part of the company's relationship strategy in acquisition, retention and add-on selling by using the framework described in this chapter. The columns represent the RELATIONSHIP MECHANISMs of Orange and the lines represent the their attributes, the related CHANNELS and TARGET CUSTOMERs. It remains to be said that besides the elements outlined below, Orange maintains a number of sponsorships, such as OrangeCinema, OrangeOpera and HandyHero in order to contribute to brand building.

	Goal	Acquisition			Retention	Add-on selling		
R	Relationship description	Orange tries to make new phone models affordable and tries to be present in the market as a young brand for communicating human emotions.			Orange rewards loyalty and communications of its customers with points, which can be used to buy a new mobile phone or pay bills.	Orange tries to make customers use data services, such as WAP, SMS and MMS as much as possible (especially teenagers).		
	Name of the relationship mechanism	Phone subsidies	Orange World portal	Habbo Hotel	Loyalty points	Location based services	SMS Publisher	Orange Heartbreak
	Relationship mechanism description	Orange pays a part of or the whole price of a new phone a customer wants to buy in exchange for a 12-month contract with Orange	A portal that provides a mixture of news, sports, entertainment and mobile phone features, such as games. Customer login for Orange phone account management	A virtual meeting place with public and private rooms where people can gather and chat, handle e-mail, instant messages and SMS'	-	Location based services for places of interest, route planning, traffic and cinema guides	A tool that allows customers to create their own SMS-channel to send information to channel-subscribers	SMS-based services that allow (teen) customers to flirt anonymously by using their mobile phone
	Reasoning	Risk: Minimizes the risk to be stuck with an expensive phone that is soon outdated. Use: Customers can afford the newest mobile phones with the newest phone features (e.g. MMS)	Use: Provides customers and prospects with an information portal and mobile entertainment services. Allows customers to manage their phone account	Use: Provides potential (teen) customers with a place to hang out and manage their e-mail, instant messages and SMS'.	Risk: Minimizes the risk to be stuck with an expensive phone that is soon outdated. Use: Customers can afford the newest mobile phones with the newest phone features (e.g. MMS)	Efforts: minimizes the efforts for finding useful and location-based information	Use: Allows customers to send information to a list of people that are interested in the same topics (e.g. info for the members of a hobby soccer team)	Use: Allows teenagers to resolve the most pressing problems of their age - love issues – without losing their face.
	Customer Buying Cycle	Evaluation	Awareness	Awareness	After Sales	After Sales	After Sales	After Sales
	Value level/ price level	*price / value graph*	*price / value graph*	*price / value graph*	*price / value graph*	*price / value graph*	*price / value graph*	*price / value graph*
	Function	-	Brand	Brand	-	Personalization	Personalization	-
CH	Channel	Orange shops / Retailers	Internet	Internet	-	Mobile phone	Mobile phone / Internet	-
	By	Self	Self	Self	Self	Self (& with partners)	Self	Self
TC	Target customer	All prospects	Customers and prospects	Teen customers and prospects	All current customers	Nomad customers	Active teen customers	Teen customers

10.   Conclusion

The Customer Relationship Ontology helps managers formally define which customer segments they want to offer value, through which channels they want to do this and by establishing what relationship. By using such a rigid approach, customer relationships become communicable, comparable, analyzable and easily modifiable because of the building-block-like structure. On the one hand this should improve communication between managers, middle managers, process modelers and Information Systems staff. On the other hand this should foster innovation in customer relationship management, because modelers can easily "play around" and experiment with the building blocks of the model presented in this paper. The Business Model Ontology is particularly appropriate for e-business transformation since it allows managers to seize a pre e-business customer relationship, design and draw an e-business enabled customer relationship and communicate the desired outcome to stakeholders. It is to be further explored if the ontology could also facilitate business and IT strategy alignment. Finally, in order to understand how a company's customer relationship management contributes to the entire business logic it must be analyzed as part of the more global Business Model Ontology by Osterwalder & Pigneur (2002), which additionally embraces the product innovation, the infrastructure management and the financial aspects of a firm.

11.   References

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