

Timo Riihelä, Minna Mattila (eds.)

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Timo Riihelä, Minna Mattila (eds.)

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Foreword

...where practise and research became one

Knowledge lays the foundation for any sort of development. Knowledge is created in innovative environments, where variety of experts, developers, and users interact closely. Research produces new information, which complements and challenges the existing one. Competition on getting access to essential and meaningful knowledge is getting fierce.

The economic growth may be based on the exploitation of the existing knowledge or creation of a new one. Not all the actors need to possess all the different dimensions of knowledge and expertise. The lacking dimensions can be acquired via global networks. It must be assured that the research and development results will be implemented in practical use by all the stakeholders, especially SMEs. The exploitation mechanisms include for example knowledge transfer and strategic partnership.

In October 2010, "Contemporary Views on Business" highlighted not only current research but also the business opportunities and the future perspectives on the development, management and sustainable deployment of business operations. This international Conference actively sought to promote synergies between business and academia and raised awareness on the potential benefits of research for business activities. Combi2010 increased the integration of local enterprises, regional authority and other local actors with research entities. Moreover, Combi2010, emphasising partnering and international knowledge transfer as sources of competitive edge, was an important forum for knowledge co-creation and intellectual exchange.

Combi2010 was hosted by four Universities of Applied Sciences from the larger Metropolitan region (Laurea, HAMK, LUAS, Helsinki Metropolia). A rigorous double-blind peer review process conducted by 65 reviewers from 24 countries, led to close to 50 full-length scientific paper and abstract presentations. Furthermore, the Conference programme consisted of close to 30 invited international speaker presentations, practicums and special sessions topped with an 3-hour tutorial. As part of the Conference social programme, Combi2010 participants were offered an opportunity to visit one of the seven Unesco World Heritage sites in Finland Suomenlinna Fortress, the Finnish Science Center, and National Park. Business Site Visit took place at Vantaa Innovation Institute.

We would like to express our gratitude to all the reviewers and contributors for their effort and commitment in making this event a successful one and ensuring

the high quality of these Proceedings in particular. The assistance that we received from the students with the practical arrangements during the actual event was much needed and highly valued. All the Track Chairs served Combi2010 well and we thank them for their professionalism throughout this project.

Combi2010 is indebted to the Foundation for Economic Education for the granted financial support. We are equally grateful to Viking Line and City of Vantaa for sponsoring not only the Conference Awards but also cruise gift vouchers for each Combi2010 participant.

Combi2010 is thankful for all its wonderful and supportive partners: ICC Finland, SIVECO Romania SA, ECR Finland, the Regional Organisation of Enterprises in Uusimaa, International Network for Scientific Information, International Journal of Technology Diffusion and International Journal of Management Information Systems.

Our special thank you goes to the event patrons Dr Alexander Stubb, Minister for Foreign Affairs of Finland and Mr Mauri Pekkarinen, Minister of Economic Affairs.

On behalf of the Combi2010 Organising Committee, in Vantaa 2010-10-10

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I ARTICLES

Carlos Eduardo Moreno Mantilla & Juan Felipe Reyes Rodriguez

Environmental Strategy and Organizational Capabilities: An Exploration of the Natural-Resource-Based View with a Focus on Colombian Firms

Abstract

Over the last decade, the academic literature that studies the relationship between business performance and environmental strategy has grown significantly. However, systematic research on the enabling factors of strategic responses by firms in developing countries has in contrast been scarcer. Based on the core assumptions of the Natural-Resource-Based View (NRBV) of the Firm, we respond to this call by deploying a mixed methods research design in order to operationalize a set of constructs, validate their measures, and empirically explore a capability-centered explicative model of environmental strategy for a group of firms in Bogotá, Colombia. Our results reveal that differentiated degrees of proactive environmental strategies exhibited by firms are related to differentiated levels of continuous improvement and stakeholder management endogenous capabilities. In addition, evidence provided by our study supports the association between environmental strategy, environmental performance, and eco-competitiveness. The moderating effect of contingent attributes on the relationship between organizational capabilities and the development of proactive environmental strategies is approached in our study through the exploration of the influence of the policy style of the regulator. We find that the more a firm perceives favorably the policy style of the regulator, the likelier will be that such firm utilizes a continuous improvement capability to develop an eco-efficiency environmental strategy. The discussion of results suggests, as a next step in our research, an evaluation of the causal relationships between the constructs of the

NRBV through a Structural Equation Model considering a larger sample that allows for a more robust analysis.¹

Keywords: Natural-Resource-Based View of the Firm, Organizational Strategy, Environmental Strategy, Organizational Capabilities, Environmental Innovation, Environmental Sustainability, Economic Sustainability.

Introduction

The effect of firm innovative and proactive environmental responses on sustained competitive advantage has for some time been the subject of extensive discussion in the academic literature (Shrivastava 1995, Porter and van der Linde 1995, Palmer et al. 1995, Klassen and McLaughlin 1996, Klassen and Whywark 1999, Reinhardt 1999, Bansal and Roth 2000). Consequently, the concept of 'environmental competitiveness', also referred to as eco-competitiveness or eco-advantage (Esty and Winston 2006), has been gradually incorporated into the academic and business lexica, and understood as that share of the overall competitiveness of the firm which could be influenced by environmental management activities (Wagner and Schaltegger 2004).

Researchers have paid attention to specific characteristics which influence environmental performance of an individual firm. Some have focused on those characteristics of the business environment (i.e., contingent attributes) which may influence environmental strategy, while others have explored the strategic (i.e., internal, endogenous) attributes that can be managed consciously by the organization's leadership in order to achieve a superior environmental performance. In both cases, a great deal of effort has been put in understanding the impact of environmental performance on firm competitiveness (Etzion 2007).

Among several strategic approaches that have addressed this topic, the so-called *Resource-Based View* (RBV) of strategy (Barney 1991) has focused in the understanding of the mediating effect of firm resources and capabilities in the relationship between environmental strategy and competitive advantage. Assuming the heterogeneity and the immobility of resources among firms, it is thus stated that resources' attributes such as imperfect imitability and no substitutability, in addition to value and rarity, may confer the possessing firm a superior competitive position. One of the 'extensions' of the RBV—by which the foundations of the original theory are applied to different management fields or disciplines (Acedo et al. 2006)—includes the natural environment and constitutes the

¹ This research project has been funded by Universidad Nacional de Colombia in Bogotá, and supported by the Bogotá Secretary of the Environment (Secretaría Distrital de Ambiente).

Natural-Resource-Based View (NRBV) of the firm. According to Hart (1995, 1996), the NRBV amounts to “a theory of competitive advantage based upon the firm's relationship to the natural environment”.

Within the RBV paradigm, recent research has shown that proactive environmental strategies grounded on certain organizational capabilities are associated with improved business performance (Russo and Fouts 1997, Sharma and Vredenburg 1998, Christman 2000, Chan 2005, López-Gamero et al. 2009). Consequently, building upon the emerging body of NRBV literature—in particular upon Aragón-Correa et al.'s (2008) analysis of the relationships between organizational capabilities, environmental strategy and performance in Spanish firms, we explore some of the basic tenets of the NRBV vis-à-vis the particularities of Colombian firms. We address three important questions for the understanding of the association between environmental sustainability and economic sustainability in a developing country setting: (1) How likely is that firms exhibit environmental strategies beyond pollution-control behavior?; (2) What can be said about one of the core RBV elements, namely that these strategies are based on certain capabilities related to unique endogenous characteristics of firms?; and, (3) How does a proactive environmental strategy influence firm competitive advantage?

The present research is therefore aimed at developing, validating and applying a set of data collection instruments in order to operationalize the basic constructs of the NRBV (i.e., resources, capabilities, environmental strategy, environmental performance, business performance, and contingent attributes) and explore associations of interest in the literature among these constructs. In particular, the operationalized variables will include “certain characteristics of the general business environment” (Aragón-Correa and Sharma 2003) with hypothesized moderating effects on the relationship between organizational capabilities and environmental strategy. Among these characteristics, we explore the effect on such relationship of the regulator's “policy style” (Jänicke et al. 2000).

Firms and the natural environment in Colombia

According to a study sponsored by the World Bank (Sánchez-Triana et al. 2007), with an annual estimated share of over 1.0% of the Gross National Product (GDP), the largest cost associated to environmental damage in Colombia springs from diseases originated in noncompliance of standards of water for human consumption and water contamination with pathogens and toxic/dangerous substances. Among the main environmental damage cost fac-

tors—after natural disasters, urban air pollution ranks third, with an annual cost share that amounts to approximately 0.8% of GDP.

Available evidence suggests that during the last years the Colombian industrial sector has considerably improved its environmental performance (Uribe 2003, Rodríguez 2004), which is explained in general as the result of the implementation of new regulations and policy instruments, such as voluntary agreement schemes, technical assistance programs, and economic incentives, as well as a consequence of the strengthening of existing mechanisms such as permits, education and information (Rodríguez 2004, 243). The contribution of the industrial sector to water contamination has decreased in Colombia during the last years for some geographical areas (Uribe 2003, 28); several studies (Coronado 2001, Cruz 2004, Moreno 2007) have found evidence of the effect that command-and-control regulation (i.e., standards) and effluent charges have had in stimulating the abatement behavior of firms in regions such as Antioquia, Bogotá and Santander, respectively. Relative to domestic discharges, industrial discharges to water bodies in Colombia are comparatively low; for instance, the industrial fraction of organic matter and suspended solids in Bogotá corresponds to less than 4% of total discharges (Uribe 2003, 28). Yet, in terms of air pollution—especially particulate matter originated in industrial sources, although detailed information on regulatory compliance is not available, there is a general consensus that noncompliance in Colombia constitutes a critical problem (Morgenstern and Sánchez-Triana 2007, 220).

The strategies exhibited by Colombian firms to respond to environmental issues seem to vary depending on the nature of pollution and the influence exerted by the existing body of regulations, with important implications for the competitiveness of industries (Uribe 2003). Process modification—with preference for energy-input substitution and improvement of furnaces and boilers—responds for about 40% of total investment for air emission abatement, plus an additional 20% consisting of a mix of process modification and ‘end-of-pipe’ control; in contrast, only 20% of total investment for water pollution abatement corresponds to process modifications, plus 35% to a combination of process-modification plus control through wastewater treatment plants.

There is a widespread perception that not only social and market demands for improved environmental performance are changing, but that the regulatory landscape is changing accordingly. Van Hoof and Herrera (2007) observe two tendencies in perspective: an updating of existing norms with a foreseeable increase in the stringency of standards and the number of regulated substances (for both water and air pollution regulation), accompanied by the formalization of

a reporting scheme; and, the arrival of new themes, such as the impulse given to management of dangerous substances, new obligations related to product life-cycle management (in particular, post-consumption management of dangerous materials and traceability), and the greening of supply chains.

The small- and medium-sized enterprise (SME) sector in Colombia represents a share of 40% in the gross national product and generates about 50% of employment (van Hoof 2005), which suggests it deserves special attention when studying the relationship between environmental strategy and organizational capabilities.² On the one hand, the SME sector is considered a “priority sector with regard to environmental pollution management” (van Hoof 2005, 10). This can be explained by its relatively large contribution to the gross product in sectors with “high environmental significance” (Sabogal 2005, DAMA-CINSET 1996, IDEAM-UIS 1998), such as leather-tanning, non-ferrous metals, wood products, chemical substances, non-metallic products, food, iron and steel, and paper and printing.

On the other, the SME sector calls for attention because it features a series of limitations that explain the low priority given to environmental management in these firms, as identified in the studies by: Corporation for Colombian Socioeconomic and Technological Research - CINSET (DAMA-CINSET 1996); the former environmental authority of Bogotá, DAMA (2001); the Bogotá Chamber of Commerce (Cámara de Comercio de Bogotá 2002); and, van Hoof (2005). These limitations refer to: technological obsolescence, difficulty in having access to environmental technology, incipient improvement capability, lack of stringent market requirements, limited managerial vision, plant location principally given in residential areas (which complicates effluent and waste treatment), scarce awareness of self-regulation initiatives on the side of managers, deficient cooperation processes among owners, lack of human resources and adequate technical assistance, difficulty to access capital, high interest rates, low capital investment levels, and finally, lack of adequate information channels between the environmental authority and manufacturers.

The landmark work by DAMA-CINSET (1996) includes some other relevant findings. First, the SME sector is an example of individual initiative, temerity and tenacity, though, in some cases, there are more businessmen than entrepreneurs. In consequence, the ecology and the entrepreneurial responses derived from its

² For the purposes of the research presented in this article, we follow the definition of firm size in Colombia provided by Law 905 of 2004, where a micro firm is defined as an economic unit with an enrollment equal to or below 10 employees, a small firm as such between 11 and 50, a medium firm between 51 and 200, and a larger firm as one with more than 200.

understanding are dominantly assumed as an expense and not as an investment. Second, the small- and medium-sized firm exhibits a deficit in planning and the forecasting of the future. And, third, informality is pervasive; a high percentage of socio-economic activities can develop without attainment of law and institutions. On a more positive note, the same study also finds that “the SME offers flexibility, creativity and innovation; more expedite decision processes; and, a more organic relationship between the company and the community” (p. 30).

In Bogotá, Colombia’s political and economic center, the District’s Environmental Secretary has in the past tried to steward the environmental performance of firms through an integrated strategy comprising measures such as sector Environmental Management Agreements, coaching and technical assistance (ACERCAR), the publication of cleaner production manuals, and the operation of an Industrial Waste Exchange Program. By the time this article was prepared, the Secretary had just begun the implementation of its new support scheme, which consists mainly of a training-and-stimulus package (in areas such as environmental legislation, sustainable production and consumption, environmental management, and project development) specifically targeted to differentiated levels of firm organizational learning in environmental protection.

The research project whose initial results are presented in this article has been active since two years ago and has mainly covered the last phases of the previous regulatory scheme. Therefore, it is expected that the results reviewed here reflect the situation prevalent under that policy regime, while may still provide useful insights to guide further policy implementation efforts by the regulator.

Empirical explorations of the Natural-Resource-Based View of the firm

In the NRBV literature, three attributes has been consistently linked to superior environmental performance: continuous improvement and innovation, integration of stakeholders perspectives, and shared vision (Christman 2000, Sharma and Vredenburg 1998, Aragón-Correa et al. 2008). These correspond to the original ‘strategic resource’ constructs devised by Hart (1995), each in turn associated to a specific ‘strategic environmental capability’ (i.e., pollution prevention, product stewardship, and sustainable development).

Hart’s extension of the core ideas of the RBV to the natural environment has been prone—along with other of such extensions—to criticism for its static view (Acedo et al. 2006). As an attempt to overcome these criticisms, organizational learning (taken as a dynamic process) has been gradually incorporated into

some RBV models, which has led to the conclusion that organizational learning in itself constitutes a strategic capability of importance for building and maintaining competitive advantage (Smith et al. 1996, Pérez-López et al. 2005).

This practice finds an equivalent in the NRBV through the incorporation of a fourth construct in some of the works reviewed here that, though under different labels, such as 'higher-order learning' (Sharma & Vredenburg 1998), 'cross-functional management' (Christman 2000), and 'organizational learning' (López-Gamero et al. 2009), fundamentally relates to the capability of the organization for continuous 'double-loop learning' (Argyris and Schön 1978) to improve the understanding of environmental issues and respond strategically to demands for superior environmental performance.

The implication for environmental strategy is that the common elements to these four attributes or capabilities are their complexity and inimitability. Organizational capabilities have been seen as factors mediating the relationship between environmental strategy and business performance predominantly in large firms. For instance, Russo and Fouts (1997) and Sharma and Vredenburg (1998) found that environmental strategies and performance contribute to the creation of strategic resources and capabilities, while Christman (2000) finds that successful adoption of using and innovating proprietary pollution prevention technologies "requires special capabilities to innovate and implement modifications in production processes" (p. 669). Similarly, López-Gamero et al. (2009) demonstrate that "firms can adopt a proactive environmental management which leads to better firm performance via firm resources" (p. 3119).

However, our view of how to relate organizational capabilities to environmental strategy and performance is in line with that of Aragón-Correa et al. (2008), where firms are "likely to exhibit proactive strategies based on certain organizational capabilities related to their unique strategic characteristics" (p. 91). Complementary, we adopt Amit and Schoemaker's (1993) view of capabilities, where these "refer to a firm's capacity to deploy resources, usually in combination, using organizational processes, to effect a desired end" (p. 35). By contrast, the same authors define resources as "stocks of available factors that are owned or controlled by the firm...[and] converted into final products or services by using a wide range of other firm assets and bonding mechanisms such as technology, management information systems, incentive systems, trust between management and labor, and more" (p. 35).

It is worth pointing out that, while working not necessarily from inside the RBV paradigm, there are some other works (Ahmed 2006, Kennedy 2006, Biondi and

Iraldo 2002, Hansen et al. 2002, Moreno 2007) that have shown the importance of firms' participation—in particular SMEs—in stakeholder networks as a mechanism to strengthen environmental capabilities in terms of market orientation, understanding of legal obligations, information exchange, and improved motivation for action.

Finally, we respond to Aragón-Correa and Sharma's (2003) urgent call for "consideration of the influence of the dimensions of an organization's general business environment, in addition to internal factors" (p. 84) on environmental strategy by empirically exploring the moderating effects of three contingent attributes on the relationship between organizational capabilities and proactive environmental management. These attributes are: perceived uncertainty of the business environment and perceived uncertainty of environmental technology supply, whose effects have been empirically tested by Chan (2005), and perceived (policy) style of the regulator.

With respect to the latter, Jänicke et al. (2000) have suggested that environmental innovation is affected by the 'policy style' exhibited by the regulator. The policy style "describes the way in which goals are formulated and environmental regulations are implemented", and will best promote environmental innovation when (Jänicke et al. 2000, 135): it is based on dialogue and consensus, thus creating the conditions for cooperation between actors, helping to break down information asymmetries; it states clear and predictable objectives, thus minimizing regulatory uncertainty; it formulates and implements ambitious but achievable goals; it is open (i.e., flexible) to new discoveries and individual case requirements; and, it is management- and knowledge-oriented, implementing concrete aims through organization according to a plan. Consequently, we operationalize these dimensions of the policy style (as perceptions of those being regulated) and test its effect on the relevant relationships.

Research methods

The study follows a "mixed methods" procedure (Tashakkori and Teddlie 2003). The more accepted definition for mixed research methods is that which present them as the collection and analysis of quantitative and qualitative data in the same study (Creswell 2003). Among several existing strategies in mixed methods research, we deploy the 'instrument development model' variant of the 'exploratory design' (Creswell and Plano Clark 2007, 75-79).

The instrument development model is used in this study to develop and implement a quantitative instrument (a survey questionnaire) based on qualitative

findings. In a first stage, an interview protocol grounded in the literature was developed and subsequently applied in eight in-depth, semi-structured interviews conducted with managers or environmental assistants affiliated to the same number of firms for four industrial activities, two interviewees per activity (i.e., electroplating, paints, leather tanning, and used oil collection and recycling). Around the same time, a first survey questionnaire exclusively containing 87 items previously validated in the literature was pretested with 54 representatives from firms linked to the ACERCAR program.

Qualitative findings from content analysis of interview data and quantitative findings from exploratory factor analysis (EFA) of the pretested survey were both taken as the foundations from which to develop the items and scales of a second questionnaire instrument which was applied to 73 representatives (including general managers, environmental/HR managers, and environmental assistants/aides) from firms participating in the tutoring scheme recently launched by the Bogotá Secretary of the Environment.³

Validity of NRBV item measures in this second survey was approached initially through exploratory principal component analysis, and then confirmed through confirmatory factor analysis using LISREL 8.80. Finally, a two-step cluster analysis strategy (Hair et al. 2009) was applied to typify firms according to their degree of proactive environmental practices, subsequently performing an ANOVA test for the difference of means of specific variables (i.e., resources, capabilities, competitive advantage, environmental performance, perceived environmental uncertainty, and perceived policy style of the regulator) across the groups thus selected.

Results

Qualitative data obtained through interviews were independently analyzed by two coders—the authors themselves—with the aid of the software NVivo 8, using quotes, codes, and themes. A written manual—prepared by one of the researchers—with multi-level coding instructions served for the operationalization of themes into codes. Inter-coder reliability was pretested with a full sample,

³ The 73 firms studied in our explorative case study were classified by sector as follows: 40 (54.79%) belong to industrial activities related with manufacture of wood products, publishing and printing, chemical and metals; the remaining 33 firms (45.21%) are related to activities like health services, waste management services, agriculture, manufacture of motor vehicles, telecommunications, and trade. In terms of size, 7 firms (9.6%) are micro, 25 (34.2%) are small, 18 (24.7%) are medium, and the remaining 23 (31.5%) are large enterprises. With reference to the respondents of the survey, 15.1% of them have less than one year working in their firms, 45.2% have between one and five years, 35.6% have more than 5 years, and the remaining 4.11% did not report this information.

manually calculating Krippendorff's alpha (Hayes and Krippendorff 2007) for each variable analyzed; the coefficients obtained were not satisfactory, and thus a revision of coding instructions was imperative before a second round of coding (this time with the assistance of the software Atlas.ti) were performed by the same coders.

The analysis of interview texts considered a total of 985 quotations (previously established by the researchers) to be matched with 19 thematic codes in the second version of the coding manual. The calculation of alpha coefficients was now assisted by the Coding Analysis Toolkit (Lu and Shulman 2008). The results showed that around 20% of all alpha coefficients were equal to or greater than 0.5 (with a highest coefficient of 0.86); nearly 40% ranged between 0.4 and 0.5; and the remaining 40% fell below the 0.4 level. Krippendorff (2004, 241) recommends considering variables with reliabilities between 0.667 and 0.800 "only for drawing tentative conclusions", while Lombart et al. (2002) affirm that 0.7 is often used as the criterion for exploratory research, but that more "liberal criteria" (p. 593) should be used for indices known to be more conservative, including Krippendorff's alpha.

As a rule of thumb, the researchers decided to discuss and reach a consensus on all discrepancies for variables with coefficients equal to or greater than 0.4. Once agreed upon, these qualitative findings were ready to guide the development of relevant items and scales for the second quantitative survey instrument, including the use of significant statements to help write specific items for the instrument (Creswell and Plano Clark 2007, 145); for the remaining constructs, items and scales were taken from instruments previously validated in the literature.

The analysis of quantitative data from the pretest on the original survey instrument was performed through EFA with varimax rotation (assisted by the software PASW 18). The usual tests (Hair et al. 2009) were performed on the factors obtained, the calculation of Cronbach's alpha in particular, with highly satisfactory results for all variables except one that was subsequently omitted from the second survey questionnaire.

The pre-tested survey instrument (grounded in both content analysis of interview data and the quantitative findings from factor analysis of the first questionnaire) consisted of 85 items, from which nearly 40% emerged from content analysis of interview data, and used 5- or 7-point Likert scales to rate respondents' perceptions on each construct under scrutiny. Over three-fourths of the original items

were retained in all the factors that measured the constructs. Appendix A shows detailed results from the factor analysis performed on survey items.

Following Aragón-Correa et al.'s (2008) classification, the environmental strategy construct is explained by two dimensions of proactive environmental practices: Eco-efficient Practices (EEP), in turn captured in our questionnaire by two factors: EEP related to waste management (EEPWMG), and EEP related to best operative practices (EEPBOP); and, Innovative and Preventive Practices (IPP), hence captured by three factors: IPP associated to management practices (IPPMGT), IPP associated with stakeholder management (IPPSTK), and IPP related to innovation (IPPINN).

The Organizational Capabilities construct is represented by three distinctive capabilities, according to the literature of the NRBV: Shared Vision (SHAVIS) and Continuous Improvement (CONIMP), each measured by one factor in our questionnaire, and Stakeholder Management (STKMGT), here measured by two factors: integration with Internal Stakeholders (STKINT), and integration with External Stakeholders (STKEXT).

The eco-advantage construct (ECOADV) is captured by two dimensions: Cost Advantage (COSADV), which rates the perceived impact of environmental management activities on regulatory compliance costs, personnel costs, reduced costs through revenues from commercialization of recyclable waste, and avoided costs derived from a well-established relationship with the regulator, relative to competitors' costs and relationship, respectively; and, Differentiation Advantage (DIFADV), which explores the impact of environmental management on aspects such as the possibility of accessing new market segments or making new business deals, increased willingness-to-pay by environmentally-aware customers, and improved reputation of the firm.

Complementary, confirmatory factor analysis (CFA) corroborated reasonable fit for data for those constructs consisting of more than one factor: STKMGT ($\chi^2 = 43.667$; p-value = 0.0164; df = 26; RMSEA = 0.099; CFI = 0.965; IFI = 0.966), EEP ($\chi^2 = 21.674$; p-value = 0.0606; df = 13; RMSEA = 0.0956)⁴, IPP ($\chi^2 = 64.879$; p-value = 0.000517; df = 32; RMSEA = 0.119), and ECOADV ($\chi^2 = 28.114$; p-value = 0.00872; df = 13; RMSEA = 0.126). We then obtained final measures for each factor in the above constructs (i.e., EEPBOP, EEPWMG, IPPSTK, IPPMGT, IPPINN, COSADV, DIFADV, STKINT, and STKEXT) by calculating the weighted average of the factor items using the standardized load-

⁴ CFI and IFI measures are not shown in the LISREL output because the raw data contains missing values, in which case the Chi-square test statistic value for the Independence Model is not available in closed form and has to be computed by fitting the Independence Model to the data.

ings obtained from CFA.⁵ In subsequent analysis these multi-dimensional constructs (i.e., STKMGT, EEP, IPP, and ECOADV) will be expressed as the average score (i.e., summated scale) of the final measures thus calculated for each factor. The remaining one-factor constructs (i.e., RESOUR, SHAVIS, CONIMP, and others shown in Appendix A) were measured by the average score of the original items comprising each factor obtained through EFA. Table 1 presents descriptive statistics, reliability coefficients, and correlations among the variables.

⁵ Confirmatory factor analysis demonstrated a reasonable fit for data in two additional models: one that includes the five factors associated with proactive environmental strategy ($\chi^2 = 180.014$; p-value = 0.000; df = 109; RMSEA = 0.0945), and a second for the three factors linked to capabilities, i.e. STKMGT, SHAVIS, and CONIMP ($\chi^2 = 142.159$; p-value = 0.00239; df = 98; RMSEA = 0.0791).

Table 1. Descriptive statistics, scale reliabilities and correlation matrix for variables

	Mean	s.d.	EM- PLE	BUS- PER	ENV- PER	ECO- ADV	EEP	IPP	SHA- VIS	CO- NIMP	STKM GT	RE- SOUR	PUN- TEC	PUNM- KE	POLS- TY
EMPLE	367.29	847.91	-												
BUS- PER	3.35	.84	.184	0.889											
ENV- PER	4.53	1.10	-.017	.238	0.801										
ECO- ADV	4.93	.92	.226	.471**	.297*	0.685									
EEP	3.69	.67	.116	.277*	.661**	.533**	0.640								
IPP	3.11	.82	.213	.272*	.625**	.525**	.723**	0.756							
SHAVIS	5.34	1.16	.005	.302*	.153	.311**	.287*	.326**	0.796						
CO- NIMP	5.35	1.15	.110	.391**	.401**	.494**	.480**	.425**	.695**	0.869					
STKM T	13.83	4.76	.236*	.469**	.314**	.533**	.447**	.553**	.467**	.528**	0.717				
RE- SOUR	2.96	.78	.371**	.508**	.324**	.605**	.481**	.619**	.388**	.510**	.679**	0.837			
PUN- TEC	3.79	.76	.155	.247	.251*	.247*	.421**	.397**	.272*	.351**	.418**	.247*	0.832		
PUNM- KE	3.57	.86	.019	.149	.154	.305*	.354**	.331**	.276*	.225	.485**	.252*	.587**	0.791	
POLS- TY	4.61	1.45	.076	.339**	.185	.363**	.341**	.270	.149	.366**	.379**	.423*	.264*	.237*	0.948

*p<0.05

**p<0.01

Scale reliabilities (Cronbach's alpha) are shown on the diagonal in boldface.

Once the NRBV constructs had been operationalized and validated, we subjected the two variables measuring proactive environmental practices to a two-step cluster analysis, using a combined hierarchical and non-hierarchical procedure, in order to determine whether different groups of similar firms could be grouped on the basis of their environmental strategies (Aragón-Correa et al. 2008). We addressed eventual multicollinearity issues by selecting two items to represent each of the factors measuring EEP and IPP, consequently chosen to minimize correlations among variables (Hair et al. 2009). Similarly, outliers were identified—and eventually removed after analysis of the agglomeration schedule in the hierarchical cluster solution—based on finding observations with large distances from other observations (Hair et al. 2009).

Table 2. Results of two-step Cluster Analysis

		Cluster 1 "Leadership"	Cluster 2 "Eco-efficiency"	Cluster 3 "Reactive"	ANOVA F
EEP	3C	4.14	4.36	3.43	10.714**
	3F	4.29	3.93	3.00	18.073**
	3E	4.24	4.29	3.61	6.159*
	3J	3.95	3.57	2.52	16.380**
	Mean	4.16	4.04	3.14	
IPP	3L	3.86	1.93	2.35	23.861**
	3M	3.81	3.29	2.57	9.489**
	3Q	4.14	3.71	2.65	19.285**
	3R	4.14	3.93	3.13	12.961**
	3U	3.90	1.93	2.39	39.042**
	3W	3.67	2.07	2.65	15.728**
	Mean	3.92	2.81	2.62	
N	21	14	23		

*p<0.01, **p<0.001

Results of the analysis suggested a three-cluster solution, which was confirmed by average raw scores and significant statistics from the one-way analyses of variance (ANOVA) F-test, as shown in Table 2.⁶ Over a third of firms (n = 21) are characterized by both routine eco-efficient and innovative and preventive practices. A second group consisting of about one-fourth of firms (n = 14) was characterized by routine ecoefficient practices and some evidence of IPP, though not routinely. Finally, a third group consisting of the remaining firms (n = 23) is characterized by implementing some ecoefficient practices, though not routinely, and doing even less on or have just considered IPP. We labeled these groups accordingly to reflect differentiated environmental strategies, respectively as follows: “leadership”, “eco-efficiency”, and “reactive”.

Table 3 shows average raw scores for the variables of interest in each group. F-test statistics were all significant except for shared vision and policy sytle. The “leadership” group exhibits the highest values for all analyzed variables, while there is a general tendency for the “eco-efficiency” group to exhibit higher values than the “reactive” group, except for resources. The stability of the cluster solution was assessed by sorting the observations in a different order and then performing the analysis repeatedly (Hair et al. 2009).

⁶ All variables are measured over a 5-point Likert scale in the survey questionnaire.

Table 3. Classification of sampled firms based on their environmental strategies

		Cluster 1 "Leadership"	Cluster 2 "Eco-efficiency"	Cluster 3 "Reactive"	ANOVA F
ENVPER	Mean	5.2698	4.5238	3.9565	10.989**
	N	21	14	23	
ECOADV	Mean	5.4008	4.8913	4.3904	8.310**
	N	20	14	23	
SHAVIS	Mean	5.6349	5.2143	4.8551	2.450
	N	21	14	23	
CONIMP	Mean	5.8810	5.1786	4.8696	4.570*
	N	21	14	23	
STKMGT	Mean	16.1011	12.6180	11.8693	5.556**
	N	20	14	23	
RESOUR	Mean	3.3714	2.6571	2.7196	6.449**
	N	21	14	23	
PUNTEC	Mean	4.0500	3.7321	3.5109	3.427*
	N	20	14	23	
PUNMKE	Mean	3.8333	3.8333	3.1449	5.763**
	N	20	14	23	
POLSTY	Mean	5.0983	4.1032	4.5169	2.057
	N	21	14	23	

*p<0.05

**p<0.01

To explore the moderating effects of contingent attributes on the relationship between proactive environmental strategies and organizational capabilities, we developed and tested two regression models with EEP and IPP as dependent variables, and each of the capabilities variables (i.e., SHAVIS, CONIMP, and STKMGT), the contingent attributes variables (i.e., PUNTEC, PUNMKE, and

POLSTY), and nine terms for the interactions between capabilities and contingent attributes (e.g., SHAVIS*PUNTEC) as independent variables. Among all the interaction terms in the two models, the one for continuous improvement and policy style was significant at the 5% level (sig. = 0.045) in the EEP-explaining model (adjusted $R^2 = 0.364$; $df = 69$; ANOVA $F = 3.635$, sig. = 0.0001). Following the interpretation given by Chan (2005), the positive sign for the CON-IMP*POLSTY term coefficient suggests that firms would be more inclined to deploy their continuous improvement capability to develop an eco-efficiency environmental strategy if they perceived favorably the policy style of the regulator.

Discussion, conclusions and implications for future research

Two decades ago, the main preoccupation of Colombian firms in connection with the natural environment was to respond to the body of regulations by then just enacted. Today, van Hoof and Herrera (2007) state, the environmental context of industry in Colombia shows a more complex panorama, where environmental management influences more directly the commercial and competitive strategies of firms.

On the one hand, our research findings provide support to this claim by typifying firms according to their environmental practices in three groups. One “leadership” group, where firms not only have routinized waste management and good housekeeping practices, but also have implemented regularly environmental training programs for executives and employees, are taking steps towards the greening of their supply chains, are substituting inputs and modifying production processes for environmental reasons, and even incorporating life cycle thinking into product design. A second group of firms follows in the footsteps of the first group; firms on this category have incorporated eco-efficient practices into their organizational routines, finding cost savings that reduce the cost burden of regulatory compliance, but that probably do not amount to ‘free lunches’, as “complete” offsets (Porter and van der Linde 1995) are likelier to sprawl from major changes to production processes than from the ‘low hanging fruits’ of smaller projects (Popp 2005). A third group of firms, which we labeled “reactive” but could also have named “reluctant compliers”, following Kagan (2007), lags far behind in terms of their extent of implementation of innovative and preventive practices, though it is starting to incorporate eco-efficient practices as part of their organizational routines.

On the other hand, as van Hoof and Herrera (2007) have put it and the contingency theory, resource-based view, and organizations and the natural environment literature have all shown (Aragón-Correa and Sharma 2003), perceived new international and national developments in the institutional environment of Colombian businesses guide priorities and change demands for environmental strategies. Solely based in our findings, we are not able to check for the influences of the changing institutional environment on the differentiated degrees of proactivity exhibited by sample firms. However, we explore rigorously the association between endogenous capabilities and environmental strategy, which constitutes one of the core tenets of the Natural-Resource-Based View of the firm. In particular, from case study data from Bogotá, Colombia, we offer evidence to support the claim that firms that exhibit more proactive strategies are likelier to possess a higher degree of two organizational capabilities: continuous improvement, and stakeholder management (i.e., internal- and external-stakeholder integration).

As Hart (1995) suggested in his seminal work, these are strategic resources (capabilities) that enable organizations to implement pollution-prevention and product-stewardship strategies, respectively, which in turn could be associated to eco-advantage via reduced costs (improved productivity) and preemption of competitors. In fact, we find that more proactive firms tend to perceive a slightly favorable to favorable impact of environmental management activities (EMA) on costs and market opportunities, relative to a basically neutral effect of EMA on cost and marketability perceived by reactive firms.

The moderating effect of contingent variables (attributes) operating in the general business environment on the development of proactive environmental strategies is approached in our study through the exploration of the influence of the policy style of the regulator (Jänicke et al. 2000). We find that the more a firm perceives favorably the policy style of the regulator, the likelier will be for that firm to deploy a continuous improvement capability to develop an eco-efficiency environmental strategy. Our interview data and findings from previous work (Moreno 2007) suggest that the regulator is increasingly embodying new responsibilities that span beyond the traditional enforcement role. Some of these responsibilities are captured by specific dimensions of the policy style as we operationalized it: acting as facilitator and match-maker to bring businesses together, helping to promote networking among firms and between these and other stakeholders, which supplements lacking capabilities of the former, especially for smaller businesses; disseminating knowledge on management practices and productivity-improving environmental technologies; and, among others, considering the

particularities of each firm in setting individual compliance plans. To our knowledge, this may help explain why survey respondents see integration with the regulator at the same level than their integration with “internal” stakeholders such as the owners, customers, suppliers, and employees.

Considering the relatively small sample ($n = 73$) used for this study, we see with interest the associations that emerge in the data, which we expect to further confirm in a developing country setting by using our empirically validated construct items to collect new survey data from a larger sample of firms and comprehensively test the core assumptions of the NRBV in a structural equation model.

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RESULTS OF EXPLORATORY FACTOR ANALYSIS

1. ENVIRONMENTAL PERFORMANCE IN COMPARISON WITH COMPETITORS'

1	2	3	4	5	6	7
We are far behind	We are moderately behind	We are slightly behind	We have the same performance	We have a slight advantage	We have a moderate advantage	We have a very large advantage
Factor	Items	Loadings	Chronbach's Alpha	Explained Variance	General average score	
Environmental Performance (ENVPER)	Efficient use of raw materials	.857	.801	71.66%	4.540	
	Pollution prevention at the source	.851				
	Reduction of energy consumption	.832				

Source of items: Karagozoglu and Lindell (2000);

2. ECO-COMPETITIVENESS (ECO-ADVANTAGE)

Impact of environmental management activities on several aspects taking into account a scale, as follows:

1	2	3	4	5	6	7
Very unfavorable	Moderately unfavorable	Slightly unfavorable	Neither favorable or unfavorable	Slightly favorable	Moderately favorable	Very favorable

Factor	Items	Loadings	Chronbach's Alpha	Explained Variance	General average score
Cost Advantage (CO-SADV)	Environmental regulation compliance costs (wastewater treatment or emission control) in comparison with competitors'	.899	.798	49.41%	4.644

	Relationship with regulator in comparison with competitors ^a	.813			
	Personnel costs in comparison with competitors ^a	.660			
	Revenues from commercialization of recyclable waste (cardboard, plastic and scrap) in comparison with competitors ^a	.615			
Differentiation Advantage (DIFADV)	The possibility of penetrating new markets or making new sales deals	.891	.678	14.75%	5.305
	Customers' willingness to pay a premium price for products with better environmental performance than the competitors ^a	.793			
	Reputation of the firm to the customer	.579			

Source of items: Adaptation from Sharma and Vredenburg (1998); Christmann (2000); Karagozoglu and Lindell (2000);^aThe authors from content analysis of interviews

3. ENVIRONMENTAL STRATEGY

a. ECO-EFFICIENT PRACTICES

Evaluation of firm performance in terms of practices taking into account a scale, as follows:

1	2	3	4	5
We have not considered this issue at all	We have considered this issue but we have not done anything	We do something about it, but not routinely	We do something about it and routinely	We are leaders in this practice in our sector

Factors	Items	Loadings	Chronbach's Alpha	Explained Variance	General average score
Eco-efficient practices related to waste management (EEPWMG)	Recover valuable sub-products from waste generated by processes	.815	.751	45.62%	3.721
	Sort wastes at the source	.808			
	Implement warehouse best practices	.695			
Eco-efficient practices related to best operative practices (EEPBOB)	Reduce energy consumption by replacing old light bulbs with energy-saving light bulbs	.816	.735	17.73%	3.653
	Turn off the lights and machines that are not necessary	.754			
	Turn water off when faucets are not in use	.714			
	Avoid wasting chemical products used in production plant	.545			

Source of items: Adapted from Aragón-Correa et al. (2008); ^aThe authors from content analysis of interviews

b. INNOVATIVE AND PREVENTIVE PRACTICES

Evaluation of firm performance in terms of practices taking into account a scale, as follows:

1	2	3	4	5
We have not considered this issue at all	We have considered this issue but we have not done anything	We do something about it, but not routinely	We do something about it and routinely	We are leaders in this practice in our sector

Factors	Items	Loadings	Chronbach's Alpha	Explained Variance	General average score
Innovative and preventive practices related to management practices (IPPMGT)	Have in place an insurance plan against environmental risks	.836	.884	47.60%	2.838
	Have in place a handbook of procedures including precise instructions about environmental operations in the production plant	.830			
	Evaluate environmental impact throughout the entire product life-cycle (raw materials procurement, production, distribution, use and disposal)	.794			
	Perform environmental audits	.649			
Innovative and preventive practice-	Participate in environmental training programs for executives (owners, share-	.824	.755	15.25%	3.404

es related to stakeholders (IPPSTK)	holders and managers)				
	Training for employees in environmental issues, specifically in pollution prevention	.750			
	Evaluate or select our suppliers including environmental requirements as criteria	.703			
Innovative and preventive practices related to innovation (IPPINN)	Replace polluting raw materials by less polluting materials	.859	.791	11.35%	3.005
	Change production processes to improve environmental performance	.837			
	Modify product design to reduce environmental impact	.677			

Source of items: Aragón-Correa (1998); Aragón-Correa et al. (2008); Christmann (2000); *The authors from content analysis of interviews

4. RESOURCES

Availability of resources in the firm considering a scale, as follows:

	1	2	3	4	5		
	Scarce	Moderately scarce	Adequate	Moderately abundant	Abundant		
Factors	Items			Loadings	Chronbach's Alpha	Explained Variance	General average score
Resources (RE-SOUR)	Information Technologies and Information Systems			.866	.837	61.14%	2.968
	Technologies and equipment for producing quality products			.845			
	Well trained employees			.733			
	A person or department in charge of environmental management issues			.733			
	Financial resources to invest in cleaner technologies			.720			

Source of items: Chan (2005); *The authors from content analysis of interviews

5. CAPABILITES

a. SHARED VISION

Evaluation of the degree of agreement with regard to several aspects taking into account a scale, as follows:

	1	2	3	4	5	6	7
	Completely disagree	Strongly disagree	Slightly disagree	I hesitate	Slightly agree	Strongly agree	Completely agree
Factors	Items			Loadings	Chronbach's Alpha	Explained Variance	General average score
Shared vision (SHAVIS)	Everyone who works in our firm influences the way we work and the firm's objectives			.887	.796	72.26%	5.315
	Environmental management in our firm is not an issue of a single department but everyone's commitment, from shareholders and managers to operators			.866			
	Everybody in our firm freely contributes his/her points of view about how to run it smoothly			.794			

Source of items: Aragón-Correa et al. (2008). *The authors from content analysis of interviews

b. CONTINUOUS IMPROVEMENT

Evaluation of the degree of agreement with regard to several aspects taking into account a scale, as follows:

	1	2	3	4	5	6	7
	Completely disagree	Strongly disagree	Slightly disagree	I hesitate	Slightly agree	Strongly agree	Completely agree
Factors	Items			Loadings	Chronbach's Alpha	Explained Variance	General average score
Continuous improvement (CONIMP)	We have done activities that are no required by the regulator			.872	.869	72.05%	5.194
	We can evaluate the environmental impact			.848			

	of our activities in order to identify necessities and opportunities for improvement				
	We continuously improve our processes, products and management systems	.847			
	We give feasible and low cost solutions to our environmental problems	.827			

Source of items: Adaptation from Sharma and Vredenburg (1998); *The authors from content analysis of interviews

c. STAKEHOLDER MANAGEMENT

Evaluation of the degree of attention and influence of several stakeholders taking into account a combination of two scales (Buisse and Verbeke 2003), as follows:

How much attention does the firm pays to each stakeholder?

1	2	3	4	5
None	Little	Moderate	Much	Great

The influence and importance form each stakeholder on firm decisions related to environmental management:

1	2	3	4	5
No influence	Little influence	Moderate influence	Strong influence	Very strong influence

The combined scale is a result of multiplying individual scores for each scale. As a consequence, the minimum and maximum scores of that scale are respectively (1) and (25).

Factors	Items	Loadings	Chronbach's Alpha	Explained Variance	General average score
Internal stakeholders (STKINT)	Customers	.883	.883	52.84%	15.946
	Shareholders/owners	.834			
	Suppliers	.794			
	Employees	.754			
	Environmental regulator	.692			
External stakeholders (STKEXT)	Environmental activists	.868	.818	15.52%	11.613
	Universities and research institutions	.819			
	Industry association	.763			
	Leaders in the sector	.537			

Source of items: Aragón-Correa et al. (2008); *The authors from content analysis of interviews

6. CONTINGENT ATTRIBUTES

Evaluation of managers' perceptions with regard to future situations and aspects taking into account a scale as follows

1	2	3	4	5
Completely unpredictable	Quite unpredictable	Moderately unpredictable	Quite predictable	Completely predictable

Factors	Items	Loadings	Chronbach's Alpha	Explained Variance	General average score
Perceived Uncertainty / Technological aspects (PUNTEC)	Environmental performance of available cleaner technologies: efficiency of pollution reduction, raw materials requirements and consequences on product quality	.846	.832	55.57%	3.782
	Availability of natural resources used by the firm (e.g., water, vegetable raw materials, and mineral raw materials)	.780			
	Environmental impact of outputs	.749			
	Environmental impact of inputs (e.g., energy and raw materials)	.681			
Perceived Uncertainty / Market Aspects Issues (PUNMKE)	Changes in competitors' environmental strategies	.905	.791	14.52%	3.581
	Demand of environmentally friendly products	.806			
	Environmental preferences of customers	.659			

Source of items: Chan (2005); *The authors from content analysis of interviews and Kemp (1998).

7. POLICY STYLE OF THE REGULATOR

Evaluation of managers' perceptions about aspects related to the "policy style" of the regulator, in terms of the degree of agreement, taking into account a scale as follows:

1	2	3	4	5	6	7
Completely disagree	Strongly disagree	Slightly disagree	I hesitate	Slightly agree	Strongly agree	Completely agree
Factors	Items	Loadings	Chronbach's Alpha	Explained Variance	General average score	
Policy style (POLSTY)	The Secretary shows good will to draw out a compliance plan that considers the particularities of our firm*	.901	.948	70.79%	4.598	
	The Secretary issues new norms following a process that includes dialogue and consensus with firms*	.862				
	The Secretary coach firms through training and information sharing , helping them to meet regulations*	.857				
	The Secretary knows the reality of the firms and this is reflected on environmental regulations that we have to meet*	.853				
	The Secretary exhibits good planning and coordination processes, which makes evident in an effective communication with us*	.834				
	We know what to expect from the Secretary with regard to the control and monitoring of regulation compliance*	.829				
	There is continuity in the programs and initiatives set by the Secretary	.829				
	The Secretary strives to create spaces to bring people together and for the exchange of experiences and useful information to improve environmental performance*	.796				

Source of items: *The authors from Jänicke et al. (2000) and content analysis of interviews.

8. BUSINESS PERFORMANCE IN COMPARISON WITH COMPETITORS*

It takes into account the following scale:

1	2	3	4	5	
Much worse	Quite worse	Roughly equal	Quite better	Much better	
Factors	Items	Loadings	Chronbach's Alpha	Explained Variance	General average score
Business performance (BUSPER)	Return on investment	.949	.889	89.99%	3.279
	Earnings growth	.949			

Source of items: Aragón -Correa et al. (2008)

Jurgis Samulevicius & Borisas Melnikas

SCIENTIFIC AND TECHNOLOGICAL PROGRESS IN LITHUANIA: INSTITU- TIONAL INTERACTION

Abstract

The concept of interaction between systems of research, teaching, training, consultancy and practical business in the context of the activation of scientific and technological progress and the creation of knowledge based economy is described. Interaction systems are defined as an important part of the infrastructure for scientific and technological progress and for the knowledge based economy creation.

The main definitions and principles of the interaction between systems of research, teaching, training, consultancy and practical business are characterized, the main problems of such interaction in the context of globalization and internationalization processes are analyzed. In the sphere of the systems of interaction of research, teaching, training, consultancy and practical manufacturing business, some multifaceted and somewhat contradictory trends occur, the most important trends are described.

Interaction between systems of research, teaching, training, consultancy and practical business in the context of the activation of scientific and technological progress and the creation of knowledge based economy is characterized as the case of Lithuania.

Keywords: scientific and technological progress, knowledge economy, interaction, innovation, Lithuania.

Introduction

Acceleration of scientific and technological progress and creation of knowledge economy is an essential priority in today's society and its social economic development.

In order to accelerate and intensify scientific and technological progress and build up the development of knowledge based society and knowledge economy, it is necessary to take into account those factors, which reflect upon reciprocal interaction between different social strata and groups, different sectors of economy, organizations and institutions executing various functions. Particular importance should be given to the systems interoperability in scientific research, teaching, training, consultancy and practical manufacturing business.

System interoperability in scientific research, teaching, training, consultancy and practical manufacturing business is an absolutely complex phenomenon that requires solid scientific knowledge and effective theoretical solutions.

This publication provides exhaustive exploration of the possibilities to improve the interoperability among different systems operating in the overall scientific and technological progress, in addition, it discloses principles of mutual interoperability among the organizations operating in scientific research, training, studies, consultancy and business development and other entities, as well as trends for the development are highlighted here.

Main focus is put on the development of such an interaction in the circumstances of Lithuania.

Interaction between different institutions as a key priority for the activation of scientific and technological progress: the concept and significance

The processes of scientific and technological progress and creation of knowledge economy could be defined as a system of very complicated processes: these processes are analyzed in many scientific works (Cohendet, Stojak 2005; David, Foray 2002; Ein-Dor, Myers, Raman 2004; Farnsworth 2005; Goeransson, Soederberg 2005; Grace, Butler 2005; Hunt 2000; Huseman, Godman 1999; Lahti 2007; Leydesdorff 2004; Melnikas, Jakubavičius, Strazdas 2000; Melnikas 2002; Melnikas, Reichelt 2004; Melnikas 2008; Olsen, Osmundsen, 2003; Redding, Venables 2004; Rosenzweig 2001; Samulevičius, Samonis 2005; Samulevičius 2006; Steinmueller 2002; Dzemydiene, Tankeleviciene 2009).

Some research works on management models and methods using for living up the processes of scientific and technological progress and creation of knowledge economy could be chosen (Ginevicius 2009; Zavadskas 2008; Rutkauskas 2008; Melnikas 2002–2008).

An essential precondition for the development of science and technology advancement and intensification of the knowledge economy is building up of conditions to fully enhance the interaction between the systems operating in different businesses, different features and orientations. Such interaction allows the search of different synergy effects, provides vitalization of innovations and positively influences production of the new quality products.

Moreover, the strengthening of such an interaction is an especially important requirement to develop the sector of high-technology and enhance production of technology-oriented products. Particularly important areas of interaction are regarded in the interaction between systems where:

- Various types of intellectual products are developed and new knowledge is generated.
- There is potential for creation and accumulation of new knowledge.
- Newly created knowledge and various kinds of intellectual products are completed and transformed into items or services of practical use.

In the most common case mentioned systems as a whole include processes of scientific research, teaching, training and consultancy business, as well as activities of practical production. It can be suggested that interaction between these particular systems embracing such activities must be given a priority attention, since the combination of these activities reflect upon whole a complex of activities, offering a strong commonality. It is clear that orientation towards commonality of such complex of activities shows in interconnection, of the three elements including:

- research activities creating new knowledge;
- training, studies and consultancy activities, preparing human resources required both to generate new knowledge, and dissemination of new knowledge and its practical use,
- manufacturing business as an activity involving the process transformation of new knowledge into new material products, in which actually new products intended for consumption are created.

The described combination essentially represents a single system, whose main elements are precisely the processes developing scientific research and intellectual resources, processes of human resources development and training for scientific and technological advancement, as well processes of qualitatively different manufacturing. Moreover, such a combination can be regarded as the most

important precondition to ensure modern society's ability to accelerate scientific and technological progress and create and develop the knowledge-based economy.

Recognizing that these systems research, teaching, training, advice and practical manufacturing business need multifaceted interaction, a question naturally arises concerning organizational forms capable to implement this interoperability.

To implement interaction between research, teaching, training, consultancy and practical productive business the international practice widely applies various organizational forms. Among these forms very popular are the innovation centers, business incubators, parks of science and technology, various industrial units, techno-poles, clusters, as well as all of these organizations and networks in various combinations: dissemination of these organizational forms is done on a huge scale, and the rich opportunities to be able to invigorate scientific and technological progress and increase economic efficiency.

In the sphere of the interaction between the systems of scientific research, teaching, training, consultancy and practical manufacturing business certain regularities manifest themselves, through which certain principles characteristic to the interaction show, and trends of development form as a consequence of such practice of integration.

Principles of interaction between the systems of research, teaching, training, consultancy and practical manufacturing business and trends of the development of such interaction

Interaction between the systems of research, teaching, training, consultancy and practical manufacturing business represent a very complex area in which various principles are implemented and lot of different trends emerge.

In this area, among the most important principles these are to be considered:

- The principle of orientation towards the synergy effects, which expresses the fact that the mission of the interaction between different systems is the synergy effects, allowing preconditions for qualitatively new results.
- The principle of pursuing a new quality, expressing the fact that as a result of the interaction between various systems, new quality result must be obtained.

- The principle of harmony and coherence, expressing the need to ensure that inter-operable systems development, expansion, and changes within those the systems themselves change in a harmonious and coherent way.
- The principle of priority of the of common interests, expressing the attitude that, despite the fact that interacting entities may have diverse interests, the most important and priority principles are considered to be common interests.
- The innovation principle, expressing orientation of the interaction towards innovation promotion and invigoration.
- The principle of systems and integrity, expressing the fact that the interacting systems and entities comprise a certain complex which has sufficient capabilities and skills needed to complete ready-made new quality products.

It is clear that among the principles manifesting within the systems of interaction in research, teaching, training, consultancy and practical manufacturing business other principles can be mentioned albeit the most important principles should be considered those mentioned earlier.

In the sphere of the systems of interaction of research, teaching, training, consultancy and practical manufacturing business, some multifaceted and somewhat contradictory trends occur.

Among general trends as very significant the following can be identified:

- Consolidation trend of the organizations, individuals and other entities operating in different activities, solving problems of the socio-economic development and scientific and technological progress, problems: this tendency expresses convergence of both the efforts of different entities, as well as the accumulated potential achieved in the various systems when seeking common results.
- The trend expressing the growing orientation of the research and teaching and educational process towards new needs of manufacturing business: this trend indicates that both the research content, and training, studies and consultancy processes are increasingly driven towards the priorities of manufacturing business development.
- The trend indicating the growing inclusion and activeness of industrial and business entities in development, modernization and the use of both potential of the systems of scientific research, training, studies, and consultancy, and consecutive involvement of human resources acting within those systems into interaction of these systems with various business systems.

– the trend, expressing the tendency to instigate sustainable development, provided that by measures of interaction of different systems between interacting systems, harmony is ensured both within each system and the environment.

– The trend, expressing the tendency to intensify international relations, since in the situation of scientific and technological progress and industrial development in business the need for a growing focus on the internationalization processes and activities in international markets inevitably emerge.

What is more, it is to be said that in the sphere of interaction between the systems of the research, teaching, training, consultancy and practical manufacturing business some inconsistent trends show. Among these trends fairly specific trends can be considered as extremely important that can be called the tendencies of imitation of increasing scientific and technological progress: the essence of these trends is that the idea of interaction between scientific research, teaching, training, consultancy and practical productive business is sometimes turns into a distorted shape or ineffective form, and the interaction itself is not sufficient to actually succeed in the progress of science and technology.

Among the tendencies of imitation of increasing scientific and technological progress some of the characteristic trends can be observed:

– The trend that manifests itself in the fact that directions, shapes and real contents of the interaction between systems of parties participating in scientific and technological progress sometimes demonstrate inadequacy to actual needs, and contradict to declared public interests (the essence of this trend is that the interaction between the different operational entities actually becomes a "shelter" to create inefficient organizations, develop inefficient communication and maintain inefficient use of resources designed for scientific and technological progress).

– The trend, expressing the lack of harmony and compatibility in organizing and development of joint activities of participants of scientific and technological progress.

– The trend, expressing the tendency to artificially stress the importance of the specific "external" manifestations of interaction between various actors involved in scientific and technological progress, focusing on formal priority of such interactions and the image of interaction.

Trends in simulation listed earlier at the same time reflect some of the problems that actually occur and manifest in various chains of acceleration and activation of scientific and technological progress.

To sum up these statements, it may be noted that the needs for efficient cooperation between the systems of scientific research, teaching, training, consultancy and practical production prove to exist in all spheres of modern society and its social economic life. Targeted response to those needs is an important precondition to accelerate and intensify scientific and technological progress and create the knowledge economy in various countries, including Lithuania.

Bridging science and business in Lithuania: local experience in the global context

The main idea of the creation of knowledge based economy in Lithuania is that a knowledge based economy is one where organizations and people acquire, create, disseminate and use knowledge more effectively for greater economic and social development. This requires:

- An economic and institutional regime that provides incentives for the efficient creation, dissemination and use of existing knowledge.
- An educated and skilled population that can create and use knowledge or in other words critical mass that values knowledge capital that sustain a culture that values knowledge.
- A dynamic information infrastructure that can facilitate the effective communication, dissemination, and processing of information.
- A system of research centers, universities, think tanks, consultants, firms and other organizations that can tap into growing stock of global knowledge, assimilate and adapt it to local needs.

The political decisions were made in Lithuania, that further development of the knowledge economy infrastructure (e. g. better access to high-speed Internet) is needed. That will necessitate a better public – private sectors collaboration so as to arrive at innovative management models and strategies underpinning the knowledge economy in Lithuania.

The widening and deepening of the European integration markedly increased competitive pressures, so companies began looking for new, sustainable and dynamic advantages. Given that the continent is aging pretty rapidly and immigration presents a problem for a number of reasons, a shortage of qualified labor is developing, which can be best addressed by taking advantage of the digital-knowledge revolution and of the potential of new EU members such as Lithuania.

Under these circumstances, a better use of the continent's resources has become critical to winning the competitive game or surviving in the unified Europe and the integrated world.

Large European and multinational corporations (e. g. BT, Buckman Labs, Nokia, Siemens, etc) are the early adopters of new thinking. They first realized that high initial costs of research and human-intellectual capital costs are efficiently spread only over longer periods and larger geographical areas. The vision they have, specifically their new-frontier mentality and the ability to develop integrative thinking across functional areas of business, not only at the highest management levels but, what is even more important, at lower management levels resulted in knowledge-sensitive enterprise cultures and the resultant organizational learning regarding new business models and strategies. Also, such issues are pretty high on the EU institutions' agenda (e. g. Lisbon Strategy). The unique European competitive advantage (e. g. compared to the USA) is that EU institutions are able to give push and pull to many continent-wide initiatives that fall within the public goods category (e. g. earlier adoption of continent-wide standards for mobiles, knowledge management practices, etc.).

The chief criterion for Lithuania before to become a full member of the EU was the capability to withstand the European competitive pressures. While in the first period lower labor costs do provide certain competitive advantages pretty much across the branches of economic activity, this factor was of rather short duration in the case of Lithuania or other transition economies. Lithuania's strategy was for to develop higher added-value market niches that will precisely call upon the Lithuanian capabilities to create an entrepreneurial economy that is integrated continentally and globally. Knowledge economy provides such opportunities especially in the context of knowledge and innovation in the European and global business.

The dominant challenge before Lithuania is how to use a considerable theoretical research (e. g. biotech, lasers, semiconductors) potential of the Lithuanian research institutes, universities, and industry. There is a need to develop a practice-oriented strategy for knowledge-based economy in Lithuania.

The theory-practice gap has been something of a problem inherited from the communist period, as are the inter-institutional collaboration shortcomings. One important aspect of that challenge is the interdisciplinary and cross-disciplinary nature of modern business models that mandates integrative thinking and puts a premium on those managers who are able to integrate functional perspectives. Educational institutions in European countries are still somewhat attached to the

subject-based teaching/learning; and this problem is therefore more pronounced in Europe than in North America. Nowadays universities must be prepared for new challenges which are predicted by aging population, Global energetic and climate changes and other social processes. They must be prepared to identify, detect and analysis new business opportunities. Therefore they have a need for learning by developing a new curricula that applies to professors and students. It could well be that knowledge management is that vehicle and that frame of mind that can help support research networks, which are the lifeblood of the integration in to European research.

At the present time in Lithuania five programmes of integrated research, higher education and business centers (valleys) are prepared. The integrated research, higher education and business center (valley) is a research, higher education and knowledge-intensive business potential concentrated in a single territory, which has a common or related infrastructure and purposefully contributes to the creation of knowledge based society and knowledge based economy.

Valleys in Lithuania are created seeking to concentrate, renew and optimize the infrastructure, which would enable state-of-the-art technologies and other most promising sectors of science, technologies and business to be developed, relations between scientific research and higher education to be strengthened, close interaction between scientific research, science, higher education and knowledge-intensive business to be ensured, as well as to engage in training researchers and other specialists.

Also, it is sought to develop scientific co-operation of the highest level on the national and international scale, to attract necessary foreign investments of great intellectual potential, and on the basis of research and higher education, as well as knowledge intensive business to create clusters of knowledge based economy.

At the present time the following centers are working on programmes and have already presented the improved visions: Saulėtekio technologijų slėnis (Vilnius Sauletekis Technology Valley – Sunrise Valley), Vilniaus Santaros slėnis (Vilnius Santara Valley), the integrated research, higher education and business center Nemunas, the integrated research, higher education and business center (valley) for the development of the maritime sector of Lithuania.

Sunrise Valley in Vilnius is one of innovative centers, which was deliberately modeled after the Silicon Valley, California, where Eastman Kodak, General electric, Intel Fairchild, Lockheed, Hewlett Packard and other companies started

and developed their activities. Sunrise valley in Vilnius was established in May 2003.

Knowledge economy clusters are successfully created near Universities in different countries. Very successfully towards this direction are developing our neighbors-Nordic countries. In recent years Finland and Sweden twinkled their resources for R&D especially in the last decade that influenced growth of high tech level of production in exports of those countries. Technological parks Kista and Technopolis are well known knowledge economy clusters in all over the world. The neighboring country Poland also has great achievements in this field of activities. Poland is successfully developing 45 ha square technological park Technoport near the capital Warsaw.

Vilnius University and Vilnius Gediminas Technical University, well known Lithuania's corporate leaders ALNA, SONEX, OMNITEL, BITE GSM, EKSPLA, Laser Research Institute, the members of the Knowledge Economy Forum of Lithuania were founders of the public unit Sunrise Valley in Vilnius. In February 2004 this project was joined by municipality of Vilnius, which became shareholder of this establishment. In reality Sunrise valley accumulated potential of the best Lithuanian research and study institutions, think tanks, consultants, firms and organizations and is ready to tap into the growing stock of global knowledge and adapt it to local needs.

In the long run (till 2015) Sunrise Valley as the large Lithuania's knowledge cluster must be developed into the largest innovation centre in the Baltic region, where high added-value products and services will be created. Such a vision for Sunrise Valley in the year 2005 was predicted by International Consortium Centre for Strategy and Evaluation Services, famous technological parks from Great Britain, Sweden and experienced local business partners. According to the evaluations by the year 2015 in territory of 2.5 ha about 150 new high technology enterprises with more than 3000 employees will be created, among them: Innovation center for the development of laser and IT as well as the formation of business incubator and a scientific-technological park. It will be companies established by universities and research centers, where students, professors and researchers from those institutions will work.

Conclusions

An essential precondition for the development of science and technology advancement and intensification of the knowledge economy is building up of conditions to fully enhance the interaction between the systems operating in different

businesses, different features and orientations. Such interaction allows the search of different synergy effects, provides vitalization of innovations and positively influences production of the new quality products.

Particularly important areas of interaction are regarded in the interaction between systems where:

- Various types of intellectual products are developed and new knowledge is generated.
- There is potential for creation and accumulation of new knowledge.
- Newly created knowledge and various kinds of intellectual products are completed and transformed into items or services of practical use.

Interaction between the systems of research, teaching, training, consultancy and practical manufacturing business represent a very complex area in which various principles are implemented and lot of different trends emerge. Among the most important principles these are to be considered:

- The principle of orientation towards the synergy effects, which expresses the fact that the mission of the interaction between different systems is the synergy effects, allowing preconditions for qualitatively new results.
- The principle of pursuing a new quality, expressing the fact that as a result of the interaction between various systems, new quality result must be obtained.
- The principle of harmony and coherence, expressing the need to ensure that inter-operable systems development, expansion, and changes within those the systems themselves change in a harmonious and coherent way.
- The principle of priority of the of common interests, expressing the attitude that, despite the fact that interacting entities may have diverse interests, the most important and priority principles are considered to be common interests.
- The innovation principle, expressing orientation of the interaction towards innovation promotion and invigoration.
- The principle of systems and integrity, expressing the fact that the interacting systems and entities comprise a certain complex which has sufficient capabilities and skills needed to complete ready-made new quality products.

The needs for efficient cooperation between the systems of scientific research, teaching, training, consultancy and practical production prove to exist in all spheres of modern society and its social economic life. Targeted response to those needs is an important precondition to accelerate and intensify scientific

and technological progress and create the knowledge economy in various countries, including Lithuania.

Bridging science and business together is the important priority in the process of the creation of knowledge based economy in Lithuania.

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Advertising on Google.eu: A Missed Opportunity for Colorado Ski Resort

Abstract

The Internet has changed the travel industry enabling most customers to collect travel information by using a search engine. Specifically, Google's search engine has become a major source of information for consumers seeking tourism products and services. Tourist-related businesses, such as Colorado ski resorts, now have the opportunity to market themselves globally using the Internet. The two major strategies are to: 1) have a website score high on the Google rankings for organic (non-sponsored) searches and 2) purchase sponsored link (keyword) advertising. Google has country-specific websites (called google.eu in this study) which allow users to look only at matches in their native language. This opens opportunities for niche advertising on these websites. This study looked specifically at the results of searching for the keywords "ski Colorado" on the google.eu websites of 20 European countries to determine how well the 26 Colorado ski resorts utilized marketing opportunities. The review of both the organic search strategy and the sponsored link strategy indicated that there was underutilization of the opportunities.

Introduction

The Internet has changed the travel industry. More than many other industries, the travel industry as well as travelers themselves were early adopters of Internet use and embraced search engine marketing (Nelson, 2007). In the past customers would stop by a local travel agent and pick up brochures and discuss possibilities, now most customers begin their journey by collecting information from a search engine like Google (Mughal, 2009). Travel agents are no longer considered the only experts on vacation planning. "Web 2.0 is turning everyone into a vacation expert" (Rubel, 2007).

The use of the Internet has expanded local tourism visibility into the global marketplace. It has also allowed marketing of highly specialized services and locations. Geographically constrained businesses can promote their niche-market locality around the globe through the Internet (Law, 2008). This study will examine one such geographically constrained niche market, Colorado ski resorts, to determine if its Internet marketing efforts are taking advantage of the opportunities available. For, as Mamaghani (2009) states, tourism “businesses that have not made use of the Internet cannot compete”.

A 2008 article in Inc. Magazine stated, “The world of marketing is radically different than it was only a few short years ago” (Buchanan et al, 2008). Worldwide in 2008 there were approximately 80 billion searches on the Internet (Blankenbake and Mishra, 2009). About 40% of these were attempts to find a product or service. An impressive 75% of the purchases made on the Internet begin with a web search (Cusumano, 2005). Google has been identified as the world’s most important search engine (The Most Important Websites, 2009) and is the world-wide leader in search engines accounting for nearly two out of every three searches in the U.S. and the world (Klaassen, 2009). In the United Kingdom research revealed that before buying a travel product on-line, consumers will on average make 12 travel searches and visit 22 travel websites. Eighty eight percent of these travel searches were on Google (Walsh, 2008). It is clear why experts such as Lee Williams, a leader in Europe’s on-line marketing, believe that “Google is where most of your customers will start their on-line journey.” (Baker, 2010)

An innovation by Google is the customizing of the Google search engine on a country-by-country basis using the ISO 3166 country codes. Thus, an individual in Finland can go to google.fi; in Sweden to google.se; in Italy to google.it; etc. For purposes of this article we will call these sites “google.eu”. A further sophistication is that a user of these Google.eu sites can limit their search to websites that are provided in the native language (e.g., on google.fr the searcher can choose “pages francophone” [“French-speaking pages”] for French language websites). Research has shown that non-English-speaking Internet users prefer to view sites in their native language (Conhaim and Page, 2004). Therefore, the research was performed on the country-specific Google sites and the local language option was chosen.

Scope of study

This study examines the use of google.eu advertising by a specific industry, ski resorts in the state of Colorado, USA. The state of Colorado is well known for its mountains and winter sports, including skiing. This industry was considered appropriate for a study of Internet marketing for a number of reasons. The ski industry in Colorado, which has been suffering due to the economic conditions in the United States with decreases in total number of skiers in 2008 and 2009 seasons, could benefit from marketing to international visitors because they stay longer and spend more freely than their domestic counterparts (Colorado Business Economic Outlook, 2009). In addition, the decline in the U.S. dollar in comparison with European currencies over the last decade provides an opportunity for Colorado ski resorts to market to Europeans who in the past might not have been able to afford a ski holiday in the United States. The large population and high standard of living also indicate that a large potential market for the ski resorts exists in Europe. The Colorado ski industry is a good example to use in determining if this geographically-constrained industry is effectively utilizing the opportunities available in the Internet marketing of travel services that can be promoted on native-language google.eu websites.

Specifically, this study analyzes the use of two Internet marketing strategies available on Google: no-cost organic searches and sponsored link advertising. In 2000 the Colorado Tourism Office was established to promote Colorado as a tourist destination. On their website, "www.colorado.com", Colorado's 26 ski areas and resorts are featured along with directions, snow conditions, lodging information, and other pertinent data. This study examines the Internet marketing strategies of these 26 ski areas.

Included in the study are the 16 countries comprising the Eurozone and the six additional large Western European countries that are not currently using the Euro as their currency. These 22 countries have a combined gross domestic product almost equal to that of the United States and comprise a potential market of nearly 420 million people, or 36% more than the population of the United States (see table 1). This represents an enormous potential market for the Colorado ski industry. All of these countries have their own specific Google sites, with the exception of Cyprus and Malta. The study investigated each google.eu site to determine how effectively the Colorado ski resorts are utilizing Internet marketing strategies.

Table 1: European Market

	EU* Member	Euro* Zone	Population ** (July 2009 es- timate)	GDP ** (2009 estima- te)	Per capita GDP ** (2009 estimate)
Austria	Yes	Yes	8,210,281	\$ 323.1 billi- on	\$39,400
Belgium	Yes	Yes	10,414,336	\$ 381.4	\$36,600
Cyprus	Yes	Yes	1,084,748	\$ 22.8	\$21,200
Czech Republic	Yes	No	10,211,904	\$ 256.7	\$25,100
Denmark	Yes	No	5,500,510	\$ 199.1	\$36,200
Finland	Yes	Yes	5,250,275	\$ 183.1	\$34,900
France	Yes	Yes	64,057,792	\$2,113.0	\$32,800
Germany	Yes	Yes	82,329,758	\$2,812.0	\$34,200
Greece	Yes	Yes	10,737,428	\$ 339.2	\$32,100
Ireland	Yes	Yes	4,203,200	\$ 177.3	\$42,200
Italy	Yes	Yes	58,126,212	\$1,756.0	\$30,200
Luxembourg	Yes	Yes	491,775	\$ 38.1	\$77,600
Malta	Yes	Yes	405,165	\$ 9.6	\$23,900
Netherlands	Yes	Yes	16,715,999	\$ 652.3	\$39,000
Norway	No	No	4,660,539	\$ 267.5	\$59,300
Portugal	Yes	Yes	10,707,924	\$ 232.2	\$21,700
Slovakia	Yes	Yes	5,463,046	\$ 115.3	\$21,100
Slovenia	Yes	Yes	2,005,692	\$ 56.5	\$28,200
Spain	Yes	Yes	40,525,002	\$1,367.0	\$33,700
Sweden	Yes	No	9,059,651	\$ 333.2	\$36,800
Switzerland	No	No	7,604,467	\$ 316.1	\$41,600
United Kingdom	Yes	No	61,113,205	\$2,165.0	\$35,400
TOTAL			418,878,909	\$14,116 billion	
United States			307,212,123	\$14,260 billion	\$46,400

* Per European Central Bank website www.ecb.int/euro/intro/html/map.en.html

** Per CIA [The World Factbook](http://www.cia.gov/library/publications/the-world-factbook) website www.cia.gov/library/publications/the-world-factbook

Impact of currency valuation changes

European countries were used in the study due to the decline in the U.S. dollar over the last decade. The decline in the value of U.S. currency has been identified as a mixed blessing, helping some industries, while causing problems in others. However, the U.S. travel and tourism industry benefits from the weak dollar. The comparative exchange rate between domestic and destination currencies is a contributing factor to the travel location decision (Dwyer et al 2002, Rossello et al, 2005, Greenwood, 2007). International tourists can take advan-

tage of the weak dollar to see America at a much lower cost (measured in their local currency) than they could have in the past (Millman, 2010). This provides a marketing opportunity for the Colorado ski industry as the cost of ski holidays for many Europeans has decreased significantly due to the increase in value of the Euro and other European currencies.

This increase in value of the European currencies is significant. As noted in Table 2, during the 2000s the value of the U.S. Dollar against European currencies (the Euro and others) has declined in almost all cases. Between 2000 and 2010 European currencies have increased in value against the U.S. dollar between 17% (Swedish Krona) and 88% (Czech Koruna) with the Euro gaining 34%. The only exception is the British Pound which has suffered the same currency woes as the U.S. Dollar.

Table 2: Change in value of U.S. Dollar in the 2000's

	January 1, 2000	February 20, 2010	Increase in value of foreign cur- rency
Euro (EUR)	\$1 = 0.992 EUR	\$1 = 0.739 EUR	34%
Czech Koruna (CZK)	\$1 = 35.79 CZK	\$1 = 18.99 CZK	88%
Denmark Krone (DKK)	\$1 = 7.39 DKK	\$1 = 5.50 DKK	34%
Norway Kroner (NOK)	\$1 = 8.02 NOK	\$1 = 5.98 NOK	34%
Sweden Krona (SEK)	\$1 = 8.50 SEK	\$1 = 7.27 SEK	17%
Swiss Franc (CHF)	\$1 = 1.59 CHF	\$1 = 1.08 CHF	47%
British Pound (GBP)	\$1 = 0.618 GBP	\$1 = 0.648 GBP	(5%)

Note: all rates obtained from www.oanda.com/currency/converter

Internet advertising

A Google search begins when an Internet user enters keywords into the Google search box. Google then presents a list of websites which contain the keywords. The basic result of a Google search, appearing on the left side of the page, is called a natural or organic (nonsponsored) search result (Ghose and Yang, 2009). There is no cost for these organic search results, however, their order on the Google page is based upon Google's ranking methodology. Google uses an algorithm to determine where and in what order a company's website appears. Alternatively, the website marketer can pay for a sponsored link which ensures that the website appears on the first page of the search results, either on the right hand side or highlighted above the organic listings (See Figure A). Spon-

sored links are also known as keyword advertising because the placement of the advertisement is triggered by the keyword(s) that the user enters into the search (Chen et al, 2009).

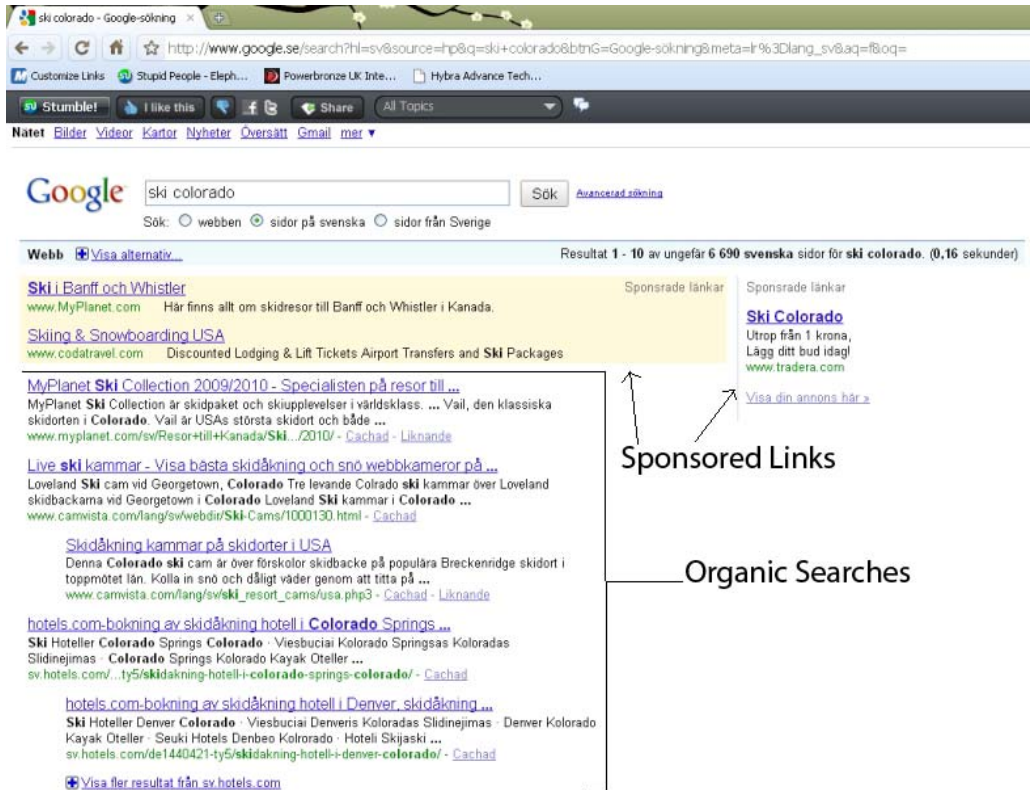


Figure A: Example of google.eu

Advertising strategy #1 – Organic search

The value of utilizing organic searches for bringing a business's website to the attention of its potential customers is that there is no cost to the business. However, the very important Google Ranking determines where the website appears (Buchanan et al, 2008, Machrone, 2003, Mcelgunn, 2009). As noted by Ross Bentley (2007) in a U.K. travel industry trade publication, "trying to score a high ranking on natural search is a lot less predictable and requires the use of search engine optimization, such as registering your website with directory services, and manipulating website architecture and content". Also, advertising based websites must compete with news, personal, and blog websites that also match the Google ranking criteria. Further complicating reliance on organic matches for

marketing to potential customers searching the Internet is the fluid nature of the Google rankings. Google's ranking algorithms take into account keywords, number of links to the website, and volume of the website hits (Null, 2009). As new sites are added and new searches are conducted, the dynamics of the algorithm change and so does the ranking of the marketer's specific website.

Many small businesses simplify their tourism marketing by entering into alliances or cooperative advertising relationships. A study by Elliott and Boshoff (2009) showed that the more a small tourism company makes use of alliances for its Internet marketing, the more likely its Internet marketing will be perceived as successful. Beside utilizing the Colorado Tourism Office as noted above, other alliances used by the ski resorts for Internet advertising include the webpage "www.skicolorado.com", a site set up by the Winter Park, Copper Mountain, and Steamboat resorts, and the webpage "www.coloradoski.com", the site of Colorado Ski Country USA, the marketing, communications, and public policy arm for 22 ski and snowboard resorts in Colorado (the 26 resorts in this study excluding Beaver Creek, Breckenridge, Keystone and Vail).

Advertising strategy #2 – Sponsored links (keyword advertising)

There is a cost to having a sponsored link, but the advantage is that the advertiser's website appears on the first page of the search results regardless of its Google ranking. For example, if the keyword "hotels" is entered into the search box on the google.se (Swedish) website, there are 295,000,000 organic search results. Even if the search is limited to Swedish language websites, there are still 1,020,000 natural matches. However, only 10 sponsored links appear on the first page of the search (two highlighted above the organic matches and eight sponsored links on the right hand side of the screen). Sponsored link websites are displayed on the first page of search results for all users entering the keyword.

How does an advertiser place a website as a "sponsored link" and how much does it cost? "In simplest terms, an advertiser bids to have their textual ad placed on the results page returned when an individual submits a particular search term" (Blankenbaker and Mishra, 2009). The bid is made on a pay-per-click basis, where the advertiser offers Google a price it is willing to pay for each click on the link (Bentley, 2007). As there is a maximum of eight sponsored links on the right side of the page and three links highlighted above the organic results, an auction system is in place whereby the highest bidder for a specific keyword or a keyword phrase appears first on the list of sponsored links (Blankenbaker and Mishra, 2009).

A great deal of strategy comes into play in bidding for keywords and obtaining value for money. For example, a simple keyword like “hotels” is expensive because there will be a lot of competition for the keyword as there are many Internet users who will start their search using such general terminology. However, use of specialized niche advertising by bidding on a keyword phrase like “Colorado luxury hotels” may be cheaper and more effective as it limits searchers to those interested in a particular geographic location and type of hotel.

Similarly, as it relates to this research, focusing on a specific google.eu site may be more cost effective than advertising on all of Google. For example, a search for the words “ski Colorado” on the basic google.com website displays the maximum of 11 sponsored links on the first page of the search results. This indicates that there is bidding competition for this keyword phrase and the advertiser’s website will only be displayed if they pay a premium price. However, a search for the words “ski Colorado” on google.se (Sweden) results in only three sponsored links and on google.fi (Finland) there are no sponsored links. A bid for this keyword phrase on google.eu websites might be a cost effective means of advertising to Europeans interested in a ski holiday in the United States.

Nature of study

In order to determine if Colorado ski resorts were utilizing effective marketing strategies on the google.eu websites, the authors accessed the Google websites in 2010 while the Winter Olympics were being held in North America. Once the country-specific, native-language Google website specific to each of 20 European countries (the Eurozone countries Cyprus and Malta do not have separate google.eu sites and were excluded) was chosen, the keyword phrase “ski Colorado” was entered into the search box. It was thought that a European looking to ski in Colorado would choose such a basic (and non-language-specific) keyword phrase. In addition, this was considered a logical keyword for a marketing strategy used by the Colorado ski resorts as noted by the ski resort alliances with the websites “www.skicolorado.com” and “www.coloradoski.com”.

Analysis of Strategy #1 – Organic search

Because of the fluid nature of the Google rankings, a review of the organic search results for the keywords “ski Colorado” was made on the google.eu websites using the native language filter on both February 20, 2010 and March 9, 2010. Since the ski resorts’ specific websites are listed along with many other non-advertising related websites the analysis was not limited to the specific ski resort websites. Rather, the analysis looked for the ski resorts’ name in any of

the websites listed. Only the wording displayed on the google.eu search results page was analyzed; no clicking deeper into a website was performed.

Table 3: Summary of Organic Search Results

	February 20, 2010			March 9, 2010		
	Number of times on first five pages	Per-cent	Average page ranking for 1 st appearance (when shown)	Number of times on first five pages	Per-cent	Average page ranking for 1 st appearance (when shown)
Arapahoe Basin	18	90%	1.0	11	55%	1.5
Aspen Highlands	19	95%	1.5	20	100%	1.6
Aspen Mountain	19	95%	1.5	20	100%	1.6
Beaver Creek	18	90%	1.0	14	70%	2.6
Breckenridge	19	95%	1.1	17	85%	1.2
Buttermilk	4	20%	2.0	9	45%	3.4
Copper Mountain	18	90%	1.0	12	60%	2.6
Crested Butte	3	15%	1.0	6	30%	3.0
Durango Mountain Resort	2	10%	3.0	3	15%	2.7
Echo Mountain	0	0%	n/a	1	5%	2.0
Eldora	18	90%	1.0	1	5%	5.0
Howelsen Hill	0	0%	n/a	2	10%	2.0
Keystone	20	100%	1.4	20	100%	1.4
Loveland	19	95%	1.0	12	60%	1.8
Monarch Mountain	3	15%	3.0	4	20%	2.0
Powderhorn	0	0%	n/a	0	0%	n/a
Silverton Mountain	2	10%	2.5	2	10%	2.5
Ski Cooper	3	15%	3.0	2	10%	2.0
Snowmass	8	40%	1.6	14	70%	1.9
SoVista Basin	1	5%	3.0	0	0%	n/a
Steamboat	15	75%	3.4	15	75%	3.3
Sunlight Mountain	1	5%	2.0	1	5%	4.0
Telluride	15	75%	3.5	15	75%	3.3

Vail	19	95%	2.1		20	100%	1.7
Winter Park	10	50%	2.4		9	45%	1.4
Wolf Creek	10	50%	3.1		11	55%	2.9
AVERAGE	10.2	51%			9.3	46%	

Table 3 summarizes the results of the organic searches on the twenty google.eu websites. Twelve of the ski resorts appear in the first 50 organic search results on 75% or more of google.eu websites on February 20. However, due to the fluid nature of the Google ranking algorithm only seven ski resorts appear in the first 50 organic search results 75% or more of the time on March 9. Only the first five pages of organic search results (viewing the normal 10 to a page) were examined as a website ranked beyond the first 50 was considered unlikely to be viewed. It has long been known that average users spend limited time on any one website (Bhatnagar and Ghose, 2004). In fact, one source considers any location beyond the first page of results to be a “wasteland” (Machrone, 2003).

The organic search match was not necessarily the home website of the ski location. In fact, matches to those websites were rare. Rather, just the finding of a word matching the ski resort name (e.g., “Vail”, or “Snowmass”) in the two or three lines of text displayed was noted. There was some consistency on the ski resorts that appear on the first page of matches for “ski Colorado”. Often this was the result of a specific website, which included the name of a number of ski resorts, scoring high on the Google rankings and appearing on the first page of various google.eu sites. It was also noted that some websites referencing the ski resorts appeared high on the rankings of one google.eu site and lower in the rankings, or not at all, on another google.eu site. This is indication that relying on Google rankings to prominently show a website is an inexact science.

Even though there was less than three weeks’ difference from the two reviews of the google.eu websites some major differences were noted in the organic search results. The most obvious was the difference in Google rankings related to the Eldora ski resort. In February, the word “Eldora” was on the first page of nearly every google.eu site as it was included in the text of one of the highest ranking websites. Less than three weeks later “Eldora” no longer appeared on the front page of any of the websites.

A finding of major interest was that dependence on alliances for ensuring a high Google ranking on an organic search was not effective on google.eu native-language search websites. When using the full web search (not limited by language) for “ski Colorado”, the “www.skicolorado.com” and

“www.coloradoski.com” websites were in the top three of the Google rankings on all 20 google.eu websites. However, when the native-language filter was used, which is preferred by non-English-speaking Internet users (Conhaim and Page, 2004), these alliance websites no longer dominated the Google rankings and often did not appear on the first pages of the search results.

Analysis of Strategy #2 Sponsored links (keyword advertising)

The purchasing of sponsored links (keyword advertising) is a method available to marketers which ensures that their website appears on the first page of a web search regardless of the Google rankings for that website. Use of sponsored link advertising removes the vagaries of the Google ranking algorithm and the fluid nature of the organic searches. It is a way, at a cost, of ensuring a website appears to a potential customer on the initial page of the Google search results. A review was made to determine which sponsored links appeared on the google.eu native-language websites when “ski Colorado” was entered as the search term.

Results of this review can be found on table 4. On only two (Germany and the United Kingdom) of the google.eu websites was the maximum number of sponsored links displayed. This indicates that the cost of sponsored link advertising on the keywords “ski Colorado” might be expensive for these websites. However, on the other 18 google.eu sites the sponsored links were less than the maximum of 11 and low-cost front page advertising is possible.

The use of sponsored links on the google.eu native-language websites by the 26 Colorado ski resorts can be grouped into four categories:

Table 4: Google Sponsored Links

	Austria	Belgium	Czech Republic	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Luxembourg	Netherlands	Norway	Portugal	Slovakia	Slovenia	Spain	Sweden	Switzerland	United Kingdom
	.at	.be	.cz	.dk	.fi	.fr	.de	.gr	.ie	.it	.lu	.nl	.no	.pt	.sk	.si	.es	.se	.ch	.uk
Number of sponsored links	8	4	0	3	0	5	11	0	5	1	2	5	1	1	0	0	2	3	7	1
Arapahoe Basin						a	a													a

Aspen Highlands	c				a	a		c	c	c	c					co	c	c	a
Aspen Mountain	c			c	a	a		c	c	c	c					co	c	c	a
Beaver Creek	c			c	a	a		c	c	c	c					co	c	c	a
Breckenridge	c			c	a	a		c	c	c	c					co	c	c	a
Buttermilk					a	a													a
Copper Mountain	c			c	a	a		c	c	c	c					co	c	c	a
Crested Butte	c			c	a	a		c	c	c	c					co	c	c	a
Durango Mountain Resort					a	a													a
Echo Mountain					a	a													a
Eldora					a	a													a
Howelsen Hill					a	a													a
Keystone	c			c	a	a		c	c	c	c					co	c	c	a
Loveland					a	a													a
Monarch Mountain					a	a													a
Powderhorn					a	a													a
Silverton Mountain					a	a													a
Ski Cooper					a	a													a
Snowmass	c			c	a	a		c	c	c	c					co	c	c	a
SolVista Basin					a	a													a
Steamboat	c			c	a	a		c	c	c	c					co	c	c	a
Sunlight Mountain					a	a													a
Telluride	c			c	a	a		c	c	c	c					co	c	c	a
Vail	c			c	a	a		c	c	c	c					co	c	c	a
Winter Park	c			c	a	a		c	c	c	c					co	c	c	a
Wolf Creek					a	a													a

c -- codatravel.com co -- codatravel.com and other ads a -- codatravel.com and colorado.com

- In three countries (France, Germany and the United Kingdom) the Colorado Tourism Office sponsored a link to its “www.colorado.com” website which provides information and further links to all 26 of the ski resorts. In addition, other sponsored links were found on those countries’ search engines.

- In five countries (Austria, Luxembourg, Netherlands, Spain and Switzerland) multiple sponsored links led the user to Colorado ski resorts. Twelve of the Colorado ski resorts could be accessed through these links.
- In seven countries (Belgium, Denmark, Ireland, Italy, Norway, Portugal and Sweden) the only sponsored link that directed searchers to the Colorado ski resorts⁷ was “www.codatravel.com”. Twelve of the Colorado ski resorts were advertised on this sponsored link. Codatravel.com also sponsored links in the countries in category one and two.
- In five countries (Czech Republic, Finland, Greece, Slovakia and Slovenia) no sponsored links were triggered by the “ski Colorado” search.

The clear leader in the use of sponsored links Internet advertising for “ski Colorado” is “www.codatravel.com” and the 12 Colorado ski resorts that are found on the “www.codatravel.com” website. Coda Travel, Inc. is an online travel agency specializing in skiing and snowboarding packages for international visitors to North America. In October 2009 they introduced their new website to assist international customers (PRWeb, 2009). As can be seen by table 4, only two of the google.eu websites had reached the maximum of 11 front page sponsored links. This means that Coda Travel probably had to bid very little for its keyword advertising, resulting in a cost effective means of reaching its core customer base of international ski travelers to North America.

The resorts that missed opportunities in the sponsored link Internet advertising for “ski Colorado” are the 14 ski resorts relying solely on their alliances to connect them to potential European customers. The Colorado Tourism Office, which markets all 26 Colorado ski resorts only sponsored a link on the google.eu sites of France, Germany and the United Kingdom. While these are the three largest European countries with a population of over 207 million (see table 1) it still leaves more than half the population of Europe without “ski Colorado” keyword advertising. Neither Colorado Ski Country USA, which serves as the Internet marketing arm for 22 of the resorts through “www.coloradoski.com” nor the group that markets on the Internet using “www.skicolorado.com” utilized sponsored links on the google.eu websites. Given that the maximum number of sponsored links was met only on two of the google.eu websites, a low cost niche marketing opportunity was missed.

⁷ There were sometimes sponsored links that led to sales of ski equipment.

Summary and implications

This study looked at the two specific Internet marketing strategies that could be used by companies in the Colorado ski resort industry to have their websites linked to a Google keyword search for “ski Colorado” on European google.eu native-language websites. The two strategies are the no-cost organic search and the paid for sponsored link advertising.

Organic search results highlighting specific Colorado ski resorts are inconsistent and fluid over time and over different google.eu websites. The results indicate that reliance on organic search rankings, particularly without the use of search engine optimization techniques, cannot be relied upon to consistently bring Colorado ski resorts to potential European customers’ attention on google.eu websites. Despite the cost-free nature of the organic searches, they probably do not help much in promoting the Colorado ski resorts.

Results indicated that reliance on marketing alliances such as “www.skicolorado.com” and “www.coloradoski.com” also resulted in missed opportunities on native-language specific web searches. These websites attempt to obtain a high Google ranking so they will appear on the first page of the organic Google search results. This result was achieved when the full web search was performed on the google.eu websites. In the full web search these two websites are positioned in the top three of the organic search results. However, when native-language only results are viewed, these websites no longer lead the organic search results. Therefore, these sites, despite their search engine optimization, lose their effectiveness when the European consumer searches in his or her native language.

When “ski Colorado” is entered as the search term on the standard google.com website, the maximum of 11 sponsored links appear on the first page. This indicates that there is bidding competition for this keyword phrase and the cost of front page display advertising may be high. However, when google.eu websites are used with the native-language filter, only two of the 20 google.eu websites present the maximum number of sponsored links. Sixteen of the 20 have five or fewer sponsored links indicating that front page advertising on these sites might be cost effective and an excellent opportunity for niche marketing efforts to specific prospects in a selected targeted geographic location.

Given that the European market, due to the decline in the value of the U.S. dollar, may be a very lucrative one for Colorado ski resorts, the lack of utilization of the Google-sponsored links is a missed opportunity for Colorado ski resorts.

Surprisingly, only one Internet travel agency, “www.codatravel.com”, which is an intermediary for 12 of the 26 Colorado ski resorts, consistently advertises via sponsored links on the google.eu websites. The Colorado Tourism Office, which works with all 26 ski resorts, only advertises via sponsored links on the three largest European countries’ google.eu sites. This advertising only covers about half of the lucrative European market. Nor do the Colorado ski resorts’ online marketing alliance websites utilize sponsored links. Neither “www.skicolorado.com” nor “www.coloradoski.com” took advantage of the google.eu sponsored link opportunity.

Use of sponsored link advertising, where advertisers only pay when a user clicks on the website, may be a cost effective way to target specific European prospects. There are currently a limited number of advertisers using the google.eu native-language sites matching the “ski Colorado” keywords. As a result, the auction price for a sponsored link appearing on the front page of these website searches will be very low allowing for the possibility of a cost effective advertising campaign for the Colorado ski resorts.

The nature of this study is limited as only one keyword phrase, albeit a logical one for prospects in Europe interested in skiing in Colorado, was examined. Use of other keywords would have resulted in different results. Similarly, an analysis of a different industry or of google.eu sites in a different area of the world, or at a different time frame, would also have changed the results. Additionally, the nature of the Google algorithm is such that activity on the Google search engine will impact organic search matches and this study was performed at the tail end of the ski planning season which might have impacted results.

However, as an exploratory study of the utilization of Internet advertising opportunities by a specific travel-related geographically-constrained industry, the results obtained provide useful information on the thought processes that are needed to avoid missed opportunities for making company websites easily available to potential customers in a lucrative niche market.

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Solvency II and the Investment Policy of German Life Insurers: Some Homework to Do for the Sales and Marketing Departments

Introduction

Solvency II is to be considered a paradigm shift for the European insurance industry and will lead to major changes in the process of asset and risk management. This new set of regulations is necessary. In fact, we believe that the current financial crisis has shown the importance of such advanced risk management processes in the financial services industry. The so-called subprime mortgage crisis obviously did have massive negative effects on capital markets and global economic growth. As a consequence, not only the stocks of banks and insurers dropped considerably; the equity market in general suffered huge losses. Finally, it was the unblamable general public to carry the burden. Stocks have recently been not the best investments compared to other asset classes, for example, German 10 year government bonds. Easily to understand, a reform of financial market regulation in general and insurance authority in special had to be undertaken. Taking into account Solvency II, which will require that equity investments have to be underlain with an extra amount of solvency capital, it seems to be very probable that insurers will permanently reduce their equity exposure. As a matter of fact, insurance companies, especially Germans, are lacking equity capital anyway and have problems to fulfill upcoming Solvency II capital requirements. However, having lately seen quite a recovery after the lows of March 2009, there may still be some potential for further gains in stocks. This could become a problem for asset managers in the insurance industry. Low interest rates even seem to increase these difficulties because life insurers will have a hard time trying to produce attractive returns in a post Solvency II world – especially compared to mutual funds. This is wanted by the regulators; Solvency

It is above all supposed to protect the customers. Therefore, our objective is to show that life insurer will face a disadvantage in terms of return in comparison to mutual funds caused by Solvency II. Consequently, insurers especially have to do some rethinking of marketing strategies trying to sell endowment policies in the new regulatory environment.

The organisation of the paper is as follows: Firstly we will examine some basic principles of Solvency II. Secondly we will briefly discuss asset pricing models focussing on stock markets and show that equity prices are closely related to economic fundamentals and identify stock crashes as rather seldom phenomena than normal events. This sheds light on future return expectations of mainly equity investors (mutual funds) and investors under the Solvency II regime (life insurers). This in mind we will suggest appropriate financial services marketing strategies from a Solvency II perspective before concluding.

Regulatory Way to Solvency II

Almost at the end of the actual Solvency II implementing process, the subprime mortgage crisis shook the financial system. It became obvious, that rules were misused or at least extended to their limits into certain grey areas, and rethinking of applicable regulations had to be done. The crisis has shown the importance of rethinking risk management highlighting the importance of Solvency II. Romeike et al. (2006) consider Solvency II to be a paradigm shift for the insurance industry including major upheavals for corporate-policy decision processes. Regarding Basse and Friedrich (2008) it is already foreseeable that capital requirements will be tightened according to Solvency II, especially due to a very comprehensive risk definition including underwriting and market risks. Even though a risk based approach was overdue and revised external or even internal models more state of the art, some experts doubt the necessity of Solvency II and call it a fatal error (see Huerta de Soto 2009). Basse et al. (2009) see it more differentiated. More refined tools will be needed in this new regulatory framework to face interest rate risks on both sides of the balance sheet in an integrated asset-liability-approach. As a matter of fact, any effort undertaken by life insurers to encounter these risks could easily lead to a stronger demand for long term fixed income securities. Insurance companies lack of equity capital, so Reddemann et al. (2010) have argued convincingly that besides different other measures, dividend cuts might increase their capital base. Unlike bank-related regulations, in particular Basel I and Basel II, Solvency II is a European objective. It is one of the major projects in the field of financial services regulation at the EU level. The ongoing process of implementing identical requirements for all European insur-

ance companies is quite sophisticated and will be implemented 2012 – or 2013 the latest – into member state law. The goal is to introduce and establish for the first time economic risk-based solvency requirements across all 27 EU Member States. This new set of regulation will be more risk-sensitive and more accentuated than Solvency I, thus enabling a better coverage of the economic risks run by any particular insurer.

In contrast, the previous set of regulations is known as Solvency I, which has specified the solvency margin in the 1990s. Nevertheless, the focus thus far still lies on exactly this solvency margin, meaning the amount of regulatory capital an insurer is obligated to hold against unexpected events. These requirements have been in place since early 70s of the last century and were reviewed again during the 1990s. A limited reform was agreed by the EU-Parliament as well as the Council in 2002, leading to the well known reform, namely Solvency I. Nowadays, Solvency II is somewhat similar to the banking regulations of Basel II, this is why people tend to call it "*Basel for insurers*". Others, like Schubert et al. (2004), enunciate it formula wise $Solvency\ II = Basel\ II + X$, meaning Solvency II will be based on Basel II – but further developed. For example, the proposed framework has in both cases three main pillars or fields, namely pillars 1 to 3. The first one consists of quantitative requirements (e.g., the amount of equity capital an insurance company should hold). The second pillar sets out the necessity for the risk management as well as governance of insurers combined with rules for the effective supervision of insurers. Pillar 3 focuses on requirements concerning disclosure issues and transparency.

As already mentioned, the first pillar outlines quantitative issues. Rules to evaluate the balance sheet are mainly in the focus, especially technical provisions and own funds actually held. The regulatory Solvency Capital Requirement (SCR) can be calculated either by applying a compulsory standard formula or an developed internal model, which has to be accepted by the regulators. Additionally, the Minimum Capital Requirement (MCR) refers to the last threshold for the solvency capital that has to be held. Falling below this lower limit would result in intervention of the authority and may lead to the withdrawal of the undertaking's authorisation. Pillar 2 deals with qualitative requirements for all undertakings and regulatory authorities. Insurers must be able to state their positions concerning risk strategy, an appropriate organisational and operational structure, an internal management and control system as well as their audit function. Regarding the differences between small insurers and global players, the principle of dual proportionality applies accordingly: even though there will not be a "one size fits all"-solution, same principles apply to all undertakings; but in each and every case

the applying way must be tailored to the insurer's business model. Additionally, the Supervisory Review Process (SRP) must also be in line with the so-called principle of proportionality as well. The third pillar deals with public and the supervisory disclosure requirements. Gaining in importance are qualitative statements, especially regarding the insurer's strategy, risk management as well as usage of either the prescribed or internal model. Hard facts, like quantitative solvency capital requirements, must be published, too.

Examples to point out the changes of solvency capital requirements might help to understand the *new world order*. Solvency II is supposed to reduce the insurer's risk to be incapable when it comes to customer claims; to absorb costs by policyholders in the case an insurer is unable to meet all claims fully; to implement supervisors early warning so intervention can promptly be made if required equity capital falls below a certain level; and to restore confidence and financial stability of the insurance industry. Many European states (e.g., Germany, Switzerland, etc.) have declared the current minimum requirements for insufficient and have already implemented their own reforms (e.g., MaRisk VA, Swiss Solvency Test, etc.), accordingly leading to a dissatisfactory situation where there is a rag rug of regulatory requirements all across Europe. This definitely puts constraints on developing a standardized Europe-wide market. As a matter of fact, Solvency II is driven with the objective of developing and facilitating a European Single Market in insurance services the EU legislation but not with the price of losing sight regarding consumer protection. To develop new rules of regulation, four quantitative impact studies (QIS 1-4) have already been undertaken, the fifth study will be run between August and mid-November 2010. Participation was voluntarily at all stages, each undertaking business – life, non-life and reinsurance – had to report to their national supervisors before the results were consolidated and evaluated. Methodologies, simulation models and calculations were re-calibrated, developments were taken into account as well as solo results were considered differently as group results, etc.

Nonetheless, the exception proves the rule. France has drawn particular attention to the fact that their local insurance companies have a very different business model. Especially, the French government does not want to lose the insurance companies as investors at the Paris Stock Exchange (Euronext). The companies have the allowance to smoothen their stock investments over several years rather than evaluate them year by year with the implications of depreciations.

Notwithstanding all major upheavals as well as paradigm shift for the insurance industry, Solvency II is useful and necessary together. But which impacts do fu-

ture regulations have for the customers? Will insurance clients have the same product? As briefly outlined, insurers have to underlay risky investments with equity capital. This has to be done for both interest mismatch and shares. The problem for insurers will be their lack of equity capital, especially for non-life insurers. Their actual option can only be, to reduce risky investments. Consequently, this implies that customers can only expect lower future returns, but with a higher security level. This fact necessitates an appropriate communication strategy to convince the customers to still sign insurance contracts with more safety but less expected return.

Stock Markets: Risk, Return and Economic Fundamentals

We will show by using different asset pricing models (e.g., CCAPM) that future return expectations for European equity markets are biased by two major shocks within the last decade. The low ex-post equity premium mainly seems to be a consequence of these shocks, which have been triggered by bursting asset bubbles.

As already noted, the so-called subprime mortgage crisis has had massive negative effects on global economic growth and has simultaneously pushed down stock prices and government bond yields. Focussing on data from the European Monetary Union (EMU) investors had to witness that the Euro Stoxx 50 – a very popular benchmark for asset managers – fell below the mark of 2.300 points in March 2009 while 10 year government bond yields in Germany dropped to about 3%. After the bursting of the dot-com bubble this was the second stock market crash whilst one decade. Consequently, equity investors hoping for high returns have in general been disappointed since 2001. As a matter of fact, examining the data sample January 1999 to December 2009 the mean stock market return in the EMU was lower than the mean return on German government bonds - still bonds obviously were less risky (figure 1). This period is very popular among financial econometricians in order to avoid possible structural breaks due to the introduction of the Euro in January 1999. The mean return of European stocks (month on month change, M/M) is calculated based on the performance of the Euro Stoxx 50 total return index. Our gauges of the performance of bond investments are the mean returns on the broad REXP and on the REXP 10 years (which only includes German government bonds with a maturity of 10 years). Risk is measured by the standard deviation of returns.

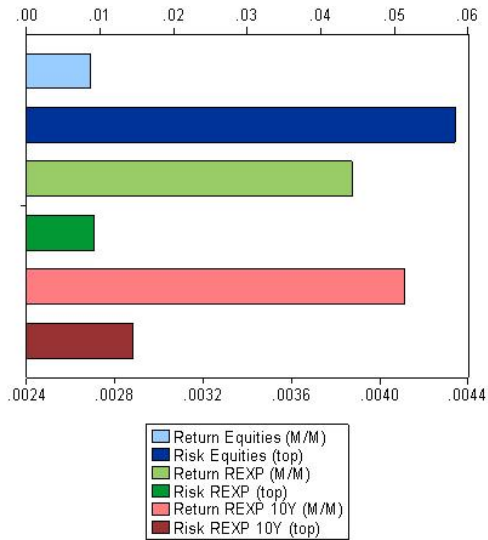


Figure 1: Risk and Return (M/M) – Equities versus Bonds 1999-2009

The results reported in figure 1 may be a major surprise at first sight. However, there is a simple explanation which already has been discussed: Two stock market crashes within the last decade (figure 2 and figure 3).

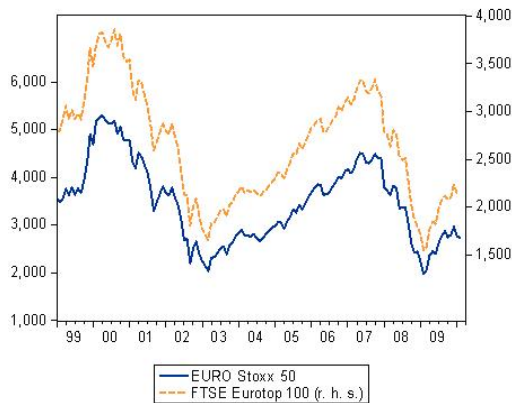


Figure 2: European Equity Markets

Especially figure 3 illustrates that the dismal performance of stocks has been a consequence of crashes and bursted bubbles.

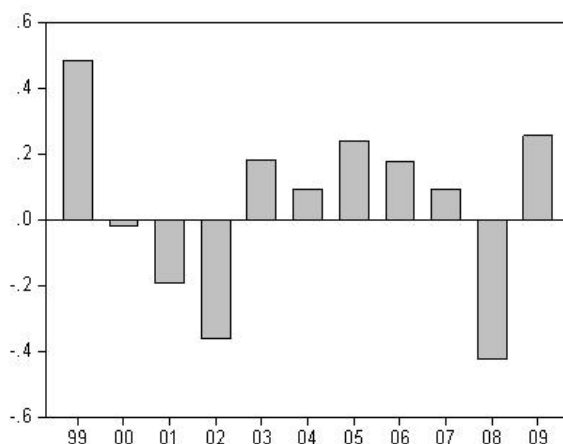


Figure 3: Crashes and Returns as measured by the Euro Stoxx 50

Economic theory does suggest that equity markets are highly volatile so that pronounced drops of share prices are always possible. Therefore, there should be a high risk premium. In fact, analysing long term trends does show that equity returns seem to be too high in order to be explained by some asset pricing models. This is especially true for the consumption based capital asset pricing model (CCAPM), which tries to explain stock returns by the consumption of economic agents. Assuming reasonable levels of risk aversion among economic agents consumption expenditures in the U.S. and other countries are simply not volatile enough to determine stock prices. This is the so-called equity premium puzzle (e.g., Mehra and Prescott 1985, Kocherlakota 1996). Stock market crashes have been suggested to solve this puzzle. However, dramatic events are needed to explain the high return on equities in the last 50 to 200 years (e.g., Rietz 1988, Mehra and Prescott 2003). The two crashes to be observed in the last decade are quite clearly no sufficient solution to the equity premium puzzle.

Taking an empirical perspective Campbell and Cochrane (2000) argued convincingly that the simple Capital Asset Pricing Model (CAPM) performs better than the more complex consumption based asset pricing model. According to the CAPM there is a strong relationship between risk and return. Therefore, investors ought to expect that the ex ante equity premium will be positive. Phrased somewhat differently, the negative ex post equity premium reported in figure 1

most probably is the result of bad luck! Similar discussions took place when the dot-com bubble was about to burst. Diamond (2000), for example, discussed stock market return projections evaluating proposals to reform the U.S. social security system that involved equity investments. He noted that stock prices were relatively high at that point of time and argued that – as a consequence – the assumption of a 7% p.a. real return and a 4% p.a. equity premium seemed to be ambitious. In this study he suggested a number of different possible scenarios favouring a correction that would subsequently allow a 7% real return thereafter.

While the recent historical experience quite clearly does suggest that stock market crashes are a phenomenon of economic relevance most financial economist seem to believe that stock prices in the long run are governed by economic fundamentals. This assumption has recently been challenged by Boldrin and Peralta-Alva (2009). At this point, a model is needed to explain the fundamental value of equities. It is quite usual to note that the level of stock prices today is determined by future expected dividend payouts (e.g., Diamond 2000, Boldrin and Peralta-Alva 2009). More precisely, the present value model predicts that stock prices in period t SP_t are given by:

$$SP_t = \sum_{n=1}^{\infty} \frac{E(D_{t+n})}{(1 + R_t)^n}$$

where $E(\cdot)$ is the expectations operator, D_t are the dividend payouts in period t and R_t is the required return. In order to use this model to predict stock prices assumptions about future dividend payouts and the required rate of return on equities have to be made. Different assumptions do have major consequences for the resulting “fundamentally” justified stock prices. Most notably, Gordon (1959) suggested assuming that dividends grow at a constant rate g . Combined with the assumption that the required rate of return on equity is also time-invariant this leads to a very simple version of the model:

$$SP_t = \frac{D_t(1 + g)}{R - g}$$

Based on this model Boldrin and Peralta-Alva (2009) have argued that there is no clear tendency of stock prices to revert to the well-established fundamentals

in the long run. Analyzing data from the U.S. and using Gordon's version of the present value model they have assumed that R is 7% p.a. and that g is 3%. Their methodology of just comparing the results of the present value of dividend payouts with the market value of equities is simple but very plausible. Noting that the model may miss some short term fluctuations of the stock market they have focused on low frequency movements of stock prices using the Hodrick-Prescott filter. Their results seem to imply that dividends cannot explain the movements of stock prices. This is especially true after 1992. In fact, they have shown that dividend growth did not have a specific trend in the period 1992 to 2008 while stock prices have increased sharply. Following their methodology we examine the European stock market focusing on the post-1992 experience. Our measure of stock market activity is the FTSE Eurotop 100 index which is a modified capitalization weighted index of the 100 most actively traded and highly capitalized stocks in the European equity market. Stock prices and the data on dividends per index share are from Bloomberg. Our results (figure 4) are by far less discouraging. Contrary to the U.S. data set examined by Boldrin and Peralta-Alva (2009) the time series at least seem to follow similar trends.

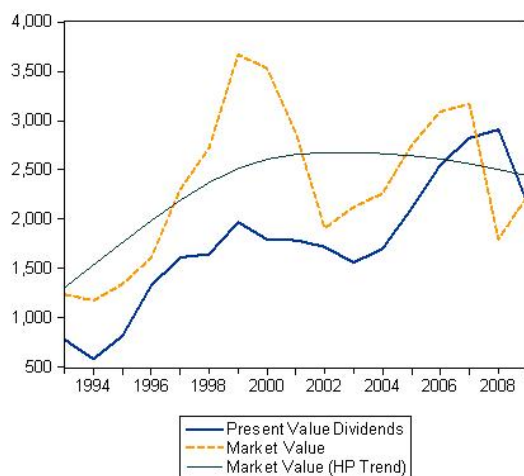


Figure 4: Present Value of Dividends versus Share Prices

At this point it may be helpful to use more sophisticated techniques of time series analysis. In order to do so we examine quarterly data on stock prices and dividends per index share (again focussing on the FTSE Eurotop 100) from 1993/I to 2009/IV. The dividend time series is seasonally adjusted. According to ADF-tests (not reported) both variables seem to be non-stationary and integrated of order one. Given this result, we test for cointegration among dividends and stock prices. By definition, two time series integrated of order one are cointegrated when there is a linear combination of these variables that is stationary. The existence of a cointegration relationship between two time series indicates that the variables share a common stochastic trend and – as a consequence - that there is a close equilibrium relationship between them. In other words, finding empirical evidence for the existence of a cointegration relationship among dividends and stock prices would imply that the market value of equities in the long run is closely linked to the economic fundamentals. The procedure suggested by Johansen (1991) is used to test for cointegration among the variables examined here. This test is based on the econometric technique of vector autoregressions (VAR). Here y is a vector of m possibly non-stationary variables and A_i is a $m \times m$ matrix (with $i = 1, \dots, n$):

$$y_t = A_1 y_{t-1} + A_2 y_{t-2} + \dots + A_n y_{t-n} + u_t.$$

The error term u_t is assumed to be a serially uncorrelated random variable. Rearranging the equation yields:

$$\Delta y_t = (A_1 - I) y_{t-1} + A_2 y_{t-2} + \dots + A_n y_{t-n} + u_t,$$

$$\Delta y_t = (A_1 - I) \Delta y_{t-1} + (A_1 + A_2 - I) y_{t-2} + \dots + A_n y_{t-n} + u_t,$$

$$\Delta y_t = \prod_1 \Delta y_{t-1} + \prod_2 \Delta y_{t-2} + \dots + \prod y_{t-n} + u_t =$$

$$\sum_{i=1}^{n-1} \prod_i \Delta y_{t-i} + \prod y_{t-n} + u_t,$$

where:

$$\prod_i = - \left(I - \sum_{k=1}^i A_k \right),$$

$$\prod = - \left(I - \sum_{i=1}^n A_i \right).$$

The rank of the so-called long run impact matrix Π is crucial. In fact, there are k cointegration relationships among the variables examined exist when the rank of the matrix Π is $k < m$. T is the number of observations. Johansen (1991) has suggested two tests to determine the rank of Π . While the trace statistic tests the null hypothesis that there are at most k cointegration relationships the max eigenvalue statistic tests the null hypothesis that the rank (Π) = k is against the alternative that the rank (Π) = $k+1$:

$$\text{Trace Stat} = -T \sum_{i=k+1}^m \ln(1 - \lambda_i)$$

$$\text{Max Eigen Stat} = -T \ln(1 - \lambda_{k+1})$$

Including four lags and assuming that the data in levels and the cointegrating equations have linear deterministic trends there is clear evidence for cointegration between the two variables (table 1). We have used the critical values provided by MacKinnon et al. (1999).

Table 1: Testing for Cointegration among Dividends and Stock Prices

Sample (adjusted): 1994Q2 2009Q4

Trend assumption: Linear deterministic trend (restricted)

Lags interval (in first differences): 1 to 4

Trace Test

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Stat	Critical Value	Prob.
None *	0.272692	26.97485	25.87211	0.0364
At most 1	0.103957	6.915281	12.51798	0.3534

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

Max Eigenvalue Test

Hypothesized		Max Eigen	0.05	
No. of CE(s)	Eigenvalue	Stat	Critical Value	Prob.

None *	0.272692	20.05956	19.38704	0.0399
At most 1	0.103957	6.915281	12.51798	0.3534

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

After estimating the model we have analysed the residuals. A Portmanteau test is not able to reject the null hypothesis of no residual autocorrelation up to 16 lags (p-value 0.2864). This information – which is obviously interesting per se – does also have implications for the number of time lags considered in the model. While there may be some criteria suggesting a higher number of time lags the residuals already seem to be random variables considering only four time lags. This result and the now popular tendency to parsimonious econometric modelling quite clear speak for our model specification. In fact, given the rather limited number of data points available (1993/I to 2009/IV) parsimony is of special importance in order to preserve degrees of freedom. Hargreaves (1994), for example, performed Monte Carlo experiments indicating some difficulties with a small sample bias using the Johansen test procedure with less than 100 data points. However, he has also noted that it is a common practice in applied econometrics to work with sample sizes of about 50 observations.

Summing up, the empirical evidence reported in this section does indicate that stock prices, at least in the long run, are closely linked to the economic fundamentals. This finding does imply that speculative bubbles are the exception rather than the rule. Therefore, past equity returns – which have been depressed by two stock market crashes in the last decade – are not necessarily a good guide to forecast future returns. Phrased somewhat differently, economic agents ought to expect a positive ex ante equity premium for the next ten years. This prediction is also supported by the simple CAPM which postulates the existence of a close relationship between risk and return. In the current market environment – which is characterized by low interest rates – asset managers in the life insurance industry do face the problem that they will not be able to generate attractive returns. This will most probably especially be true in comparisons to fund managers at mutual funds because Solvency II will force life insurers to permanently reduce their exposure to equities. Mutual funds are less constrained. While low equity quotas recently have created no performance problems because of the negative ex post equity premium this will not necessarily be the case in the coming years. Quite to the contrary, there are good reasons to be-

lieve that the ex ante equity premium is going to be positive again. In this case asset managers at life insurance companies will most probably not be able to produce as attractive returns as mutual funds. In other words, the characteristics of endowment policies will change in the post Solvency II world. As prescribed by the regulators this financial product will quite clearly generate lower returns – but will also be less risky. Asset managers in the life insurance industry most probably will not be able to solve this problem – so there is some homework to do for the sales and marketing departments!

Marketing the “New” Financial Product

When talking about introducing new products, the academic literature offers theoretical well developed and sometimes also practical proven recommendations how product manager should structure the new product process (e.g., Mefert 2005, Cooper and Edgett 1996). This process involves more or less the following steps:

- idea generation,
- quick and dirty research, which leads to a first “kill or go” decision,
- in-depth market study, which covers both, customer and competitors, and yields in a detailed business case,
- the decision by senior manager to introduce the new product,
- development of prototypes,
- conducting first field trials and refinement of the product,
- validating the final product through preference tests or even test market simulations,
- the “go to launch” decision which leads to the
- final market rollout.

Solvency II will cause life insurers to change their investment policies. This will affect the product endowment life insurance. Considering the situation for endowment policies in the post Solvency II world the situation obviously differs from the new product process discussed above, because steps 1) through 3) are distinct. Phrased somewhat differently, there is no new product but just a significant change to the regulatory environment governing existing life insurance policies. Life insurers are in need to alter their asset allocation according to the new law. Given that interest rates are low this new investment strategy will certainly

result in less attractive returns. Describing the situation from a change perspective, the customers in the pre Solvency II world can be classified as investors who want attractive returns at modest levels of risk. But this selection criteria cannot be offered sufficiently by the insurers in the post-Solvency II world. By changing the product structure, customers will face a situation with lower returns and, of course, lower risk. Life insurers are consequently confronted with the situation that the product characteristics have changed but not the customer preferences. So the question, which is often day-to-day practice, is “How to sell the “new” product, which has already its main characteristics fixed?” Two strategies will be outlined: First, the shift of customer-preferences and second, targeting right customers.

The well known school of behaviourism (e.g., Watson 1919, Skinner 1971, Zimbardo et al. 2007) developed the basic explanation for most today’s advertising campaigns through the stimuli response (SR) model. This SR-Model describes a clear causal structure between the stimuli perceived and the action resulting in open behaviour. Modifying this theory, Woodworth introduced the element of the organism, which describes internal states of the individual that influence the straight $S \rightarrow R$ connection (see Woodworth 1921). Following this, marketers make use of the so called S-O-R model to describe buying behaviour. The neo-behaviouristic S-O-R model is preferred to other buyer-behaviour models (e.g., Blackwell et al. 2001, Howard and Sheth 1969) because of its less complex but more flexible approach. Elements are the stimulus (S), the organism (O) and the response (R) of the buyer. The stimulus contains marketing (e.g., insurance advertising) and environmental factors (e.g, the breakdown of Lehman Brothers), which are directly observable. Organism describes the influence within the individual human, and helps to explain different outcomes of the same stimuli. The individual preferences

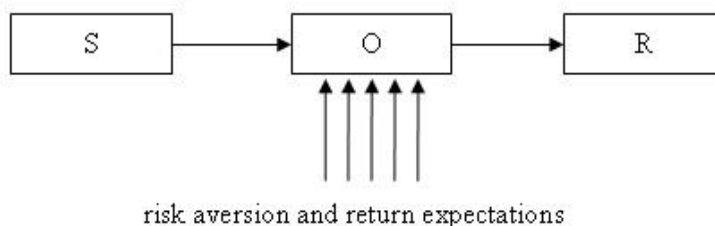


Figure 5: S-O-R Paradigm

which are influenced by, for example, culture, peer groups, education, or risk aversion and return expectations, act as intervening variables for the causal structure $S \rightarrow R$. Intervening factors are not direct observable therefore often described as a “Black Box” and known as theoretical constructs. The response is again observable and describes, for example, buying a specific insurance, volume, or fee paid. Using only different advertising to make consumers buy the new insurance product will not be sufficient, because only those with suitable risk aversion and return expectations will match with the post Solvency II endowment policy. Not talking about ethics, a supplier wants to make consumers buy his product. Therefore a shift in consumer preferences, inherent in the organism, is necessary. The agenda for the product manager is not only advertising the endowment policies in the post Solvency II world, it includes also educating the crowd, that the new characteristics are superior which makes the buy a “good deal”. Figure 6 describes this task by showing the needed shift of preferences from a) (pre Solvency II world) to b) (post Solvency II world).

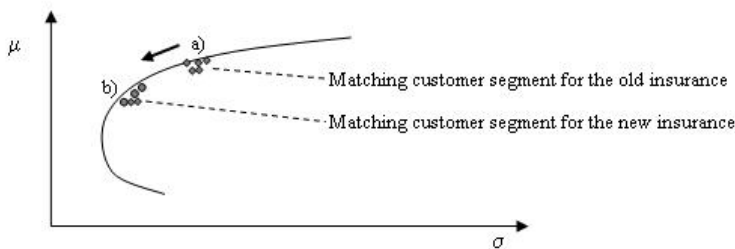


Figure 6: Shift of Preferences

Considering the atmosphere after the peak of the financial crisis, the image of speculative investments is badly damaged and trust seems to be lost (see Gounaris and Prout 2009). On this basis the insurance industry might find a way to change the preferences of the individual organism. Prospect theory shows that the human inherent risk adversity and the predominate insecure economic environment will also support the switch to a more security-wishing investor (e.g., Kahneman and Tversky 1979, Tversky and Kahneman 1992). Practically speaking, day-to-day marketing activities will address consumers’ prudence-oriented values. This will be done by using advisements which focus on investment risk vs. safe insurance opportunities, installing testimonials that recommend a safe investment strategy and at last but not least counselling the cus-

tomers via well trained sales personnel showing that the new structure of insurance products is well suited for their needs.

But is this strategy made for long term success? First, is there no possibility that the customer's mental state, reflecting the consequences of losses during the financial crisis, if not self-experienced, at least witnessed via the yellow-press, is only temporary? And after selling the low risk product, which of course are long term contracts including front-up costs for the investor caused by fees, would not there be complaints that the financial industry is still selling the "product of the week". Finally the insurance industry could again damage its reputation, pushing the post Solvency II product whether it really fits the customer or not, by using manipulative advertising strategies. To avoid this, a second approach will be outlined now. As the first approach does not pay attention to customer heterogeneity, as all investors are receivers of the marketing campaign, the second approach focuses on targeting the right customers. It is characterized by paying attention to the individual preference orientation and works on the investment level of the individual subject, whereas the former approach deals on an aggregated crowd level. Market segmentation is seen as method for identifying different customers groups. Several methods have appeared to build these segments, which require to have intra-segment homogeneity and inter-segment heterogeneity, and will not further be discussed here (see Wedel and Kamakura 2003). The main task is to identify the individual preference structure, classify the customer and consequently find the right product that matches his preferences. But acting like this, only the customers with preferences b) in figure 6 will be addressee of the selling campaign, leaving out customer a). This can be a selling opportunity for other products. But there is already a way out of the dilemma, not having the right product for specific customers. Making use of the Markowitz Model on individual basis financial counsellors can identify the individual risk return preference (see Markowitz 1952). By doing so, the post Solvency II endowment policies can also be sold to customers with a differing risk return preference.

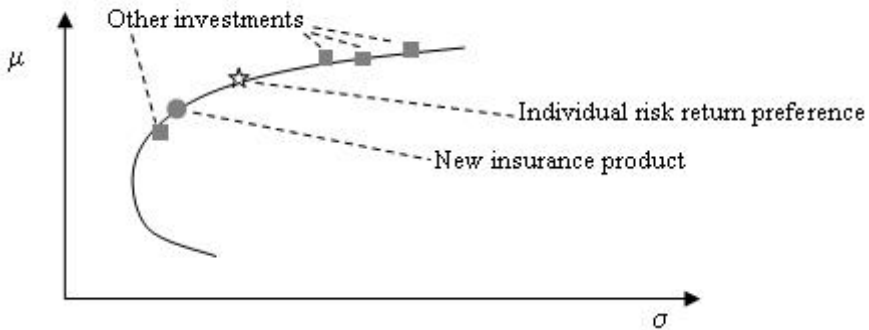


Figure 7: The Individual Investment Portfolio

This of course requires investment in the individual customer relationship, increases counselling effort and needs the generation and provision of individual customer data. The usage of data-mining tools for analysing customer investments can be seen as a good starting point. Integrated financial companies, which sell banking products as well as insurance products, have the advantage of utilizing the customer investment information they already have. Adaption of conjoint measurement methods during individual guidance can be used to identify customer preferences not only for developing new products, but also for segmentation purpose within a financial service setting (DeSarbo et al. 1997, Arias 1996, Teas and Dellva 1985). This preferences can then be utilized to cross check with the actual investment strategies followed by the customer thereby opening opportunities to sell post Solvency II world endowment policies even if they on there own do not fit the customer preferences. This approach is in comparison to the “shift of preferences” a by far more customer oriented approach and promises higher agreement of the investors also in the long run.

Conclusion

Solvency II will change the paradigms of risk and asset management in the European insurance industry. We believe that the new set of regulations will force life insurers to reduce their exposure to equities. This will definitely be a problem for asset managers in insurance companies; in combination with the low level of interest rates to be observed at the moment a permanent reduction to the equity quota will almost certainly result in rather unpleasant returns – especially in comparison to the performance of fund managers at mutual funds

who face less constraints investing in equities. Given today's market environment asset managers in the life insurance most probably will not be able to solve this problem. We think that the life insurance industry will be forced to reposition the product endowment life insurance. This will mainly be the task of the sales and marketing departments. Quite clearly, the European life insurance industry will have to explain to customers that the characteristics of one of its most important products is about to change by deemphasising the factor attractive return and focusing more strongly on the factor low risk. In this paper we have discussed two possible strategies – namely “shifting customer preferences” and “targeting the right customers” – to sell endowment policies in the post Solvency II world. Future studies might have a closer look into customer preferences considering the attributes of post Solvency II products. Further on the comparison between low risk Solvency II insurance products and alternative investment products like investment funds or other capital market oriented offers from a customer viewpoint might give valuable insights to market the new insurance products.

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Serje Schmidt

Strategic Positioning of Footwear companies in the Vale do Rio dos Sinos, Brazil

Abstract

The operational side of the chain of production in the leather goods and footwear industry has undergone significant transformations in response to the profound changes that have taken place in the international competitive environment and that demand a new strategic vision. The objective of this article is to identify the strategic positioning of the footwear manufacturers located in the Vale do Sinos according to the typology described on the literature. This is a descriptive and qualitative study. In-depth interviews were carried out with specialists in the leather goods and footwear industry. Starting from an industrial profile focused on low costs, these companies have realigned themselves to a more market-oriented profile, offering elements of differentiation.

Keywords: footwear manufacturers, strategy, change

Introduction

Globalization has redirected the international flow of goods and services and, consequently, displaced the incomes. The footwear industry is no exception. The chain of production of leather goods and footwear has undergone significant changes in terms of its operational methods, which in turn demands that organizations in the sector take a fresh look at their strategic positioning. The footwear industry is characterized by a relatively simple production process made up of distinct stages, and by non-intensive use of technology and a low-skilled workforce, meaning that mobility barriers are relatively easy to overcome and there are few obstacles to new companies entering the industry. These characteristics are also the basis for the viability of the geographical dispersal of production, by which industrial processes are allocated to locations that offer financial advan-

tages, both nationally and internationally. In this industry, large companies perform the sales and distribution roles and coordinate the global production chains, specifying the attributes required of the footwear that is to be produced, such as materials, quantities, models, delivery deadlines, prices and other details. The local manufacturers, in the majority comprising small and medium-sized companies, concentrate on production, with little or no influence on demand (UNICAMP & ABDI, 2008).

Brazil is the third-largest producer and the fifth-largest exporter of footwear in the world. The Vale do Rio dos Sinos region, which is in the state of Rio Grande do Sul, is one of the most important production centers in Brazil and one of the largest footwear manufacture clusters in the world and the production of footwear is responsible a significant source of income for the valley. At the end of 2007, the industry provided 111 thousand jobs, or 37% of all jobs in the Brazilian footwear industry (ABICALÇADOS, 2008).

China has very much lower production costs than Brazil and, taking advantage of the characteristics of the footwear industry described above, it has taken the number one position worldwide in the industry, producing nine billion pairs of shoes in 2005, in comparison to the 762 million pairs produced in Brazil in the same year. Businesses from many different countries have relocated their manufacture to China, in order to take advantage of the economic benefits it offers. In Brazil, the increase in the value of the Real with relation to the US dollar has accentuated even further the Brazilian footwear industry's loss of competitiveness.

Faced with these questions, the dynamics of competition merit constant analysis in the search for new opportunities and emerging threats. The strategic choices that companies make have a significant impact on their results. Even when a company is not more efficient operationally, by adopting a strategic position that differentiates it within its market sector, in such a way as to minimize the impact of competition on its demand, that company can survive.

Some authors, like Porter (1980), Barney (1991) and Mintzberg (2006), have proposed distinctive – and often contradictory – strategic typologies to describe company's practices towards positioning.

Taking these approaches as a starting point, the question arises as to how well the footwear companies in the Vale do Sinos are positioned strategically in order to deal with the new scenario.

Therefore, the objective of this article is to identify the strategic positioning of the footwear companies in the Vale do Sinos and to describe their strategies on the basis of the classifications proposed by the theory.

The remainder of this article has the following structure: in the next section some of these strategy typologies are introduced; the study methods will be described in section after that; followed by a discussion of the results; and, finally, the article will close with some final comments on the study.

Strategy typologies

Structural changes within an industry, in this case the footwear industry, force companies to review their strategies and adopt new market positions. The ability to identify new opportunities and to develop and coordinate a new configuration of supplementary internal activities to support them, should be the guiding principle behind the new position adopted (Porter, 1996).

Although every strategy is unique, since they are the fruit of organizational processes and generally deal with intangibles, and, therefore, are characterized by path dependence, by corporate complexity and by causal ambiguity involved in their creation (Ray, Barney, & Muhanna, 2004), some authors (Hambrick, 1983; Miles, Snow, Meyer, & Jr, 1978; Mintzberg, 2006; Porter, 1980) have attempted to define typologies of strategies on the basis of their adoption. Defining strategy typologies reduces the complexity of analysis of strategies and synthesizes them to point that they support the creation of new contextual dimension (Hambrick, 1983). It is beyond the scope of this paper to go into greater detail about the Porter (1980) or Barney (1991) typologies, since they have been adequately explored in the academic and business literature and in the specialist press. However, a brief description will be given in order to ground the reader in the subject.

Porter (1980) suggested that businesses that achieve above-average profits adopt one, and only one, of three generic strategies: cost leadership, differentiation or focus. According to his theory, cost leadership would be achieved by companies that manage to set their total costs below those of their competition, which would enable them to accumulate financial reserves to absorb the effects of possible price wars, defend against new entrants to the industry or to offer lower prices to the customer. Some authors (Faulkner and Bowman, 1992 apud Carneiro, Cavalcanti, & Silva, 1997; Partridge & Perren, 1994) suggest that cost leadership does not obligatorily mean lower prices. In contrast, Mintzberg (2006) disagrees, arguing that, if the objective is to gain a competitive advantage, it is

not enough to achieve leadership in total costs unless this leadership is used to offer lower prices.

A business adopts a differentiation strategy when it aims to provide products or services that, from the customers' point of view, have unique attributes that differentiate them from their competitors' products. This strategy results in greater customer loyalty and reduced price-sensitivity, distancing the company from its competitors. Kim and Mauborgne (2005) have explored this in greater depth, creating an analogy with 'blue oceans', when a business manages to differentiate its products or services sufficiently to ward off the competition, and 'red oceans', when this differentiation is insufficient to avoid a price war. Mintzberg (2006) has pointed out that, when a business achieves lower total costs than its competition and passes these on in the form of lower prices for the customer, this itself is actually a type of differentiation.

Finally, a company that follows a focus strategy elects a very specific target market, which translates to a finer granularity in terms of market sectors, distribution channels, product attributes or geographical areas.

Porter (1980) even claimed that businesses that follow more than one generic strategy, or do not successfully implement their chosen strategy, will not achieve returns that are above the industry average. In such cases the company's strategy would be characterized as 'stuck in the middle'. This statement has been the target of criticism from other authors (Miller & Dess, 1993; Murray, 1988).

Mintzberg (2006) adopts a different point of view regarding differentiation, proposing more specific criteria within which companies differentiate their products and services: differentiation through price, image, support, quality and design and also includes the category of non-differentiation. Differentiation by price consists of offering lower prices than the competition; differentiation by image consists of presenting products in a different manner, such as through distinctive packaging, marketing and other forms of promotional presentation; differentiation by support, according to this author, consists of offering products or services that serve to support customers, such as, for example, operating manuals, credit services, customer service and others; differentiation by quality consists of changing the characteristics of the product supplied, such as offering improved performance, durability or other attributes; differentiation on the basis of design implies that the product itself will have a design that sets it apart from the competition. Finally, Mintzberg (2006) points out that non-differentiation, i.e., the absence of any type of differentiation whatsoever, is also a very common strategy.

So far, based on the generic strategies proposed by Porter (1980), the quest for competitive advantages has been based on the way in which a business positions itself in the market, i.e., the competitive environment is the basis for delineating strategy. In a more internal view of companies, Barney (1991) suggests that an organization's resources are the principal factor leading to competitive advantages. This *Resource-Based View* (RBV), is grounded on the assumption that if a firm adequately exploits resources that are valuable, rare, imperfectly imitable and non-substitutable,⁸ it will generate sustainable competitive advantages. Barney and Clark (2007) note that RBV, which was later developed as Resource Based Theory (RBT), emerged from four main sources: (a) the study of organizational competencies; (b) the analysis and rents carried out by David Ricardo; (c) Penrose's theory of company growth; and (d) the study of the anti-trust implications of economics.

Empirical evidence on RBV in Brazil was provided by Moraes (2006), who performed a study of data from more than fourteen thousand Brazilian companies in 505 different business sectors. The study indicated that organizational (internal) factors were more strongly correlated with performance than were economic (external) factors.

Despite the growing academic and professional interest in RBT, due to the abstract nature of the definition of organizational resources adopted, being those factors under the control of a business that offer the potential for strategic actions, creates difficulties for empirical definition. This can be observed in the great diversity of results found (Newbert, 2007).

Methods

This study can be described as qualitative, cross-sectional research. An interview protocol comprising open questions was administered to ten professionals who had been selected by the following criteria: (a) interviewees had to have a good level of education so that they would adequately understand the questions, particularly those related to the strategic resources; (b) they should have frequent contact with footwear companies so that they would be in touch with the current situation at these businesses; and (c) they should have worked in the sector for a relatively long period of time so that they would be able to contribute with their experience to the study. Interviews were conducted at the interviewees' workplaces at prearranged times during August and September of 2008.

⁸ Later, Barney and Clark (2007) revised the non-substitutable attribute to an attribute of potential for utilization by organizational processes.

The questions were designed on the basis of the theories from the literature describe above with the intention of converging on an understanding of the strategic positioning of the footwear companies in the Vale do Sinos. Each interviewee was sent a copy of the protocol in advance of the interview in order to enable them to read and reread the questions and reflect upon them. After each interview, the replies were transcribed and sent by e-mail to the interviewee, who was given the opportunity to revise or clarify any points that may not have faithfully represented their opinions. The replies were then analyzed based on content analysis method (Bardin, 2004).

Discussion of the Results

The profile of the interviewees was as follows: with relation to educational level, half of them had completed a Masters degree, one was in the process of completing a Masters degree, three had postgraduate diplomas and one a bachelors degree. It is worth pointing out that the professional with the bachelors degree was enrolled on the study on the basis of more than 20 years' experience with footwear companies, and because he was the Director of Institutional Relations at an institution that has represented footwear companies for more than 80 years. With relation to work experience in the leather goods and footwear industry, one interviewee had worked for more than 30 years, six had between 15 and 29 years of experience, two had between 10 and 14 years of experience and one had less than 10 years' experience. The interviewees' current participation in the industry is primarily in the role of consultant (nine of them). Five of them are professors, three are company directors and two are engineers.

The first part of the interview protocol deals with the interviewees' views about the factors that have negatively impacted on the performance of Vale do Sinos (VS) companies, using questions based on the typologies of Porter (1980) and Mintzberg (2006). The table below contains a synthesis of the replies to the first three questions: (1) what are the principal threats faced by the VS footwear industry? (2) what external factors are associated with possible failure of the VS footwear companies to survive? (3) what internal factors are associated with this mortality?

Table I. Factors that have had a negative impact on the performance of the Vale dos Sinos companies

External factors	Internal factors
<p><u>Exchange rate</u>: six interviewees mentioned exchange-rate fluctuations as one of the main threats to the footwear industry, confirming the report published by UNICAMP and ABDI (2008).</p>	<p><u>Operational inefficiency</u>: the lack of efficiency was mentioned by five of the interviewees, in a variety of guises. One of them mentioned that the favorable exchange rate of decades past had hidden the companies' inefficiencies. Another referred to the lack of professionalized management, in that the companies do not monitor the results of their operations or fail to position themselves correctly within the production chain.</p>
<p><u>Foreign competitors</u>: foreign competitors were mentioned by seven interviewees, five of whom referred specifically to China and four to India. Paraguay, Taiwan and the African continent were each mentioned once, as was globalization in general.</p>	<p><u>Lack of market vision</u>: three interviewees listed factors related to a lack of market vision, such as concentrating on internal issues, instead of analyzing the macroeconomic environment, and they do not have an economic perspective, they do not interact with professional associations nor take advantage of them to acquire knowledge and they don't seek new opportunities in other markets.</p>
<p><u>Taxes</u>: four interviewees mentioned the <i>tax burden issue</i>, and one mentioned the financial incentive war between different states.</p>	<p><u>Insufficient capacitation</u>: The lack of capacitation was mentioned by four interviewees in a number of different ways, as <i>improvement</i>, as <i>professional training</i> and as <i>preparing for the future</i>. Two interviewees discussed the succession of family managers in relation to professionalization of the companies.</p>
<p><u>Other issues</u>: Other issues mentioned included: the ever-growing speed with which changes take place, the transformation of products into commodities, the economy in general, the threat of recession, the low purchasing power of the Brazilian population and the fact that many export companies have gone out of business.</p>	<p><u>Lack of technology</u>: Four interviewees mentioned the lack of technology, some specifically referring to the growing need to be able to produce small production batches, others referring to technology in general.</p>
	<p><u>Lack of own distribution network</u>: three of the interviewees mentioned the way distribution is handled as a negative factor.</p>
	<p><u>Other issues</u>: decapitalization of businesses, use of company financial resources as though they were personal assets; inadequate quality policies, the process of succession.</p>

Source: developed by the authors from the data collected in this study.

To a certain extent, the replies highlighted the footwear industry's dependence on the international scenario and on macroeconomic factors. It could be suggested that during a long period when the scenario was favorable (exchange rate, competitors, market and other factors) the businesses didn't concern themselves with their own operations or with internal questions in general. The points made by the interviewees suggested that one of the factors that provoked the loss of market share and fall in performance was the assumption that the future was, if not guaranteed, at least serene. With the change in scenario, internal questions probably came onto the agenda as an emergency item.

Thus, analyzing the external environment, they identified challenges caused by issues such as competition, diversity, ethics, technological progress and professional development that demanded that the companies be able to adapt. Effective strategic management aims to measure or predict the decisions to be taken when faced with transformation of the context of the organization and its business.

One issue that emerged, and which is related to capacitation, can be explored in greater depth; it is the professionalization of companies. According to one of the interviewees, *the Vale do Sinos community is suffering from the error of not having prepared for the future, which has now arrived, and in the first instance, the family businesses did not prepare themselves for success.* To prepare for the future is essential to the survival of companies in heavily competitive markets and it must emerge from the skills and abilities of management, who must be in tune with the market.

In general the interviewees highlighted deficiencies in technology and capacitation, indicating the underdevelopment of these resources, probably as result of the fact that historically these companies were meeting the demands of importers, rather than taking on this task for themselves.

These deficiencies diagnosed from the interviewees' responses have a direct impact and decisive implications for the companies' capacity to innovate. Without consistent processes for capacitation and development of technology it is impossible for companies to innovate and so find a sustainable path to maintain and increase their competitiveness over time. For the purposes of this study innovation is taken to mean the introduction of variations that are groundbreaking – either for the company or the market – and which ensure a competitive advantage and the possibility of accumulating extra income, creating the virtuous circle that Schumpeter described as the motor of the capitalist economic system (Dosi, 1988; Nelson & Winter, 1982). In general, the interviewees' opinions indicate

that, rather than being participants in a deliberate process of provoking the disequilibrium and uncertainty that innovation encourages, the VS companies have become hostages to macroeconomic factors and to competition based on the same factors that guaranteed them success and leadership of the footwear export market for almost 3 decades.

The fourth question was designed to elicit the interviewees' opinions about the strategies adopted by external competitors.

Table II. Strategies adopted by foreign competitors

Interviewees' answers	
Differentiation by price	all interviewees mentioned low prices, resulting from foreign competitors' low production costs.
Improving quality	three interviewees warned that foreign competitors are launching ever higher quality products onto the market.
No own brands	two of the interviewees stated that the foreign competitors did not use their own brands, exclusively positioning themselves within the industrial part of the production chain as manufacturers of the products of third parties.

Source: developed by the authors from the data collected in this study.

It can be discerned that the market positions adopted by foreign competitors, primarily in China and India, are similar to those that the VS footwear companies had been using prior to the change in scenario: focused on production and low price. According to Porter's typology (1980), this is a cost leadership strategy and is therefore compatible with the character that permeates the market for footwear that is not differentiated or is differentiated by price, which, according to Mintzberg (2006), is that of a commodities market.

The fifth question was designed to elicit the interviewees' opinion on actions taken by the VS companies to position them strategically.

Table III. Current strategic direction

Interviewees' answers	
Adoption of own brands	seven interviewees described the adoption of own brands as a survival strategy.
Design	five interviewees listed differentiation through design and fashion as a strategy that the footwear companies have adopted
Increased focus on the domestic market	four interviewees said that the footwear companies are working on sales to the domestic market more effectively. It is possible that this realignment in sales occurs in an attempt to reduce the threat of exchange-rate fluctuations and the companies' location inside the target market may facilitate their understanding of attributes that add value to their products.
Own retail stores	two interviewees mentioned the opening of retail stores with their own brands as a strategy the footwear companies had adopted. It can also be assumed that, in addition to increasing their contact with their target consumers, the retail stores would also provide a way of using the value-added tax (ICMS) credits that the companies accrue in their role as manufacturers. This would therefore be a tax strategy as well as a marketing strategy.
Technology	two interviewees mentioned the search for new technologies. With new materials and components, in addition to cleaner manufacturing processes, technology reinforces the effect of design as a survival strategy adopted by the footwear companies.

Source: developed by the authors from the data collected in this study.

Here, it is possible to observe a concern with developing resources that are valuable, rare and difficult to imitate (Barney & Clark, 2007), such as brand and design, supported by technology and market knowledge. In addition to this, the establishment of manufacturer-owned retail stores and a greater focus on the internal market can be seen as manifestations of a desire to minimize dependency on the export market and, consequently, to reduce the risks involved in international exchange rates. These resources may come to be sources of differentiation, allowing the companies to offer the market types of product differentiation other than price, such as those proposed by Mintzberg (2006). The very much lower internal costs of competitors from Asia, and China in particular, present the Brazilian footwear industry with an irreversible situation that forces it to seek other sources of differentiation.

The sixth question aimed to identify the frequency with which the interviewees observed the strategies for differentiation being adopted by the VS companies. The responses were given in the form of a six-point ordinal Likert scale where 0 = never; 1 = rarely; 2 = a few times; 3 = occasionally; 4 = many times; and 5 = always. Figure 1 below illustrates the interviewees' responses.

Number of observations	Differentiation in design	Differentiation in quality	Differentiation in price	Focus on market niche	Differentiation in image	Non-differentiation	Differentiation in service
Never	0	0	0	0	0	1	0
Rarely	0	0	0	1	0	1	4
A few times	2	1	2	1	3	1	3
Occasionally	4	6	3	3	3	2	2
Many times	3	2	5	4	4	5	1
Always	1	1	0	1	0	0	0
	← Mentioned more				Mentioned less →		
Mean	3,3	3,3	3,3	3,3	3,1	2,9	2,0

Figure 1. Differentiation strategies observed by the interviewees

Source: developed by the authors from the data collected in this study.

According to the interviewees, the strategies that predominate are differentiation through design, quality and price and focus on a market niche, followed by differentiation through image, non-differentiation and differentiation through service.

The interviewees suggested that differentiation by design can be observed at specialist industry fairs and in magazines, retail stores etc. In these settings products with a more sophisticated visual appeal and distinctive materials attract greater attention. Further evidence of this, according to the interviewees, is the investment these companies are making in product development.

According to the majority of interviewees, differentiation in quality can be discerned in the investment is made in comfort, through the Brazilian Institute of Leather, Footwear And Leather Goods Technology (IBTeC - *Instituto Brasileiro de Tecnologia do Couro, Calçado e Artefatos*), resulting in footwear made from softer and more supple materials that also offer greater durability. Although another three of the interviewees did agree with the majority opinion they stressed the need for greater attention to quality. One of the interviewees summed the issue up, explaining that the strategy of promoting comfort and healthy feet adopted by the IBTeC is indeed producing results, but that it needs to be worked at with greater intensity. Just one of the interviewees claimed that the quality of the footwear produced had actually fallen, as a result of replacing leather with synthetic materials.

The majority of interviewees stated that some companies have maintained their strategy of differentiation by price despite the external competition. They said that these companies, which were notable for being those that were involved in

larger-scale manufacture, have opened production facilities in other Brazilian states where financial incentives are offered and even in other countries, including China itself.

The interviewees had observed the adoption of niche markets as target consumers by companies producing luxury shoes, professional sports footwear or industrial safety footwear.

Differentiation through image was observed less frequently than the strategies described above, but was observed in the form of advertising using media celebrities, commercials on TV and advertisements in magazines. One of the interviewees cautioned that image should be promoted in cooperation, publicizing Brazilian footwear in general. One example of this is the 'By Brasil' label, which was mentioned by another interviewee, and which is a brand that is shared by a large number of these companies, i.e. it is the cluster's own brand.

The interviewees said that non-differentiation, which is supplying products or services that are similar to those supplied by the competition, was the least-observed strategy among the businesses, indicating that the greater part of them are seeking some type of differentiation. This is notable as being a positive feature with relation to the companies' attitudes to the changing scenario.

The low frequency with which the interviewees had observed differentiation in service was of note and is probably related to the industrial profile that has historically permeated these companies. It is possible that the fact that some of these companies are opening their own retail stores, as one of the interviewees pointed out, will lend greater relevance to service as an organizational strategy.

At this point in the interview protocol the interviewees were invited to describe any other strategies that had not been covered by the options so far provided. Some of them once more mentioned the companies that were opening their own retail stores. This differentiation strategy can be seen as reinforcing the company's brand, suggesting that it has a more solid infrastructure to offer customers. Some international sporting brands, such as Nike and Adidas, have also adopted this strategy. Indeed, brand was not dealt with explicitly by Mintzberg (2006) as being a factor of differentiation that is perceived by clients, possibly because it is so intrinsic to the concept of differentiation or perhaps because he associated factors of differentiation with attributes of the product or service being supplied.

Other interviewees cited the synergic power of the cluster as a strategy, since the companies in the Vale do Sinos, can act in a more consistent manner in con-

junction when facing external competition. The creation of the By Brasil brand was cited by one interviewee as being part of implementing this strategy.

Owning a brand can ensure access to certain standards of footwear design, concepts and fashion, creating mutual benefits for the companies. However, the synergic power of a cluster should go beyond certain simple cooperative processes and should continue in the direction of constant exchange of knowledge and technological development in conjunction through shared research – with the businesses not just working with each other, but also with universities and research and technology centers. In other words, the central assumption behind a cluster is the production and circulation of knowledge, which is potentialized by the group (Porter, 1999). For this reason it is necessary to exercise caution and employ method and focus in order to be in a position to empirically verify (or not) the existence of these characteristics and, as a consequence, the fact that a *cluster* truly exists.

When asked about companies adopting price differentiation in combination with other forms of differentiation, only one of the interviewees stated that the price strategy is not observed in combination with others. All of the other interviewees stated that this practice is observed and that it achieves good results, citing examples of companies that have launched product lines with particular combinations of attributes. For example: *the creativity to work with lower price materials* (innovation and price); *technology, comfort, distinctive components and price*; *there must be an equivalence between price and quality, price and design* etc. In general, their replies converged on the suggestion made by Carneiro (2004) and Kim and Mauborgne (2005), which is that, in the majority of cases, consumers make purchasing decisions on the basis of multiple criteria which are processed according to a mental algorithm that is not always rational or explicit.

The internal environment of these companies, which has been discussed as a factor in competitiveness, is complex, but extremely relevant. Complex, because while attempting to group resources into analyzable categories, it must not be forgotten that these same resources must be factors of differentiation between businesses. Relevant, because, as explained above, the internal environment is the primary source of competitive advantage. To achieve consensus and categorize the resources described by the interviewees has therefore been a challenging task for the purposes of this research and is one that is never-ending for academia in general.

The internal factors listed by the interviewees were categorized on the basis of the resources mentioned and the reasons they were considered to be potential

sources of sustained competitive advantage. The resources that the interviewees listed were categorized as follows:

Table IV. Resources that potentially provide sustained competitive advantage

Category	Resources cited (Each item corresponds to a single citation by one interviewee)
Competency	Qualification of personnel Intra-entrepreneurialism, justified by few companies value professionalization Intelligence Competency of human capital Business Capacity (entrepreneurialism) Qualified Personnel Mastery of market knowledge (accumulated over the years)
Commitment	Employee commitment Human resources (employees) justified by a motivated team is difficult to imitate Committed labor
Organizational culture	Culture, supplemented by a future-oriented culture Culture, supplemented by each leader defines the culture of their organization
Innovation	Innovation Stimulating the creative department (design, innovation) Attitude of innovation
Reputation	Image Strong brand Creation and Establishment of the Brand By Brasil (launching footwear with materials from the region), Design linked with Quality of life and Construction/Strengthening the Brand
Technology/processes	Technology to personalize products Technology Speed of launching collections (time to market) Strategic planning justified by it's the minimum requirement to cultivate a culture of technological progress Total quality policy Quality system

Source: developed by the authors from the data collected in this study.

Three of the categories are most intimately related to human resources: competency, commitment and organizational culture. Organizational competency was already included in the genesis of RBT and it is unsurprising to find it among the factors mentioned by our interviewees. When competency is aligned with stra-

tegic objectives it is a valuable resource that is rare and difficult to imitate (Barney & Clark, 2007; PRAHALAD & HAMEL, 1990). Six of the interviewees who mentioned competency considered it to be a resource with the potential to contribute to a sustained competitive advantage. Furthermore, the development of core competencies works to combat some of the threats that were cited by the interviewees, such as inefficient operations, market vision, insufficient capacitation and lack of technology. Commitment was cited twice directly and once in association with its close relative motivation, and was justified as being a rare by one of the interviewees because of the different situations in which each company finds itself. It can therefore also be considered, from the perspective that the history and accumulated corporate complexity of each organization mean it is not immediately available, to be rare and difficult to imitate. A study carried out in Brazil by Chang Jr *et al.* (2007) also makes this point. Organizational culture had been discussed as a potential source of sustained competitive advantage by Barney (1986) and by Barney and Clark (2007). Considered to be a difficult-to-imitate resource because of its relationship to the history of each company, organizational culture can be a source of sustained competitive advantage if it is valuable and rare. An organizational culture that predominates in a given region cannot be considered to be rare, since it is shared by the majority of the companies in that region. Also excluded are cultures that do not add value to an organization. For example, a culture of public punishment of employees is unlikely to lead to success.

Innovation has also been extensively explored in the literature on RBT. Innovation, as organizational culture, is not per se a competitive advantage. For this to be the case, it must be valuable, rare and difficult to imitate. It is easy to conceive of innovations as being valuable, since market dynamics mean that they potentially add value to an organization. With respect to whether they are rare, it could be argued that if they are not rare, then by definition they are not in fact innovations. Finally, regarding their difficulty to imitate, the focus must shift from innovative products or services to the company processes that support them. These are the competencies, attitudes and organizational strategies that make innovations an effective part of the working environment. An innovation-oriented environment can therefore make it possible for a company to have a new innovation on the market as soon as the previous innovation is copied by their competitors (Alves, Bomtempo, & Coutinho, 2005; Galende & De la Fuente, 2003; Zen & Fracasso, 2008).

Corporate reputation, which is related to brand and image, was listed by Grant (1991) as one of the resources that can contribute to a sustained competitive

advantage. Although the majority of interviewees referred to company-owned brands, one of them mentioned 'By Brasil' with relation to this question. As Grant (1991) points out that brands that change ownership may lose value, a shared brand may potentially be sustainable because a change of ownership is an unlikely. With relation to the proprietary brands of individual companies, strategic actions that have already been mentioned, such as opening retail stores, are interconnected with developing and leveraging brands. Also related to this is the work done to improve corporate image through actions such as the adoption of cleaner technologies and materials.

To a certain extent, some of the resources listed in the category of technology and processes are surprising, since their inclusion implies that they are still considered rare. These include quality systems and strategic planning. With relation to quality systems, an interviewee said that the majority of the companies merely comply with ISO standards, clearly indicating that quality systems are not leveraged as management tools, but are seen simply as the means of obtaining certification, possibly demanded by a customer with significant bargaining power. None of them described these resources as being difficult to imitate, which, if they are indeed rare, makes them potential sources of temporary competitive advantage. Carneiro (2004) points out that because sustained competitive advantages are extremely hard to acquire, temporary advantages should also be taken advantage of. Nevertheless, management must remain tuned to the market to continue to seek new levels of competitiveness.

The fact that companies have these resources does not necessarily mean that they actually contribute to competitive advantage. For this to occur organizations must employ them correctly (Barney & Clark, 2007). When asked about this question, although there was no consensus between the interviewees, their replies indicate that there is still a long way to go in this respect.

Table V. Utilization of resources by the companies

Are they utilized?	Convergent statements
Yes	They utilize them correctly, value them and undoubtedly leverage them
A little	some companies use image to gain a competitive advantage, but there aren't many of them The resources are underutilized, management lack understanding A minority utilize these resources correctly The majority don't utilize and don't value the two resources men-

	tioned, due to cultural issues, a lack of professional vision, and primarily due to a lack of knowledge These resources are underexploited
No	No, because of the lack of a culture of training and capacitation the issue of personal and professional development is improving a lot
Upward trend	these companies have started to seek out more information and to go beyond the comfort zone The footwear companies have started to value them in recent times

Source: developed by the authors from the data collected in this study.

As will have been noted, the majority of the replies indicate that resources are being underutilized, in the interviewees' opinions. Some of their comments, however, indicate that resources are being used more frequently, indicating that company managers are more concerned about them. Figure 2 below is based on the concept mapping method (Novak & Cañas, 2006) and summarizes the results of this study.

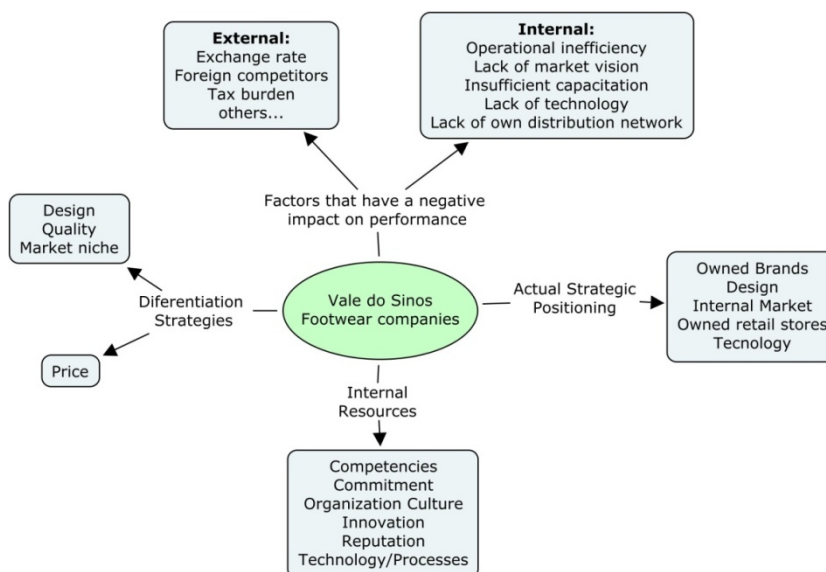


Figure 2. Conceptual map summarizing the study

Source: developed by the authors from the data collected in this study, based on the Novak and Cañas method (2006)

Next, some final comments on the results of this study will be offered.

Final comments

The objective of this article was to identify the strategic positioning of footwear companies in the Vale do Sinos according to strategy typologies described in theoretical literature. In addition to the typological analysis of the replies given by the interviewees, their replies also provide the basis for suggesting that these companies are acting in a manner that is relatively coherent with their competitive environment. The factors that are having a negative impact on the companies' performance are being taken into consideration when deciding on strategy and in the cultivation of resources to attenuate those factors. It can be perceived, for example, that dependency on the export market is being minimized through greater dedication to the domestic market and through the adoption of strategies of differentiation. Negative internal factors, in turn, are being dealt with both by the creation of valuable, rare and difficult-to-imitate resources and through the strategic direction chosen.

It is worth bearing in mind that the internal resources being developed have significant interrelationships with each other. For example: innovation as an attitude should be part of the organizational culture and should be harnessed for the development of competencies, which in turn have an impact on the development of technologies and organizational processes. Therefore, these resources should not be dealt with independently, but as part of a whole that is coherent with the company's strategy. In future research it would be of interest to validate each resource as a theoretical construct, measure its results and correlate them with performance. It is, however, a necessary part of the subsequent stages of this research to determine to what extent the development of these resources has in fact been integrated with strategy and to what extent they become a basis for the construction of sustained competitive advantages, i.e. shown themselves to be valuable, rare and difficult to imitate and are effectively leveraged by the organizations, as described by Barney and Clark (2007).

It is possible to discern efforts by the companies to adapt and innovate in response to the changes that have taken place in their competitive environment. Starting from an industrial profile focused on low cost, these companies have realigned themselves to a more market-oriented profile, offering elements of differentiation. It is not easy to change the direction of a company, since to do so involves the development of new competencies and changes to the culture, and not all will survive these changes. In terms of management, it is necessary to reflect on what has been learnt during this phase and take precautionary measures to sustain this new competitive position.

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EXPLORING CUSTOMER VALUE FORMATION – A CUSTOMER DOMINANT LOGIC PERSPECTIVE

Abstract

This paper extends current discussions about value creation and proposes a customer dominant value perspective. A customer-dominant marketing logic positions the customer in the center, rather than the service provider/producer or the interaction or the system. The focus is shifted from the company's service processes involving the customer, to the customer's multi-contextual value formation, involving the company. It is argued that value is not always an active process of creation; instead value is embedded and formed in the highly dynamic and multi-contextual reality and life of the customer. This leads to a need to look beyond the current line of visibility where visible customer-company interactions are focused to the invisible and mental life of the customer. From this follows a need to extend the temporal scope, from exchange and use even further to accumulated experiences in the customer's life.

The aim of this paper is to explore value formation from a customer dominant logic perspective. This is done in three steps: first, value formation is contrasted to earlier views on the company's role in value creation by using a broad ontologically driven framework discussing what, how, when, where and who. Next, implications of the proposed characteristics of value formation compared to earlier approaches are put forward. Finally, some tentative suggestions of how this perspective would affect marketing in service companies are presented. As value formation in a CDL perspective has a different focus and scope than earlier views on value it leads to posing questions about the customer that reveals earlier hidden aspects of the role of a service for the customer. This insight might be used in service development and innovation.

Keywords: customer value, value creation, value formation, service dominant logic, customer dominant logic

Introduction

The role of customers in a service setting has radically changed during the past decade. The power has shifted from companies to customers and the fundamental foundation of marketing is questioned. Customers are taking an increasingly active role in value creation (Grönroos 2008). The classical theory of value reflecting value as cumulated in the production process, has within the extensive service marketing and management literature been challenged by emphasizing the process oriented field of service management (e.g. Grönroos 1982, Gummesson 1987,1991, Parasuraman, Zeithaml and Berry 1985, 1988, Bitner 1992, Axelsson and Easton 1992, Ford 1990, Håkansson and Snehota 1995, Gemunden et al. 1997, Juttner and Schlange 1996, Möller and Wilson 1995). The customer has been seen as a cognitive, information processing consumer making trade-offs between benefits and sacrifices (e.g. Zeithaml 1988, Heinonen 2004).

The ongoing debates about the service-dominant-logic (e.g. Vargo & Lusch 2008) have angled the value discussion in different terms and it has been argued that value creation needs more systematic consideration (Grönroos 2008). Value has been contrasted from exchange value in terms of being embedded in the usage of resources in order to create value (Vargo and Lusch 2008). Alternative approaches, with roots in the traditional service management research, have been introduced. For example, Grönroos (2008) discusses the essence of a service logic and explores the roles of the company and customer in value creation. Customers are argued to be value creators during value-generating processes (consumption) and in value-supporting interactions whereas companies are value facilitators and co-creators. Recently, a customer dominant logic of service was proposed (Heinonen et al 2009) and it was contrasted to the original service management research and the service-dominant logic, both of which were seen as provider-dominant logics. Value was proposed to extend beyond the co-creation interactions and consumption and value-in-use was considered to involve in addition to physical activity also mental activity.

From a value perspective the discussions in the existing service marketing research is ontologically thin. The core of marketing has evolved from an objectivistic, production oriented perspective to a resource perspective, where value no longer is delivered, instead it is co-created. Value in use has passed over the traditional value in exchange and a focus on production attributes has been overridden with an emphasis of mutual value creation, the so called co-creation. Value is no longer seen as embedded in units of output and exchange but rather

realized through the experience when the customer activates and uses the service provider's offering and resources. A resource based perspective has been proposed with an interactional emphasis on mutual value creation (Vargo & Lusch 2008a, Grönroos 2008) but the actual ontological core and nature of value is left unspecified. This paper extends these discussions and proposes a customer dominant value perspective.

The aim of this paper is to explore value formation from a customer dominant logic (CDL) perspective. This is done in three steps: first, value formation is contrasted to earlier views on the company's role in value creation by using a broad ontologically driven framework discussing what, how, when, where and who. Next, implications of the proposed characteristics of value formation compared to earlier approaches are put forward. Finally, some tentative suggestions of how this perspective would affect marketing in service companies are presented. As value formation in a CDL perspective has a different focus and scope than earlier views on value it leads to posing questions about the customer that reveals earlier hidden aspects of the role of a service for the customer. This insight might be used in service development and innovation.

The paper contributes to current theory by contrasting earlier views on how value is created with implications of applying a customer dominant logic perspective. This results in several conclusions. First, value cannot be considered to be always actively and mutually created; instead value is seen as formed in the cumulated reality of the customer. Second, value is not restricted to a cognitive or even a resource perspective, value is also socially interpreted and experienced in an experiential-phenomenological manner. Third, value need to be seen in a longitudinal and multi-contextual perspective encompassing multiple different personal and service related value frames. Fourth, value is not isolated since the reality of the customer is interconnected to the realities of others. Value is therefore always to some degree collective and shared, being multi-personal to its nature. The paper bridges traditional perceived service value research and current value co-creation thoughts with a more customer-focused view on customer value.

Customer value

When shifting the focus from the supply to the customer, and the goods-dominant-logic to a customer-dominant logic (Heinonen et al 2010) multiple value dimensions get a new meaning. Value research has been clustered around different streams of literature including consumer behavior, total quality man-

agement, strategy, pricing, relationship marketing etc. (Chernatony et al 2000). Although multiple streams of literature have influenced the value concept in a customer context, the service marketing and management literature has been recognised as an important contextual point of departure (Teas and Palan 1997, Woodall 2003). The value discussion within the service marketing and management is rooted in the development of service-oriented models and concepts in the 1970's (Schostack (1977, Grönroos 1978, 1982, Grönroos and Gummesson 1985, Gummesson 1979, 1991, Eiglier and Langeard 1976, Langeard and Eiglier 1978). The focus within the service marketing research was shifted from traditional product marketing and an exchange perspective to interactions. Multiple concepts and models were developed (e.g. Grönroos 1982, Normann 1983, Gummesson 1987, 1991, Bitner 1992), where service quality research (e.g. Grönroos 1982, Parasuraman, Zeithaml and Berry 1985; 1988) has been a clear starting point for heterogenic research within related concepts such as satisfaction and value. Although a consensus regarding the nature and connection between the main concepts of perceived quality, satisfaction and value has not been reached, multiple researchers have recognised their importance when contributing to the discussion on value (e.g. Rust and Oliver 1994, Holbrook 1999, Anderson 1995, Bolton and Drew 1991, Liljander and Strandvik 1992, Heinonen 2004, Fornell et al 1996, Oliver 1996, Slater and Narver 2000, Cronin et al 2000).

The semantic heterogeneity of the value concept in a customer context is also highlighted in the multiple overlapping and somewhat contradictory perspectives that have been used for the value construct in the context of the services marketing literature (Jayanti and Ghosh, Woodall 2003, Khalifa 2004). The terms include customer value (Gale 1994, Oh 2000, Anderson and Narus 1998, Woodruff 1997, Hoolbrook 1994, 1996 Khalifa 2004, Korkman 2006), consumer value (1999), consumption value (Sheth, Newman and Gross 1991), perceived value (Liljander and Strandvik 1992, Chang and Wildt 1994, Doods, Monroe and Grewal 1991, Zeithaml 1988, Zeithaml and Bitner 2000, Patterson and Spreng 1997), customer perceived value (Ravald and Grönroos 1996, Grönroos 1997, 2000, Heinonen 2004), subjective expected value (Bolton 1998), value for the customer (Woodall 2003), and service value (Bolton and Drew 1991, Jayanti and Ghosh 1996). Antecedents of value have besides perceived satisfaction and quality also been recognised at least in terms of products and transaction value (Grewal et al 1998), perceived sacrifice (Cronin et al 2000), and perceived price (Dodds et al 1991). Both qualitative (Woodruff and Gardial 1996) and quantitative (e.g. Sweeney and Soutar 2001, Cronin et al 2000, Bolton and Drew 1991, Chang and Wildt 1994, Dodds 1991) methods have been used.

The cognitive perspective has traditionally situated perceived value at the core and have emphasised a tradeoff between “gets” and “gives” (Zeithaml 1988) or customer perceived benefits (positive consequences, benefits) and customer perceived costs (negative consequences, sacrifice) (Day 1990, Woodruff and Gardial 1996). Although Zeithaml (1988) originally proposed perceived monetary and non-monetary price to constitute the sacrifice element, the “give” component had first a quite narrow focus on the monetary price (Bonjanic 1996, Bolton and Drew 1991, Chang and Wildt 1994, Dodds et al 1991, Grewal et al 1998, Jayanti and Ghosh 1996, Murphy and Pritchard 1997). Both benefit and sacrifice have been conceptualised with tangible and intangible elements. The dimensions of value were extended from process and outcome dimensions to include also temporal and spatial dimensions, with both benefit and sacrifice elements (Heinonen 2004, 2006, Heinonen & Strandvik 2009). Hedonic and experiential value dimensions have also been suggested (e.g. Babin, Darden, & Griffin 1994; Mathwick, Malhotra, & Rigdon 2001).

Due to the multidimensional nature of the value concept, several attempts to create holistic conceptualisations of value have been put forth (e.g. Jayanti and Ghosh 1996, Payne and Holt 2001, Woodall 2003, Khalifa 2004, Korkman 2006). Several researchers have addressed the challenges of value creation from a service dominant logic perspective (e.g. Vargo, Maglio, and Akaka 2008). However, although the service system has been included, the starting point is the company perspective, and value formation and the service system from a customer perspective has not been research has not sufficiently conceptualised how value emerges in the multi-contextual reality of customers resources from many service companies. As the traditional service marketing and management literature shifted the focus from macro level to the micro level, existing holistic value conceptualisations focus on individual customers (e.g. Holbrook 1994, 1999; Sheth, Newman and Gross 1991). For example, Jayanti and Ghosh (1996) emphasise psychological antecedents of value perceptions emphasising not only utilitarian but also behavioural elements in customer’s value perceptions. The behavioural elements are in the service marketing context grounded in means-end modelling (Zeithaml 1988) and rooted in product categorisation processes (Howard 1977, Gutman 1982). The means-end conceptualisation was further developed by Woodruff (1997) emphasising attributes and attribute performance, consequences and end goals and purposes. Walker, Johnson, and Leonard (2006) argue that value emerges beyond customers’ experiences in and through the service encounter, and that also intrinsic qualities or attributes of a service are sources of value.

Newer contributions to the value literature have attempted to conceptualise customers' experience of value. For example, Heinonen's value model specifies that value can analytically be divided into four dimensions; technical value, functional value, spatial value and temporal value. It is on a high abstraction level, deeply grounded in extant service quality research and representative of a highly customer-focused view and it gives thus purpose holistic view of value. The model has been used by Heinonen and Strandvik (2009) in a first attempt to bridge traditional perceived value with value-in-use. Heinonen and Strandvik (2009) emphasised the relative nature of value and the role of customer activation in value-in-use.

Based on the literature review we conclude the following. A provider-dominant perspective is evident in previous research on value, especially in the traditional service management literature. But also in the recent service dominant discussions, with the focus on co-created value in interactions, companies' resources are the starting point in customers' value experiences. With the recent emphasis on customers in value creation, an in-depth exploration of the value concept is called for.

Customer value formation

This article continues the work done by Heinonen et al (2009;2010) by positioning the value concept within the customer dominant logic. The customer dominant logic is an alternative to the goods-dominant and service-dominant logics of marketing, which have been argued to be provider dominant logics (Heinonen et al 2010). The customer dominant logic introduces a new perspective on marketing. The starting point is not the service company and its processes or even the visible service processes within the service encounter or the relationship. The starting point is the customer's reality and life.

As a structuring tool for the analysis of how value is portrayed in earlier research compared to a customer dominant logic view we use Heinonen's (2004) model. The four dimensions of value correspond to the questions *what*, *how*, *where* and *when* respectively. The transition from a service provider focus to a customer focus as discussed above raises the question of *who* the customer is. These five questions will in the further analysis be used to portray implications of a customer dominant logic.

How is value created?

The Service-dominant logic (S-D logic) outlines value as value-in-use, where firms propose value through market offerings and customers continue value-creation process through use (Vargo, Maglio and Akaka 2008). What does this mean in ontological terms? Within the S-D logic value is considered to be created in the co-creation process and the “active” nature of the customer is emphasised. Rooted in the theory of labour the customer activates resources in order to create value. Value creation is an active and conscious process, which however is not defined to be ontologically either subjective or objective. Vargo, Maglio and Akaka (2008) however outline that “Value is uniquely and phenomenologically determined by the beneficiary” which indicates that value is still something “objective” which may be determined differently by different beneficiaries (e.g. customer, firm etc.). It almost metaphorically indicates that value is considered to be like an “elephant” which is “objective” but determined and perceived differently dependent on which angle the elephant is viewed from.

The S-D logic has underlined the concept of co-creation. This terminology is rooted in the multiple approaches to customer engagement flourishing especially in the 1990’s (e.g. Zeithaml 1990, Berry and Parasuraman 1991, Peppers and Rogers 1993, Rust, Zahorik and Keiningham 1996, Pine and Gilmore 1999, Heskett, Sasser and Schlesinger 2002). In line with Prahalad (2004) customer engagement has comprised the act of coproduction, involvement in self-service, firm driven “Disney world” type contextual customer experience, codesigning and finally also within the S-D logic the coproduction of service (Vargo and Lusch 2004) . Emphasising the evolving role of the customer, coproduction has evolved to co-creation, but the fundamental ontological problem with the always “active” customer is present. The ontological foundation for co-creation has however been challenged when a more practice-theoretical approach to value has been proposed (Korkman 2006, Grönroos 2009). Korkman (2006) proposes that customer value could be seen as something embedded in the practices of the customer. The practice-theoretical approach underline that what customers perceive as their needs or wants is actually constructed in the practice they attend. Value appears in the whole system as a dynamic and an ever-changing constellation of different elements (Korkman 2006). The point of view is fresh but the practice-theoretical approach still puts the action at the core of practices. But is the emergence of value always “active”? Can value be objectified to be something that may be “proposed to the customer” (Vargo and Lusch 2008)?

The customer-dominant (C-D logic) logic recognises value in different ontological terms. The ontological foundation of value is grounded in an interpretative approach. Reality is seen as socially constructed and experienced. Although interpretivists disagree on what is known and what is real (Spivey 1997), they share the common proposition that the world cannot be known directly. In line with Ford (1999:481) “there is no reality that can be known independent of being constructed”. Within constructed realities, presented, first order realities are distinguished from represented, second order realities. Presented, first-order realities are accessible, measurable and empirically verifiable but as pointed out by Ford (1999) they are still constructed through language existing in discourse that shares and understands the use of these terms, where the discourse is itself a construction (Spivey 1997). According to Bohm (1996) second order realities are created whenever we attach, attribute or give meaning, value or significance to a first-order reality. The relevance of the interpretative approach to the C-D logic is connected with the notion that people act on the basis of their interpretations. The C-D logic follows the experiential-phenomenological journey pioneered by Holbrook and Hirschman (1982) and other researchers (Carú and Cova 2003, Schembri 2006, Holbrook 2006). Value is not only considered to be embedded in the practices of the customer (Korkman 2006) instead value is embedded in the accumulated and continuously restructured customer reality. The world is not only truly subjective and experienced (Addis and Holbrook 2001), but it is also a highly relative world comprising dynamic multi-contextual realities in which value is embedded.

To conclude: The C-D logic recognises that value formation is not always an active process, with an active creator (firm, customer etc.). Value formation may also be a passive process, which the customer is not even aware of. Through the cognitive, mental and emotional processes customers consciously or unconsciously interpret interactions and reconstruct an accumulated customer reality where value is embedded in.

Where is value created?

The history of the value concept is reflected in the value conceptualisations in terms of how value is constituted. Grounded in a positivistic ontological foundation value has in the production oriented perspective been seen in terms of “value delivery”, reflecting a thought of value being packed in the object (goods, services) as if it were something tangible or easily measurable. The gradual shift from goods to services and transactions to relationships has challenged the

constitution of “value delivery” in terms of “value perceptions”. The concept of “perception” has in the cognitive perspective to value been used as a gateway to the subjective mind of the customer. The customer is seen as a cognitive information-processing human being who subjectively perceives value which is embedded in goods and services (Duman and Mattila 2005). The service marketing research and industrial network approach and their emphasis on relationships and networks have however shifted the perceptual value assessment from goods and services to the whole relationship and relationship networks.

The S-D logic (e.g. Vargo and Lusch 2004, 2008a, 2008b, Vargo 2008, Vargo, Maglio and Akaka 2008) emphasise a different perspective on value. They present a resource based value perspective, which emphasises an understanding of the processual nature of value creation. Within the S-D logic the firm, network partners and customers co-create value. According to Vargo, Maglio and Akaka (2008) when value creation is seen from a service systems perspective, the producer-consumer distinction disappears and all participants contribute to value creation for themselves and for others. The traditional view of value as cumulated within the production process was extended with the S-D logic to value created within the extended resource frame of the service. Value is also always uniquely and phenomenologically determined by the beneficiary (Vargo, Maglio and Akaka 2008).

The customer experience management research also focuses on customer experience creation in the context of the service (Verhoef et al. 2009). The customer experience research has gradually shifted the focus from interactions between the company and the customer to recognising interactions among customers as influential to the customer experience (Baron, Harris and Davis 1996). A need for a relationship perspective is underlined not only with customers but also between customers (Verhoef et al. 2009) recognising the direct and indirect affect customers may have on each other both in a physical as well as a virtual context (e.g. Albas and Albas 1989, Moschis and Cox 1989, Bitner 1992, Kozinets 1999, Harris and Reynolds 2003, Wu 2007). The C-D logic goes one step further and shifts the core and scope of the customer experience from “living through” to “living” and the accumulated reality of the customer. Value formation does not only take place in the sphere of the service or relationship, instead value is formed in the context of “living”.

To conclude: According to the C-D logic the scope of value is not limited to the resource frame of the service which is controlled by the company. Instead value is formed in multiple visible and invisible spaces (e.g. biological, physical, men-

tal, social, geographical and virtual), which reflect the customer's often uncontrollable life sphere.

When is value created?

According to the original S-D logic opening Vargo and Lusch (2004:6) stated that "A service-centered dominant logic implies that value is defined by and co-created with the consumer rather than embedded in output". Value is therefore perceived and determined by the customer on the basis of value in use (Vargo and Lusch 2004). The process of value emergence has therefore within the value in use conceptualisation been highlighted in contrast to value delivery (e.g. Grönroos 2006, Gummesson 2007). The interaction has been the object of value and according to Grönroos (2008b) it is during this interactive process that the customer is considered to perceive the value that is created or emerges in the service. Although some extension have been made to the time-frame in the recent years (Grönroos 2009) the time-frame is for the most part short-term and echoes the traditional service management terminology with its episode and line of visibility stressing nature.

When the power has shifted from the provider to the customer, the scope of value has also been redefined. Heinonen et al. (2010) argue that within the C-D logic value-in-use is not only linked to the service process, but extends beyond the interactive process. Exemplified with a holiday trip where value emerges before, during and after the trip, Heinonen et al (2010) underline that value emerges mostly beyond the visibility of companies. Value in use is no longer seen as only behavioural activity but it also includes mental activity.

It is therefore suggested that within the C-D logic the time-frame and scope of "use" should be redefined in terms of the dynamic context in which the value formation process takes place. The idea of the "value-in-context" is not new within the service dominant logic context since value-in-context has terminologically been put forth by Vargo (2008) and Vargo, Maglio and Akaka (2008). It is grounded in the critique put forth by Vargo (2008) when stating that the value-in-use concept is an improvement over value-in-exchange but still influenced by the G-D logic. The term "use" they argue reflects the "objectivistic" tradition of a product or service that the customer may use. Grönroos (2009) has again criticised "value-in-context" arguing that context is a static concept, whereas use/usage is a dynamic process.

To conclude: In contrast to the provider-dominant logics, value is not limited to value-in-exchange or even value-in-use. The C-D logic extends the scope of value to a longitudinal value-in-life perspective stressing value as part of the customer's dynamic and multi-framed reality. A reality which recognises value before, during and after customer experiences as part of the customers cumulated life and reality. The C-D logic reframes value in terms of temporal, situational and cumulative aspects.

What is value based on?

The “objectivistic” nature of value has been reflected on the discussion on marketing logics. The C-D logic recognises value in terms of an abstract, philosophical perspective. This is phenomenologically in line with the experiential research tradition which emphasises subjective customer experiences and recognises value in relation to continuously changing personal, unique and individual needs (McKnight 1994, Holbrook 2001). The ontological division between the subject and object no longer exist; instead the human being is thinking, acting and feeling entity which is embedded in her subjective life and reality. Gordon (2006) deepens the dichotomy between the mind and body which is also underlined by Korkman (2006) when emphasising the experiential approach as an approach of the whole human being and not only the traditional “head” as the cognitivist approach tends to assume.

Although the experiential marketing approach phenomenologically recognises a subjectivistic customer experience, the C-D logic widens the scope by recognising not only extraordinary and special experiences but also mundane, everyday and routine experiences (Korkman 2006, Heinonen et al 2010). According to Holbrook (1996) value is relativistic and comparative in nature. Value is seen in relation to something else that is less, equally or more valuable (product, service, process etc.) (Heinonen & Strandvik 2009). The C-D logic extends the notion of relativity. When stating that value is always personal and relative, value is recognised as being related not only to for example another “service” but to the multi-contextual and dynamic reality and life of the customer. Value is always personal and each customer's personal contexts and situations influence the formation and emergence of value. The individual customer is part of the value formation process from a highly subjective, personal and relative standpoint. For example, the experience of eating at a hamburger restaurant is according to the C-D logic always personal and in relation to the internal and external context of the customer (Heinonen et al 2009). The experience of a service and the recog-

nition of value in the process is dependent on the past, present and future of the customer. Customers are part of their own evolving reality which has a history, a present time and a future. The whole experience and the potential value of it appear in a personal context which has multiple internal and external layers and time frames. If the customer is eating alone, has a flu and has not eaten for several hours the value potential is different than in situations where eating a hamburger is part of a social experience with old friends and the customer is physically healthy. The internal context of the customer encompasses elements such as biological, physical, mental, emotional and social spaces in the customer's personal reality and they influence service experience. Customers also have their personal timeframes, rhythm of life and "voice", reflecting their need to be heard as an individual. The roles (family, work etc.) influence the experiences together with personal dimensions such as health and personal values. The external context is also multidimensional at each point of time. The physical and mental mobility of each customer is different and the socio-economical dimensions vary. Eating the hamburger is therefore from a value perspective embedded in a complex multicontextual, personal and highly relative experience which is always rooted in the past and part of a continuum with expectations and assumptions of the future.

To conclude: The C-D logic highlights value to be relative on multiple different levels. Value formation is always a process which is related to multiple personal and service related value frames. The customer consciously or unconsciously relates an experience to her cumulated reality and life at a specific moment, in a specific situation. The multiple contextual layers increase the dynamism of the value formation process to such a degree that although the customer is aware of what she values, she does not necessarily have the ability to analyse which internal and external elements influence the value formation process. New methods and instruments are therefore needed to study value formation.

Who determines value?

Value is also widely recognised as a dynamic concept that evolves over time (Jaworski and Kohli 1993, Woodall 2003). The degree of subjectivity varies dependent on the stream of research and ontological foundation of value research. Researchers emphasising the subjectivity in terms of "perceptions" putting the information-processing customer at the core (Ravald and Grönroos 1996, Woodruff 1997, Payne and Holt 2001) emphasises cognition and the "head" as the point of departure (Duman and Mattila 2005). The experiential-

phenomenological stream of research again underlines subjectivity at every level and emphasise the customer as being part of a subjective customer experience. The personal nature of value is emphasised recognising the multisubjective nature of value. The customer experience is not isolated. The reality of the customer is interconnected to the reality of family members, friends, acquaintances, co-workers, strangers etc. at multiple different levels.

Although the customer experience management widens the foundation of the S-D logic recognising a longitudinal “total experience”, including search, purchase, consumption, and after-sale phases of the experience (Verhoef et al. 2009) the C-D logic shifts the focus from the service or relationship to the customer and her personal, multi-contextual reality. The line of visibility is shifted from the visible service and its interface, atmosphere and environment, to the often invisible reality of the customer. Although the customer would physically be alone in the customer experience, the experience is always influenced by the customer’s internal and external context. Elements like health conditions, roles, social relationships etc. build up the person behind the customer and these elements are always present when the customer interprets her customer experiences.

The customer experience and the interpretations made before, during and after it are coloured by affective, social, economical, cognitive, physical, psychological, biological etc. dimensions, forming the “potential value landscape”. Customer interpretations are influenced by different value units such as family, friends, work, etc. Customers are never alone in their interpretations and the different roles taken influence customer experience. For example, on vacation with family, customers live their life and vacation also through the eyes of their children and other family members interpreting their value experiences. The reality of family members is part of their own reality and the value formation is embedded in the multi-subjective experience comprising the multiple internal and external contexts of the customer and her family members. For example, a child getting stomach flu often ruins the vacation for the whole family.

The C-D logic extends the temporal nature of “experiences” and suggests in line with Khalifa (2004) a transition from “living through” experiences to a deeper meaning of “living for”. The everydayness of the customer’s reality is emphasised and the view of the customer is shifted from a “customer” to a “person”. Customer needs are shifting from utility needs to deeper, psychological needs visualising the identity of the person behind the customer surface. The attachment of meaning is therefore at the core of value within the C-D logic.

To conclude: The C-D logic shifts the focus from the mind to the body and from the customer to a person. According to the C-D logic, value is not objective or purely subjective; it is through its relative and cumulated nature always personal. Value is not isolated since the reality of the customer is interconnected to the realities of others. Value is therefore embedded in the dynamic, collective and shared customer realities, which even the customer, cannot always orchestrate.

Customer-dominant value formation

The dominating marketing model so far has stressed value creation as an active process with a focal context, the interaction between the customer and the service provider. Value has been perceived subjectively by the working customer but has been embedded in the object (interaction, service), the scope of value being the service or the extended resource frame of the service. Value creation has been outlined as mutual but the role of the customer has through extension of the terminology been emphasised to include not only co-creation but also “sole creation” (Grönroos 2009). Although the possibility to influence the creation process has shifted to a larger degree to the customer, the service provider has still been seen as the agent in charge and who ultimately controls the process.

The nature of value creation has also traditionally taken place in a definable temporal context. In the goods-dominated logic value was realised in the exchange process (value-in-exchange) whereas the use of the product or service has been emphasised in the service-dominated marketing logic (value-in-use). The relativity of value has been highlighted in the isolated context recognising value in relation to something else that is less, equally or more valuable (product, service, process etc.). The narrow time-frame and interaction as the focal point have also supported a very traditional choice of research instruments (customer surveys, service blueprinting etc) within the marketing context.

Table 1. From a provider-dominant logic to a customer-dominant logic

	Provider-dominant logic	Customer-dominant logic
HOW	<ul style="list-style-type: none"> • Value creation is an active process • Value creation is a cognitive and conscious process 	<ul style="list-style-type: none"> • Value formation may also be a passive process • Value formation is also a mental and emotional process
WHERE	<ul style="list-style-type: none"> • Value creation has a special focal context • The scope of value is the (extended) service • Value creation takes place in the control zone of the company 	<ul style="list-style-type: none"> • Value is formed in multiple visible and invisible spaces • The scope of value is the life of the customer • Value formation takes place in the customer's often uncontrollable life sphere
WHEN	<ul style="list-style-type: none"> • Value creation has a temporal context defined by the company 	<ul style="list-style-type: none"> • Value is longitudinal and has multiple dynamic time frames
WHAT	<ul style="list-style-type: none"> • Value creation is relative in a service context • Value creation may be measured through traditional research instruments 	<ul style="list-style-type: none"> • Value is relative on multiple levels • New methods and instruments are needed to study value formation
WHO	<ul style="list-style-type: none"> • Value is perceived subjectively • Value is embedded in the object (interaction, service) • Value is often individual • Value creation is orchestrated by the service provider • Value is created in the mutual co-creation process 	<ul style="list-style-type: none"> • Value is personal • Value is embedded in the life of the customer • Value is collective and shared • Even the customer cannot always orchestrate value formation • The customer determines what value is

The customer dominant logic argues for a different view. It is argued that value formation is not always an active process, which challenges the term “creation”. It is suggested that value is multi-contextual and multiple dynamic contexts in the life of the customer continuously form how value is longitudinally experienced. A visit to the dentist is not an isolated interaction or service instead it is a highly mental and emotional process which may comprise multiple memories and collective stories that influence and form the value experience. The value formation process is longitudinal since the visit to the dentist has a multifaceted history and an expected future which is fused and related into multiple other collective contexts. A visit with a child to the same dentist a week before may colour the value formation process in a new way dependent on what the value outcome of this experience is. Value formation is therefore a very complex process, with a multi-subjective and collective nature. The emotions, behaviour, attitudes etc. of for example other family members influence the value formation process for the customer. The complexity of the customer reality is reflected on the process which is seen on how the customer relates experiences. A holiday trip may not be evaluated and compared with other vacations instead the compari-

son may be made on how the same money could be invested in “family time” in the form of for example cleaning services: a clean home without stress and quarrel every Friday for the next two years. Emotions and mental processes are therefore central.

A customer might also know what she values but does not know the answer to the question “why”? Wendy Gordon (2006) challenges the marketing community by stressing that behaviour and attitudes are context dependent and due to the dynamic nature of the human memory; there is no such thing as the absolute truth. This is the relative customer reality the marketing industry is facing today. The internal and external contextual layers of the customer are so dynamic and multidimensional that even the customer cannot explain her thoughts and behaviour and changes in it. During the same day the customer may among others take the role of a parent, legal advisor, co-worker and a mentor. The biological states in life are continuously changing (age, status, family structure etc.) together with the mental state of the customer (education, personal history, roles etc.) which influences how the customer thinks, feels and acts.

In the customer dominated logic it is suggested that the visible and invisible life of the customer is the space where value is formed and which functions as the energy for value formation. If the life of the customer is put in focus totally new value landscapes for value formation arise. Several interesting research questions should therefore be tackled.

Discussion and contribution

What does this new customer-dominant logic mean for the service provider and why is crucial to view customer’s in their own life context? The customer is rapidly becoming interconnected living in multiple spaces at the same time. The cognitive and conscious dimensions are vanishing and the emotional and unconscious is emphasised, colouring the customer behaviour with often irrational dimensions. The collective mindset of the customer has grown from the individual to a social heard. The notion of physical, mental and virtual customer identity is stressed and the customer is shaped by a growing social and mental nudity. The challenges companies are facing today are therefore grounded in “who” the customer is and what her mindset is today. The predictable linearity in her behaving is vanishing which also demands a new mindset and new thinking from the service providers. Traditional service centred challenges should therefore be ques-

tioned and new customer focused challenges should be outlined. Some of these challenges are outlined in Table 2.

The key focus is no longer on how customers consume a service instead what is interesting is how customers live their lives. The customer dominated logic focuses on the routines, activities and practices of the customer which reflects the answer to how the customer typically behaves in her own life context. This typicality also reflects the answers on how the service process could be successfully designed. The customer’s personal activities and hobbies also shed light on what the customer has a natural interest for together with the hopes and dreams that the customer has. These are examples of the elements that give answers to what motivates customers and how they actually might want to be involved in value formation.

The customer’s internal and external living context comprising health conditions, values, living arrangements, rhythm of life etc. influence what the customer prefers and what buying behavior might result from it in different situations. How the customers’ social life is structured influences their decision making process, and how mobile they are both physically and virtually has a strong impact on the choice of service or distribution channel. The focal point is no longer how the customer wants to be served instead the life of the customer might reflect the answers. If customers live a hectic and stressful time of life the requirements for the service process are different than for another customer who has too much time. The customer’s personal time frame and rhythm of life probably influences quite strongly how the customer wants to be served (e.g. self-service, personal service etc.). Instead of focusing on what the customer says or does it is time to shed light on who the customer is and what the emotional foundation of the customer is built on. The interesting question is not what roles the customer wants to take in the service process instead interesting might be the roles that the customer takes in her everyday life.

Table 2. Customer-dominant challenges

Provider-dominant challenges	Customer-dominant challenges	
How does the customer consume the service?	How does the customer live her life?	HOW
How should the service be designed?	What routines does the customer have?	
How may the service process be developed?	What delights/irritates the customer in her everyday life?	
How does the customer want to co-create?	What does the customer enjoy and have an interest for?	

How/why does the customer make buying decisions?	What are the internal and external living contexts of the customer?	WHERE
What influences the customers choice of service/distribution channel?	What is the mobility of the customer?	
Why is the customer unsatisfied?	What is the general life situation of the customer?	
When does the customer want to be served?	What is the customer s personal time-frame?	WHEN
How does the customer want to be served?	How hectic is the life of the customer?	
What does the customer say?	What does the customer feel?	WHAT
What motivates the customer?	What does the customer have a passion for and dream of?	
How can new services be innovated?	What are the challenges in the life of the customer?	
How does the customer behave?	Who is the customer?	WHO
What role does the customer have in the service process?	What roles does the customer have in her everyday life?	
Who influences the customers decision making process?	How is the customers social life structured?	
How may the brand be developed?	What does the customer believe in?	
How may the customer be segmented?	What customer life profiles may be identified?	

The traditional, often asked question is what the service provider could do to develop a better service offering and to innovate new services. What if the answers could be found in the joys, sorrows, delights and irritations that the customer experiences in her everyday life? The challenges in the life of the customer might also route new paths to service innovations that are needed. Those service innovations that the customer most often is not even aware of. New customer segments may not any longer arise from demographics or even behavioral dimensions. The focus could instead be laid on customer life profiles, which may be identified when focusing on who the person behind the customer is and how she lives her life.

Compared to the traditional view the C-D logic gives managers new tools to understand the dynamic life of the customer and its influence on value formation in different biological and mental life stages. C-D logic helps managers to profile and identify the customer base in a longitudinal value-in-life perspective. Managers are provided with tools to segment the customer base and to innovate and design new services that support the customer´s value formation process.

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Peculiarities of value orientations of university entrants when choosing a profession

Consideration of value orientations and their importance in the human life has become an actual topic of many researches. The reasons behind it are as follows:

1. One of the most common and significant manifestations of one's personality is his unconditional activity, ensuring achievement of his personal goals. Implementation of person's activity correlates with subjective significance of environmental phenomenon to him. The hierarchy of the phenomenon is defined exactly by value orientations.
2. When revealing the leading values of the university entrants it becomes possible to evaluate their potential opportunities, intentions and perspectives as well as the restricting environmental conditions faced by the university entrants.
3. Comprehension of the value orientations picture of the university entrants, and thereupon of students, will enable to create high motivation for successful learning through an individual approach to each student.
4. Peculiarities of university entrants' value orientations will become more significant in view of the social status and dependence on parent's guardianship, society and government, and therefore are seen to be a 'mirror' for social stereotypes.
5. Having been not only an element of spiritual sphere and manifestation of social creativity, the value orientations system does concurrently demonstrate attitude of the students towards social reality through implementation of their personal aspirations. In this sense the system becomes not only a barometer of the students' attitudes, but also an indicator of society's stability. The extent of balance of the value orientations system under the influence of political, economic and cultural institutions, impacts not only efficiency of social-cultural upbringing

of the students and onward educational processes but also the dynamics of social-political transformation in the country.

On the assumption of the above, we have conducted a research to find out the leading value orientations of the university entrants when choosing a profession. There were involved 95 university entrants on the open day conducted at the faculty of Management of the Plekhanov Russian Academy of Economics on March 2010. Among the respondents were 62 girls and 33 boys. The age of the respondents was from 15 to 18.

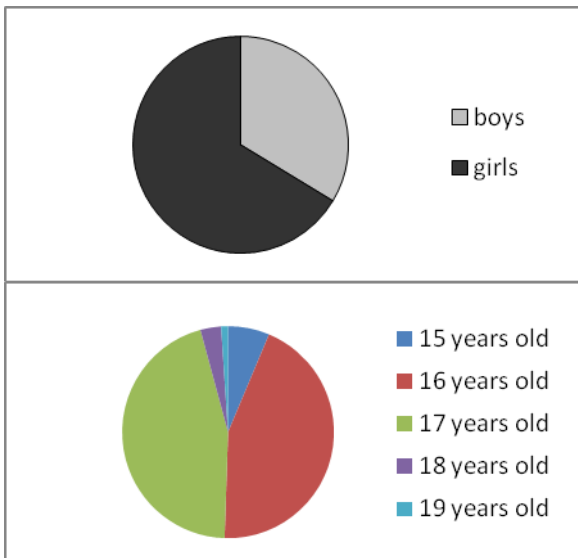


Figure 1. Distribution of respondents by sex and age

As a diagnostic method we have used a certain questionnaire designed at the department of Human resource management at the faculty of Management. The questionnaire “University entrants’ value orientations” suggests an interpretation of the results on several scales: intellectual values, material values, self-esteem, social approval values.

“**Intellectual values**” (values of professional self-actualization) is a regulator of appropriate intellectual activity, which may be targeted at satisfaction of personal, professional and social needs of a person and at efficient support to the process of implementation of the person’s (group’s) aims. If the results of the scale reach peak value, it means that the university entrants opt a particular uni-

versity consciously in order to obtain professional knowledge. The process of learning in this case becomes the key activity. Quantitative analysis of the indicators of the scale (high indicators) points out success of the university in the process of shaping basic values.

«**Material values**» - are the values which are presented in the shape of property, goods and objects. If this scale reveals high results it means that learning process is just a way to material welfare.

«**Self-esteem**» - is manifestation of aspirations to power and achievements as well as need for impressing others, being in the centre of everyone's attention.

«**Social approval values**» - suggests that any goal of individual existence is worth being tended to. Learning process in this case is being transformed into a process of self-affirmation through social approval.

In the second part of the questionnaire respondents were asked to rank suggested values in order of personal preferences or reject them.

Results of the research have revealed quite an even distribution of the values.

However there is a common trend among the university entrants towards self-esteem (the average rate is 9,17 out of 12 points), which satisfies the motivation profile of a manager. However, there is no need to exaggerate the importance of power as an inductive factor as any motives or needs can become an inductive factor for person's behavior and activity.

University entrants do also focus on studying (scale of intellectual value made up 7,71 points). The third place goes to material values (the average rate is 7,02 points), and the least points go to the social approval values (6,13).

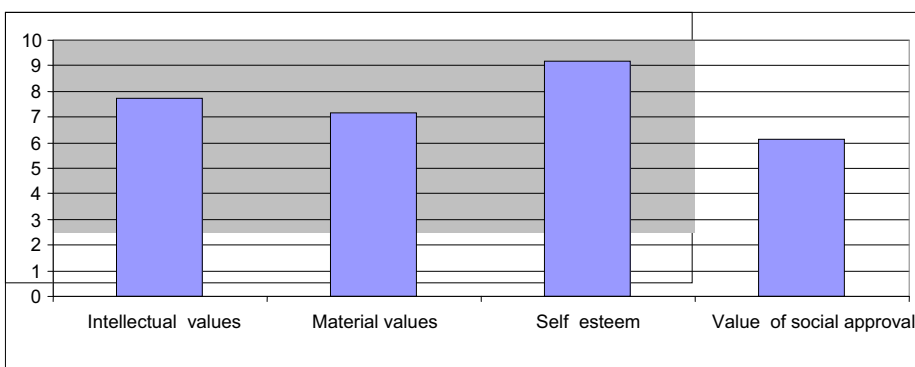


Figure 2. Distribution of value orientations indicators

In justice, it is worth mentioning that the opportunity of rejecting some values in the second part of the questionnaire (thus rejecting the sense of rejected values to them) enables the picture to exactly indicate the key value orientations of the university entrants.

For example, intellectual values have the rate of 7,72 points (out of 12), however such indicators as: desire for intellectual development has been chosen only by 12 respondents out of 95; desire for creative implementation –by 15 respondents; opportunity to develop skills other than intellectual ones – 18 respondents. There is a logical question arising from the results: “How can creative and professional self -actualization and satisfaction of intellectual needs occur without aspiration to intellectual development? Maybe university entrants see professional development in terms of such formal factor as career growth?”

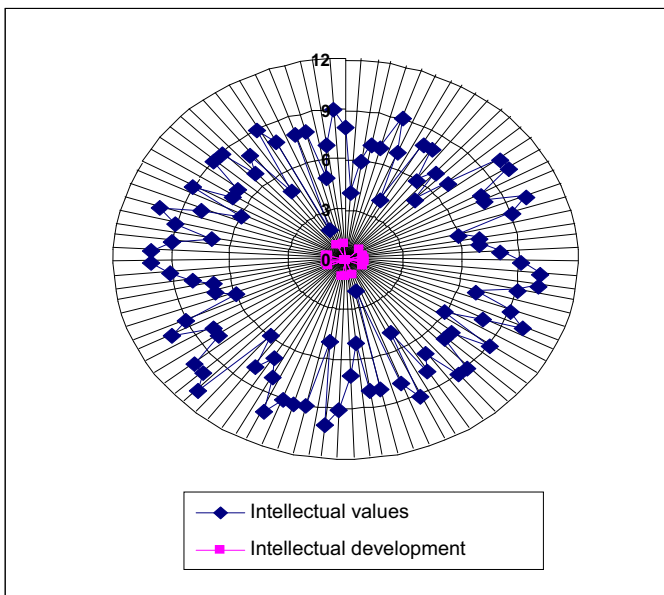


Figure 3. Correlation between intellectual values and aspirations to intellectual development

An interesting fact to mention is that intellectual development is not a priority for the majority of university entrants, however, the level of education guaranteed by a particular university has become an important indicator when choosing a university.

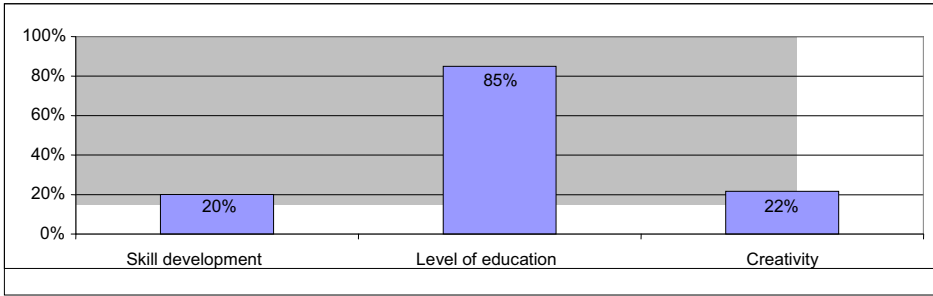


Figure 4. Distribution of requirements to a university: level of education

Analysis of the findings suggests that level of education provided by a university is one of the necessary condition when choosing the university. Intellectual values do also dominate, however the most important component linking these two indicators - readiness for learning, intellectual development and creative fulfillment – is being absent.

This finding makes us think of the ways of psychological accompaniment to form readiness for competence based learning.

Despite the results, response to the question “What kind of skills would you like to develop?” has mainly touched psychological problems like overcoming barriers in communications or conflicts, understanding partners, and impacting subordinates.

There were monotonous responses regarding other requirements when choosing a university with the prevailing factor of the university prestige.

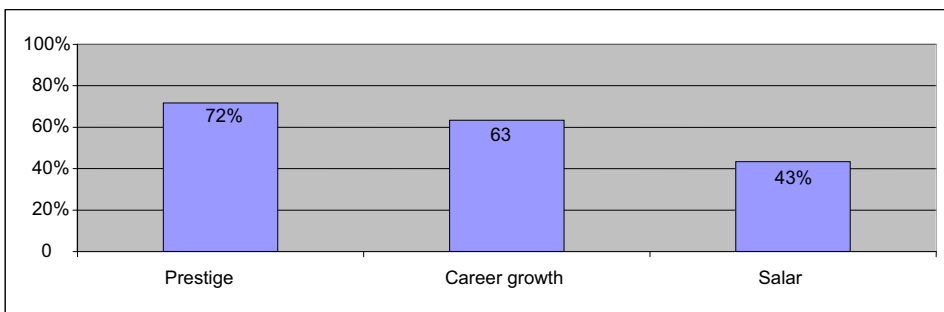


Figure 5. Distribution of requirements to universities: prestige

The results of the research have enabled us to analyze expectations of university entrants after graduation which define their choice of future profession as well as of the university.

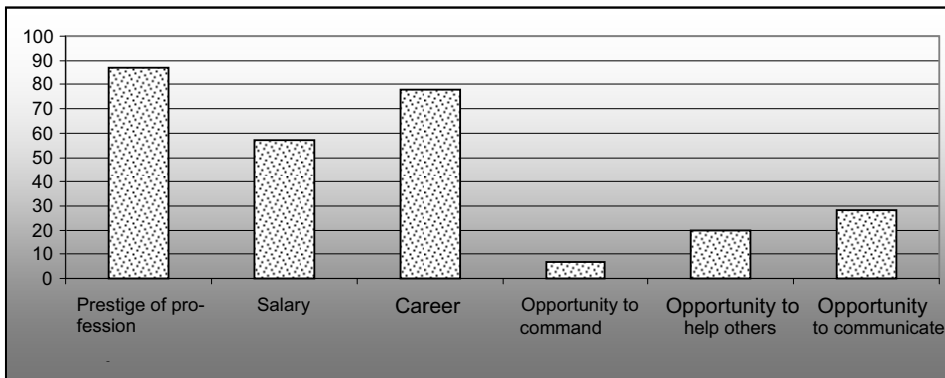


Figure 6. Preferences of students when choosing a profession and a university

Correlation of high results on the scale of self esteem (figure 2) and the profile of preferences when choosing a profession reveal that manager's work which in university entrant's opinion is prestigious, well paid and providing potential for career growth. Obviously, mainly material components help to feel one's power above other people.

In this sense D. McClelland distinguishes two types of motives for power which are personality-oriented and socio-oriented ones.

In the case of personality-oriented power people strive for power not because of achievement of particular social goals but because it provides them with sense of satisfaction. Such people use all the possible ways of compulsion to get control over others. Interpersonal domination is an end in itself and becomes a sense of life. Other aspirations in the structure of their motivation (for example, cognitive or communication needs) are not significant.

People with prevailing socio-oriented power aspire to it because it lets them reach certain social goals (in favor of other people). In this case a person does not only aspire to absolute domination over other people, but is preoccupied with work.

Both types of motivation for power –personality oriented and socio-oriented– should be equally presented in the manager's profile.

In our opinion the findings confirm once more that nowadays university entrants define professional self-actualization by formal features, such as career growth, prestigiousness of the profession and requirements to wages. Findings also suggest that the most effective type of motivation is the outer motivation, which probably comes out because of lack of awareness about the world of management profession.

However, low indicators on scales 'Opportunity to command', 'Opportunity to help others', 'Opportunity to communicate' once more prove lack of insight into the future professional activity which is likely to become one of the reasons for further professional crisis, however university entrants have the opposite standpoint. Indicators of professional awareness, according to the research, are quite high. The average rate is 7.8.

Taking into consideration the derived facts it is logical to ensure professional orientation that is information sources which are of high priority for the university entrants. The main sources of information on universities for the school graduates are the Internet and their parents. Therefore the website of the Academy should contain not only functions of informational support but also functions of psychological support to parents. Moreover, on the open days and during the period of the screening committee's work there can possibly be conducted some work with parents, for example, 'Psychologist's hour'. The media and professional orientation teams are the least popular sources of information for the students (less than 5% and 10% respectively).

So given the results of analysis we can summarize the following:

- Among equal distribution of various value orientations, can be observed a trend of high self-esteem, which can be fulfilled through outer motivation: desire for career growth, prestigiousness of profession and high salary.
- Availability of intellectual values in intellectual development and creative self-actualization has not been proved.
- Professional awareness of university entrants seems to be reduced.

The aforementioned findings can serve a basis to suggest recommendations for the participants of the educational process to form a full-fledged learning I-concept for the university entrants and students.

Kristina Heinonen, Tore Strandvik & Jacob Mickelsson

CUSTOMER ENERGY IN RELATIONSHIPS

Abstract

All companies have a portfolio of customer relationships. From a managerial standpoint the value of these customer relationships is a key issue. The aim of the paper is to introduce a conceptual framework for customers' energy towards a service provider. Customer energy is defined as the cognitive, affective and behavioural effort a customer puts into the purchase of an offering. It is based on two dimensions: life theme involvement and relationship commitment.

Data from a survey study of 425 customers of an online gambling site was combined with data about their individual purchases and activity. Analysis showed that involvement and commitment influence both customer behaviour and attitudes. Customer involvement was found to be strongly related to overall spending within a consumption area, whereas relationship commitment is a better predictor of the amount of money spent at a particular company. Dividing the customers into four different involvement / commitment segments revealed differences in churn rates, word-of-mouth, brand attitude, switching propensity and the use of the service for socializing.

The framework provides a tool for customer management by revealing differences in fundamental drivers of customer behaviour resulting in completely new customer portfolios. Knowledge of customer energy allows companies to manage their communication and offering development better and provides insight into the risk of losing a customer.

Keywords – Involvement; commitment; customer energy; segmentation, customer portfolio, customer dominant logic

Introduction

All companies have a portfolio of customer relationships. From a managerial standpoint the value of each customer relationship as well as the relationship portfolio are key issues. In the relationship management literature, there are a number of concepts that express aspects of the value and nature of a relationship. These aspects include quality, value, satisfaction, commitment, bonds, relationship strength, relationship longevity, relationship profitability (Storbacka, Strandvik and Grönroos 1994). Others are relationship closeness, relationship atmosphere, and loyalty. However, many actively used measurement instruments, e.g. customer lifetime value, do not measure how underlying factors such as perceived value lead to repurchases (Bolton, Lemon, Verhoef 2004). Companies need to understand the reasons for customer choosing a specific company. From the seller's point of view, it is a strategically important task to be able to decide which features are important to consider and monitor. For managers it would be preferable to get measures that are based on observable customer behaviour combined with perceptions and opinions. Simple is beautiful – the less information that have to be collected in relation to what can be achieved, the better.

From a customer perspective, the situation is more complex than ever. Customers have more alternative service offerings, and as technology facilitates comparison customers can easily switch between service providers, even though they are satisfied. Customer involvement is one of the key factors influencing online buying and behaviour (Shwu-Ing Wu 2002). However, customers cannot be highly committed to every service provider and equally cannot be highly interested in every offering category even if that might be the assumption of each service provider. It is therefore probable that companies have a large number of customers that are only weakly interested in what they are buying and weakly interested in the relationship with the company. It would be essential to be able to diagnose the nature of the relationship portfolio in order to effectively handle different types of relationships.

The paper focuses on the underlying factors that can explain differences in customer relationships in service settings. The aim of the paper is to introduce a conceptual framework for customers' energy towards a service provider. Customer energy is introduced as a new concept to cover the customer's view of a relationship with the intention to capture how they allocate their finite energy. Customer energy is seen as an enduring personal characteristic that may change but is not highly volatile. Customer energy is defined as the cognitive, af-

fective and behavioural effort a customer puts into the purchase of an offering. It has two dimensions that express different aspects of the total energy, i.e. life theme involvement and relationship commitment. The roots of the key concepts are based on a literature review and the model is evaluated based on empirical material, generated both in a qualitative study as well as in several quantitative studies.

In this paper a relationship management view is assumed to be related to the task of initiating, nurturing customer relationships as well as handling the dissolution of individual relationships but at the same time considering the value of the portfolio of relationships.

Current segmentation models are mostly concerned with segmenting customers according to demographics, such as age or gender groups, or customer profitability. We argue that these ways of segmenting customers have their merits, but are ultimately products of a past age, and should be combined with other ways of understanding customers. Many researchers mention segments of one as the goal for companies who wish to provide their customers with the best service. Customer portfolio models on the other hand often consider only purchase patterns and behaviour and try to group customers according to their calculated life time value. We argue that groupings based on the customer's commitment toward the service brand as well as involvement in the service category will provide practitioners with information that helps them in their offering development and communications with customers.

The purpose of this paper is to investigate how the customers' attitudes and behaviour vary according to their involvement / commitment profile, thus laying out the basis for an understanding of directed customer energy. Following a customer-dominant logic (Heinonen et al 2010) the emphasis is put on the customer and customer's life rather than on the service in order to inform managers responsible for marketing in strategic customer management.

Customer energy as basis for segmentation

Many concepts have been used in marketing settings to describe and monitor customers' mental dispositions and behaviour, such as perceived service quality, perceived service value, satisfaction, trust, commitment, involvement, loyalty, brand image. In practice, customer satisfaction measurement has become the most common measure used to monitor a company's status among customers. It has, however, been criticised for not being predictive of future behaviour (Richards 1996, Hofmeyr and Rice 2000).

Involvement

Customer involvement has been defined as “*a person’s perceived relevance of the object based on inherent needs, values and interests*” (Zaichkowsky 1985, p. 342). The involvement construct has its roots in the object relation theories of psychological research in the 1940s (Sherif and Cantril 1947) and it was introduced as a framework for understanding the different positions that people take regarding social issues. The concept was later adopted by advertisement research to explain effects of advertisements (Krugman 1965), and was later on split up into enduring and situational involvement (Rothschild 1979). This split reflected the insight that people can be involved with something beyond a particular use- or purchase situation. This means that peoples’ engagement with a service or product usually is explained either in terms of short-term involvement due to some imminent and necessary purchase (such as being in the market for a new car) or long term involvement due to personal interests or values (Rothschild 1979). A few different methods for operationalizing involvement have been suggested over the years, most notable among them the Zaichowski Personal

Involvement Inventory (1985) and Kapferer and Laurent’s Consumer Involvement Profile (1985). Involvement has been shown to be positively related to amount of product and service usage (Mittal 1995) and negatively related to the age of a person.

In general, involvement is thought to moderate the effect of expectations and surface emotional cues. This is because a highly involved person is more likely than an uninvolved one to consciously process presented information (Heath and Douglas 1991, Gendolla et al. 2008). Thus, the level of involvement influences what type of criteria the consumer uses when evaluating quality (Charters and Pettigrew 2006).

Commitment

Commitment is in marketing generally seen as the attitude and intention of one party towards acting and maintaining an enduring relationship with another (Liljander and Strandvik 1996, Fullerton 2005). The construct is used to explain customers’ tendencies to stick with one provider instead of switching, often described as a “psychological attachment” to an organization (Gruen et al. 2000, p. 37). Commitment has been measured with multi-item scales such as the one by

Bansal, Irving and Taylor (2004), which divides commitment into normative, affective and continuance commitment. According to Bansal, Irving & Taylor (2004) commitment is negatively related to switching intention and has a positive relationship with service use.

Jackson (1985) argues that customers exhibit differences in their preferred relationship closeness. She proposes a continuum varying from very close relationships where a buyer is totally committed to a seller and dependent on this as the only vendor, to a more market-like relationship where switching is easy and the parallel use of multiple vendors is possible. The type of relationship is linked to type of product. For example, computers systems tend to lead to more commitment and closer relationships while mailing and shipping services can easily be shared among several suppliers.

Morgan and Hunt (1994) argue that a common theme emerges from the literature on commitment: parties consider commitment among exchange partners as key to achieving valuable outcomes for themselves and they want to preserve this state of the situation (p. 23). Morgan and Hunt define commitment as: "an exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it; that is, the committed party believes the relationship is worth working on to ensure that it endures indefinitely" (p. 23). This definition resembles Moorman, Zaltman and Deshpande's view (1992, p. 316): "Commitment to the relationship is defined as an enduring desire to maintain a valued relationship". Morgan and Hunt postulate that trust is a major determinant of relationship commitment.

Geyskens et al. (1996) conclude that in the business-to-business literature (channel literature) two types of commitment are often proposed, affective commitment and calculative commitment. They, however, also observe that commitment usually influences customers' intentions to continue the relationship. "Both affective and calculative commitment are psychological states, i.e., relatively stable attitudes and beliefs about the relationship that arise, at least in part, out of interaction (Huston and Robins, 1982), but they clearly arise from different motivations for maintaining a relationship". Geyskens et. al argue that past channel research usually have focused solely on affectively motivated commitment where a committed channel member desires to continue its relationship and experiences a sense of loyalty and belongingness (Geyskens et al. 1996, p.304). "Calculative commitment, in contrast, is the extent to which channel members perceive the need to maintain a relationship given the significant anticipated termination or switching costs associated with leaving "(Geyskens et al. 1996, p.304-305). It is seen as an calculation of costs and benefits, including an

assessment of the investments made in the relationship and the availability of alternatives to replace or make up for the forgone investments. Calculative commitment is based on thus based on constraints and reflects a negative motivation for continuing the relationship.

Involvement and Commitment combined

Traylor (1981) suggested combining involvement and commitment to get a deeper understanding of consumers. Traylor focused on product involvement and brand commitment in the context of branded goods. His approach was further developed by, among others, Cushing and Douglas-Tate (1985) who differentiated customers by their category involvement and individual and product-related factors including brand commitment. According to Beatty et al. (1988), enduring (or ego) involvement has a positively and direct relationship to purchase involvement, which in turn influences brand commitment. They suggested that all three are separate and valid constructs. Involvement has been described as a moderator for commitment (Iwasaki and Havitz 2004), meaning that highly involved customer is likely to be more committed to a particular service provider than a less involved one. This is a complex relationship, though, and its nature varies according to the object of involvement (Quester and Lim 2003). Research indicates that highly involved consumers are more likely than uninvolved ones to perceive relational benefits when using a high contact, customized service (Kinard and Capella 2006). A study by Baker et al. (2009) investigates the effect of involvement on perceived quality and satisfaction, and finds that it is a moderator for them. Said study uses the word “involvement” to mean “involvement with service provider”, though, which essentially is the same as commitment. In fact, their “involvement” measures are very similar to the ones used by Bansal et al. (2004) to measure affective commitment, which means that commitment is a moderator for perceived quality and satisfaction.

Warrington and Shim (2000) managed to show that involvement and commitment are separate constructs, and used them, as suggested by Traylor (1981), as dimensions for dividing consumers into four distinct groups. Consistently with Traylor (1981), Warrington and Shim (2000) – although acknowledging the multiple characteristics of involvement in terms of product, situational, and enduring involvement – only used product involvement. Commitment was also used in accordance to Traylor’s ideas of brand commitment. The early studies of combining involvement and commitment have framed the situation as a choice of branded products, thus applying what now would be characterised as a goods-

dominant logic (GDL) (Vargo and Lusch 2004, 2008) . This means that involvement has been understood from the point of view of the provider, and analyzed in terms of involvement with product or service categories. We take a different perspective, and want to examine the situation from the *customer's* point of view in line with Heinonen et al (2009, 2010). When recasting product involvement and product category involvement recast into the customer's perspective, we must start considering what *life themes* the customer is involved in, not what product groups. A life theme is rooted in customers' pattern of living and allocating time and money in an enduring way. Correspondingly brand commitment is converted to relationship commitment, incorporating the customer's relationship to a service provider, a company.

Involvement and commitment as customer energy

Earlier studies have suggested customer involvement and commitment as a way of grouping customers. We propose that involvement and commitment should be seen as elements of customer energy. The customer can be seen as harbouring different energy levels towards different objects, such as brands, people, ideas, activities and life themes. Involvement and commitment are two different measures of this type of energy, showing how the customer directs energy on two interdependent levels. *Involvement* indicates how energized the customer is on a general level, showing the amount of engagement and effort that is lavished on a particular life theme or consumption area. *Commitment* shows how much of this energy is directed towards a particular provider. This means that involvement can be seen as a general driving force, while commitment indicates how it is being channelling. Customer energy is thus conceptualised with two dimensions, life theme involvement and relationship commitment (Figure 1).

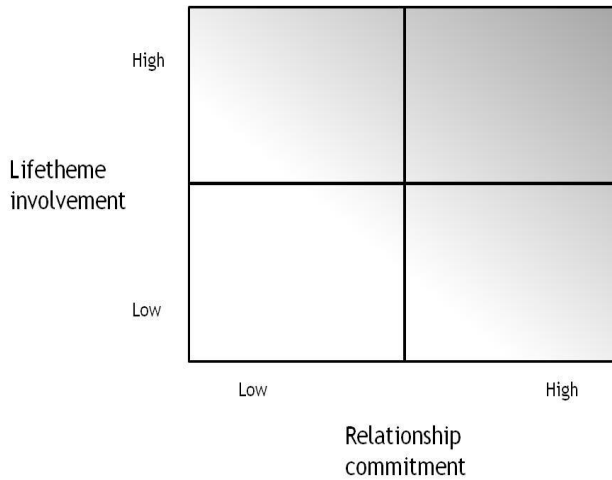


Figure 1. Conceptual model of customer energy

Life theme involvement expresses the customer's general interest in an area within his or her own life, and the knowledge, expertise, and motivation to learn about this area. A life theme can be described as the network of thoughts, feelings and activities that a consumer has built around some particular object, such as a hobby, long term goal or other activity (compare to Csikszentmihalyi and Beattie 1979). It is thus related to the customer's activity pattern and resource allocation pattern. The more mental and physical effort that is spent in general, the higher the life theme involvement. Life theme involvement is used instead of product category involvement, which would express the product and production oriented view of the same issue. A production oriented view focuses on understanding the customer's involvement with a particular product or service category. A customer oriented view, on the other hand, has to be grounded in the customer's own context: What is he or she trying to achieve, and how involved is the person in it? Life theme involvement represents a general level of customer energy, directed towards a whole field consisting of many providers and activities. Based on this, we define life-theme involvement as the cognitive, affective and behavioural effort a customer puts into a certain theme within his or her life, such as childcare, managing monetary affairs or a hobby such as gardening or cooking.

Relationship commitment refers to a customer's focused interest in a particular company, brand or branded offering. It is here considered to be a mix of both affective and calculative commitment. Many researchers and consumers understand a „relationship“ as a connection with high affective commitment. (Note that

in a business-to-business setting there is a still stronger assumption of mutual commitment between the partners). In the consumer market the consumer does not have the same intensive contact with a company. It is more distant. Thus, it has been common to talk about brand relationships, where the consumer has a perception and a “relationship” to the brand, rather than to many persons in the firm. There is also another aspect that needs to be addressed, which is not usually included in commitment. If a customer energy view is to be taken, we must go beyond looking at affective and calculative commitment, and add an element of *attention*. Customer attention towards a provider can be explained as a state where the customer voluntarily keeps this relationship at the front of his or her mind and is receptive to information regarding it (Davenport and Beck 2001, Hackney 2005, Jones and Ranchhod 2007). Thus, the relationship commitment represents the amount of customer energy that is directed towards a particular provider.

The consequences of customer energy

The customer energy categorisation may have an influence on customers’ communication behaviour and preferences, on their decision-making behaviour, on their loyalty and proneness to stay in a relationship, their reasons to switch. Customer energy is not assumed to be correlated with perceived service quality or customer satisfaction. Thus, this paper aims at investigating the effects of customer energy level on behaviour and attitudes. Research has shown that commitment is related to service use (Bansar, Irving & Taylor, 2004) Concerning behaviour, we make two predictions:

- 1) Higher levels of life-theme involvement means that the customer maintains carries out more life-theme related activities
- 2) Higher levels of relationship commitment means that a larger share of these activities directed towards a single provider

Applying this line of thought to practice, we can hypothesize of the effects of involvement and commitment on use of money. The magnitude and division of spending is one likely behavioural manifestation of the involvement / commitment divide. We hypothesize that the effects of the two are interdependent, but that involvement is more related to size of wallet, whereas commitment is more related to share of wallet. Because both involvement and commitment are aspects of customer energy, an increase in either should increase both types of spending. This means that an increase in involvement should increase both overall spending and spending at the

focal company, but be chiefly related to *size of wallet*. Commitment, on the other hand, is assumed to be chiefly related to share of wallet but is probably also related to size of wallet. Based on this, we formulate three testable hypotheses:

Hypothesis 1: Levels of involvement and commitment will both have a positive relationship with overall consumer spending.

Hypothesis 2: The total amount of money spent on an area of interest by a particular consumer is influenced more by level of involvement than by level of commitment.

Hypothesis 3: The amount of money spent at a particular provider is influenced more by level of commitment than by level of involvement.

The same logic should also apply for other activity, such as frequency of playing and number of logins into the service. We also investigate the effects of customer energy on attitudes. As mentioned in the literature review, level of involvement influences how consumers analyze information. We make the following predictions:

1) Higher levels of life-theme involvement makes the customer more critical and discerning

2) High-and low involvement customers have different reasons for staying committed

We will not make any formal hypotheses based on these predictions.

Empirical study

A study of the customers of an online gambling site was carried out by means of a survey, where customers were asked to rate their involvement in gambling and their commitment to a particular gambling site. The respondents were registered customers with a formal relationship with the service provider. The survey was sent out to 3405 respondents, of which 439 answered, resulting in a response rate of 12.8 %. The respondents were randomly selected within two groups: Customers who had been active the last three months (2404 respondents) and customers who had not been active (1001 respondents).

In the survey the four items representing commitment and the five items representing involvement were adapted from various sources: The three first commitment items were intended to measure affective commitment (Gabarino and Johnson 1999, Bansar, Irving & Taylor 2004), while the fourth was intended to add a dimension of directed attention. Similarly, involvement contained three items that were related to ego closeness and two that were related to word-of-mouth and search behaviour, both that can be seen as outward manifestations of attention and interest.

Table 1: Involvement / commitment items used in the study

	Commitment	Involvement
Ego closeness	"I feel loyal to this provider" (Garbarino & Johnson 1999)	"Playing online monetary games is part of my daily life" (Adapted from O'Cass 2000)
	"I feel emotionally attached to this provider" (Bansar, Irving & Taylor 2004)	"I like to think about playing online monetary games" (O'Cass 2000)
	"I feel a strong sense of "belonging" to this provider" (Bansar, Irving & Taylor 2004)	"Online monetary gaming is important to me" (O'Cass 2000)
Attention	"I am interested in how this provider's services and games change and monitor it closely" (New item)	"I often talk with others about monetary gaming (online and offline)" (McColl-Kennedy & Fetter 2001)
		"I often read about online monetary gaming (websites, books, magazines, articles, message boards)" (McColl-Kennedy & Fetter 2001)

The amount of money spent by respondents at the focal gaming company was taken from the company's customer database by means of calculating each individual respondent's three month turnover, i.e. the respondent's combined bets during the period. The rationale for this was that it measures how much money the customer is willing to use – it is the business of the gaming company to use gaming mechanics to ensure that they retain a certain percentage of the customer's bets. We also had access to data about how often the respondents had logged into the service, as well as data about whether the customer had actively used the service during the last 24, 12, 6, 3, 2 and 1 months.

The respondent's overall monthly spending on gaming per month (all providers) was measured by asking the respondents to estimate their spending on an eight-point ordinal scale. The respondents were then also asked to evaluate approximately how divided their playing time between the focal company and other sites. Items found in table 2. Two other activity items were included, one measuring the frequency of playing online monetary games, the other measuring frequency of playing offline games.

Table 2: Activity items used in the study

Items	Alternatives
<i>Spending</i>	
How much do you approximately spend on monetary gaming in total per month?	0 € 1-5€ 6-10€ 11-20€ 21-50€ 51-100€ 101-200€ 201-400€ Over 400€
How, approximately, is your playing time divided between the focal company's site and other sites?	100% at focal company, nothing on other sites 25% at focal company, 75% on other sites 50% at focal company, 50% on other sites 75% at focal company, 25% on other sites Nothing at focal company, 100% on other sites
"I usually play online monetary games (all sites)..."	Daily A few times a week Once a week A few times a month More rarely
"I often play monetary games offline (such as Lotto, table games, poker, sports betting, slots)"	1 – 7 (1 = strongly disagree, 7 = Strongly agree)
"Playing online monetary games gives me social pleasure from interacting with friends"	1 – 7 (1 = strongly disagree, 7 = Strongly agree)

The activity items also include one about using online monetary games as a venue for socializing with friends. Finally, we wanted to investigate how involve-

ment / commitment relate to attitudes. The four items from table 3 were used to investigate attitudes. One was intended to measure brand attitude, one word-of-mouth and one switching intention. The fourth measured how actively the respondent compares providers to each other.

Table 3: Attitude items used in the study

Items	Alternatives
<i>Attitudes</i>	
How do you feel about this provider?	<p>I dislike it, would recommend not to use</p> <p>The provider feels worse than the competing providers</p> <p>Neutral, Provider is similar to many others</p> <p>The provider feels better than the competing providers</p> <p>Unique, no-one can compete</p>
Have you ever talked to others about this provider?	<p>I have recommended it to other people</p> <p>I have told other people negative things about it</p> <p>I haven't mentioned it to others</p>
Rate the probability that you would stop using this provider and switch to other online monetary gaming sites within the next two months.	<p>1 – 7</p> <p>(1 = Not at all probable, 7 = Extremely probable)</p>
"I actively compare different online monetary gaming providers to each other"	<p>1 – 7</p> <p>(1 = strongly disagree, 7 = Strongly agree)</p>

Analysis

A principal component analysis using Varimax rotation which converged in three iterations confirmed that commitment and involvement constituted different factors. Only the new item items loaded under 0.8 on its dimension. The scores for involvement and commitment used in this paper's analysis were calculated as averages of all the measures in the dimension. Table 3 shows the means and loadings of the items.

Table 4: Scale items for involvement and commitment used in the study

Measure (a)	Mean	S.D.	Std. loading	Construct reliability
<i>Involvement</i>				.885
"Online monetary gaming is important to me"	3.22	1.758	.842	
"I like to think about playing online monetary games"	3.38	1.731	.831	
"I often talk with others about monetary gaming (online and offline)"	3.57	1.761	.811	
"I often read about online monetary gaming (websites, books, magazines, articles, message boards)"	3.44	1.833	.802	
"Playing online monetary games is part of my daily life"	3.15	1.893	.801	
<i>Commitment</i>				.869
"I feel a strong sense of "belonging" to this provider"	3.27	1.797	.918	
"I feel emotionally attached to this provider"	3.29	1.793	.905	
"I feel loyal to this provider"	4.28	1.893	.824	
"I am interested in how this provider's services and games change and monitor it closely"	4.38	1.654	.686	

(a) All items were measured using 7-point Likert-type scales, where "1" represented the weakest possible ("strongly disagree") and "7" the strongest possible ("strongly agree")

The calculated Involvement and Commitment variables had a significant correlation with each other ($R = 0,298$, $p < 0,000$). To be able to include the ordinal overall spending variable into a multiple regression, the variable was treated as continuous, as suggested by Menard (2002). Each class was converted into a mean value of the range within that class, in order to include the spread of the variable. Menard suggests that having five or more classes will make regression analysis possible. This article only investigates the principle of the relationships between the variables, which means that exact Beta values, for example, are not required.

Behaviour

Our analysis showed that both involvement and commitment have a significant positive relationship with how much is spent at a particular company as well as with how much the consumer spends on the overall theme of the company. When conducting simple linear regressions, we found that involvement was a strong predictor of both overall spending ($R^2 = 0.22$, $p < 0.000$) and the combined bets made at the company during a 3 month period ($R^2 = 0.11$, $p = 0.034$). The relationship between commitment and spending was much weaker but also significant (see Table 4).

Table 5: The relationship between Involvement, commitment and spending

Simple correlation	Overall spending on monetary gaming	Bets at focal company
Involvement	$R^2 = 0.22$ $p = 0.000$	$R^2 = 0.11$ $p = 0.034$
Commitment	$R^2 = 0.017$ $p = 0.010$	$R^2 = 0.014$ $p = 0.016$

This fits with the notion that an increase either in involvement or commitment will lead to an increase in spending, be that at a particular company or within the overall area of interest. This supports our hypothesis 1, which was that both in-

involvement and commitment have a positive relationship with both types of spending.

We hypothesized, though, that involvement would have a bigger influence on overall spending, whereas commitment would have a bigger influence on spending at a particular company. To investigate this, we examined if there were any cross-effects between involvement, commitment and the two types of spending. For this, two separate multiple regressions were carried out. In the first, involvement and commitment were used to predict overall spending. We found that the whole model was highly significant ($p < 0.000$), but that on the individual variable level only involvement was within the significant range, supporting our notion that involvement is the chief influence on overall spending (hypothesis 2). In the second case, involvement and commitment were used to predict betting at the focal company. Here the inverse was true. Commitment (although very narrowly insignificant, see Table 5) seemed to have a stronger influence than involvement. The whole model was significant on a general level, although much weaker than the first one, weakly supporting hypothesis 3.

Table 6: Multiple regression of involvement and commitment as predictors for 1) overall spending and 2) spending at a focal company

Multiple regression		Predicting variables	
Dependent variable	Whole model	Involvement	Commitment
1) Overall spending	p < 0.000 R ² = 0.22	p < 0.000	p = 0.434
2) Bets at focal company	p = 0.018 R ² = 0.02	p = 0.162	p = 0.051

This implies that involvement is a better predictor for overall spending within a particular area of interest, whereas commitment is a better predictor of spending at a focal company. One reason for this result can be found in how people divide their time between different providers. A linear regression analysis showed that commitment is positively related to the company's share of total playing time ($R^2 = 0.198$, $p < 0.000$), whereas involvement has a negative relationship to it ($R^2 = 0.034$, $p < 0.000$). Thus, the more involved consumers become the more

will they spread out their time between many different providers, while higher commitment increases the focal company's share of total playing time. This is supported by a regression that showed a significant positive relationship between involvement and the amount of monetary gaming carried out offline by the respondent ($R^2 = 0.02$, $p = 0.003$)

We divided our sample into four groups, as suggested by Traylor (1981), using k-means clustering. We ended up with the division seen in table 6. An Anova analysis showed that the average involvement and commitment scores differed significantly between the clusters.

Table 7: Involvement / commitment clusters

Cluster	cases	Involvement score	Commitment score
Low involvement / Low commitment	139	2	2,65
Low involvement / High commitment	128	3,13	4,87
High involvement / Low commitment	73	4,73	2,62
High involvement / High commitment	60	5,39	5,6

The clusters were analyzed for differences in spending and division of the money spent. The respondents approximations of money spent on monetary gaming in total was used to estimate differences between the groups, while the approximations of division of time between sites was used to approximate how much of the money was used at the focal company. These approximations should not be taken as exact measures, but are used to illustrate what was already indicated by the multiple regressions earlier: Involvement is related to total spending, while commitment is related to the company's share of wallet.

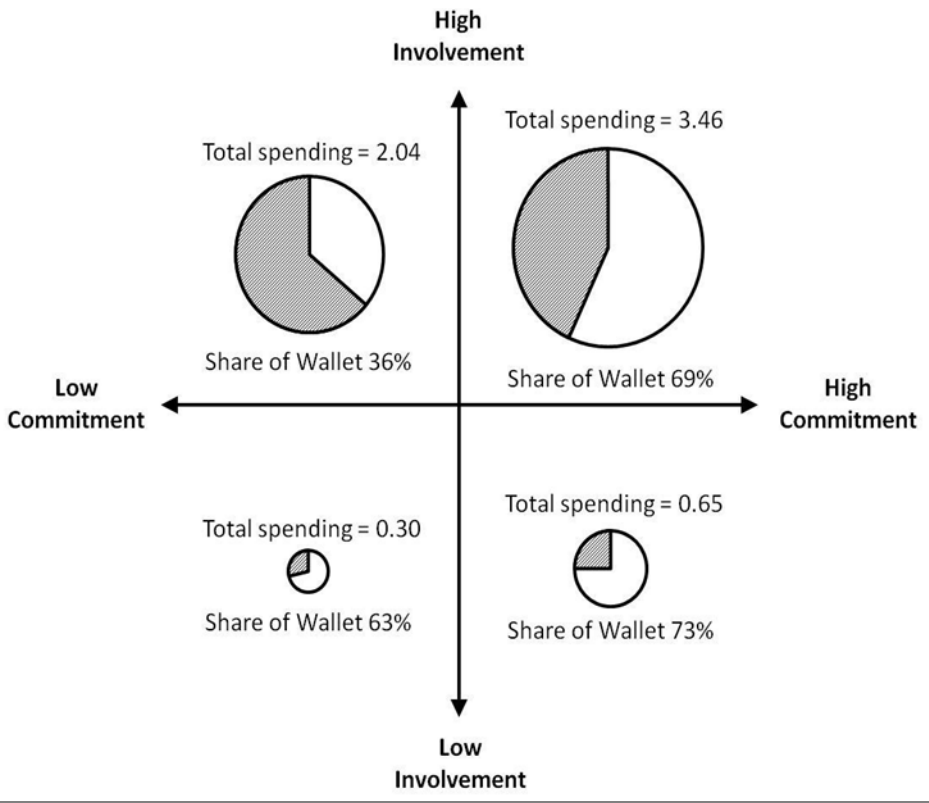


Figure 2: The mean of individual total spending within the groups, as well as the focal company's share of wallet.

Figure 2 shows the differences in average spending per person between the clusters. The values for total spending in figure 1 are presented in relation to the average of the total sample = 1. Thus, the total spending of a person in the high involvement / high commitment group is 3.46 times higher than the average. When comparing spending between groups, the low involvement / low commitment group has the lowest spending by far. That group contains many who do not play at all. The same thing is reflected when comparing the value of the customers (spending minus wins). The most valuable group is the low involvement / high commitment group. The difference in turnover (last three months) between the groups is summarised in table 8.

Table 8: Difference in turnover

	Low inv. / Low comm	Low inv. / High comm	High inv. / Low comm	High inv. / High comm
Low inv. / Low comm		.005	.141	.001
Low inv. / High comm	.005		.576	.684
High inv. / Low comm	.141	.576		.841
High inv. / High comm	.001	.684	.841	

The Low Involvement / Low Commitment group differs significantly in spending from Low Involvement / High Commitment ($p = .005$) and High Involvement / High Commitment ($p = .001$). No other differences were significant, again supporting the idea that commitment has a stronger relationship with internal spending than involvement has.

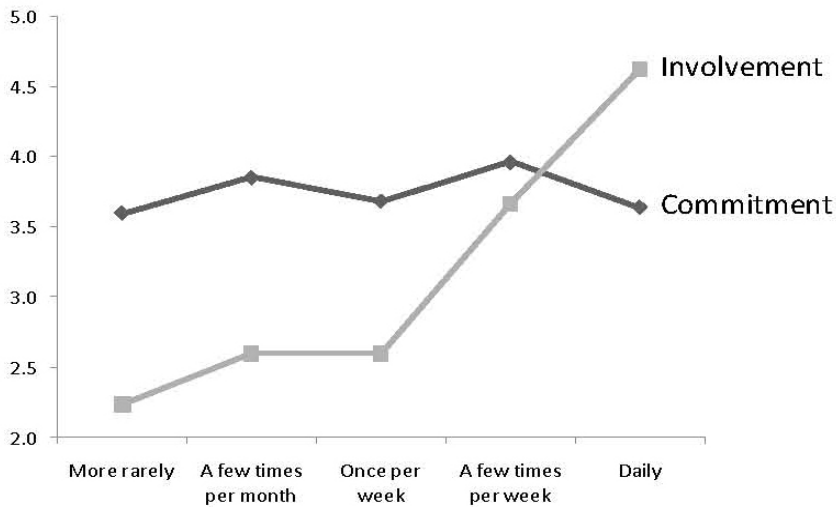


Figure 3: Involvement, commitment and frequency of playing (on all sites)

A regression analysis showed a significant relationship between involvement and the frequency of self-reported frequency of playing (at any site) per month ($R^2 = 0.232$, $p < 0.000$) (Figure 8). Commitment did not show any significantly relationship with frequency of playing. A similar conclusion could be drawn from doing two individual linear regressions of involvement and commitment against playing monetary games offline. Involvement had a significant relationship with playing monetary games offline ($R^2 = 0.022$, $p = 0.003$), while commitment did not.

Both commitment and involvement were significantly related to the number of times the customer logged in to the focal service per day (Regression of logins against involvement: $R^2 = 0.074$, $p < 0.000$, and logins against commitment: $R^2 = 0.039$, $p < 0.000$). Figure 9 shows the differences in login activity between the groups, reflecting that both commitment and involvement have an effect on login activity (all group means differ significantly from each other, except the middle two).

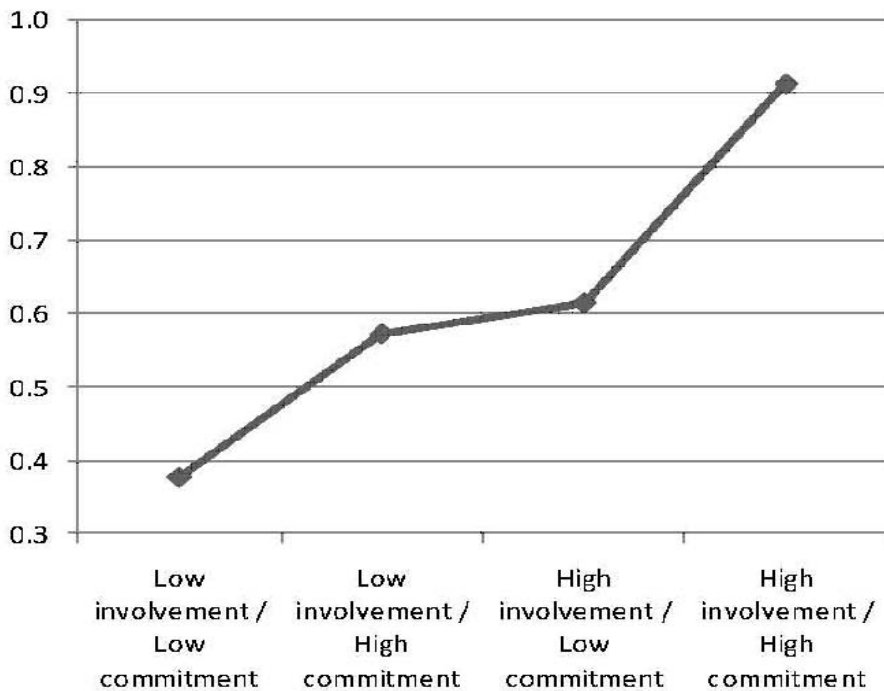


Figure 4: Average number of logins per day in the involvement / commitment groups

The findings from the activity data adds to the notion that involvement is related to overall customer activity, while commitment is related to the share of activity that is directed towards a particular provider.

A plot of the customer activity in each segment shows further differences in behaviour. Figure 5 shows the percentage of customers that were active (i.e. had used the service at least once) in each group during the time period. Due to the cumulative nature of the scale, the figure allows us to see approximate drop-off, or churn rates in each group.

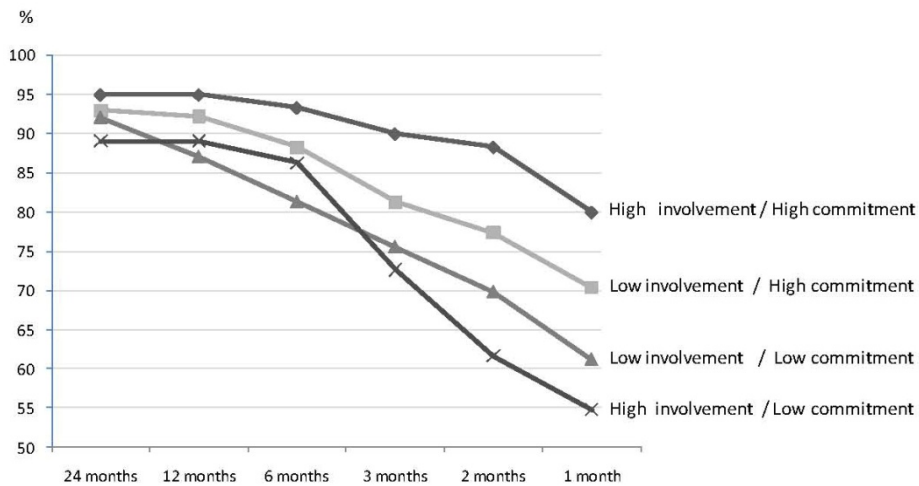


Figure 5: Customer activity over time

Thus, during the time between the last 24 months and the last 12 months, some 10% of the customers in the Low involvement / Low commitment segment stopped playing. As expected, the high involvement / high commitment group seems to contain the most enduringly active customers, while low involvement / low commitment shows a very steady, almost linear decline. The most interesting group was the high involvement / low commitment one, which started out with a drop-off rate comparable to the HI / HC one, but then experienced a dramatic fall after 6 months. The length of the customer relationships showed no significant differences between groups.

Attitudes and background

Involvement had no significant relationship with whether the respondent thought the focal company was better or worse than other providers. Commitment, on the other hand, had a strong positive relationship with how good the provider was perceived to be in comparison to others ($r^2 = 0.257$, $p < 0.000$). When looking at the clustered groups, another interesting observation could be made: As expected, both high-commitment groups had a mainly positive attitude towards the brand, but among the low-commitment respondents, high involvement was connected to a more frequently reported negative attitude towards the brand, while low involvement meant an indifferent attitude. This observation is explained by figure 6, which shows how levels of involvement and commitment corresponded with brand attitude. Those respondents that thought that the brand was worse than others were slightly more involved. The difference was not significant, though.

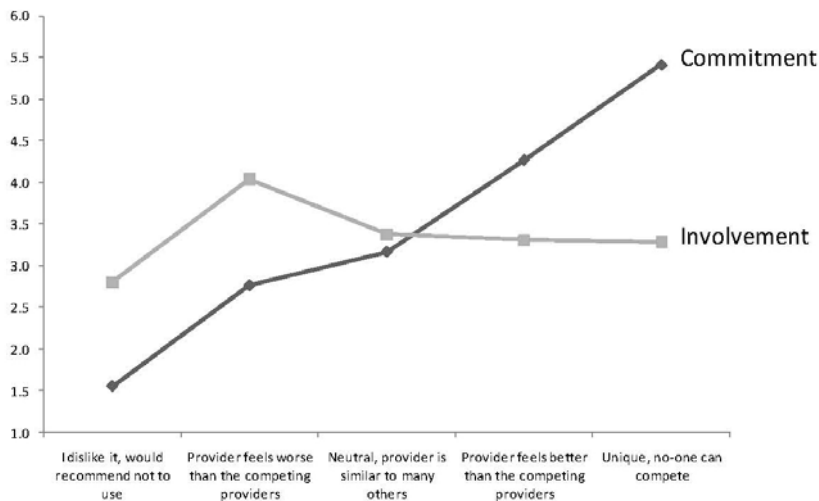


Figure 6: Involvement, commitment and brand attitudes

More conclusive evidence was given by an Anova-analysis, which showed that the levels of involvement and commitment differed significantly between respondents who had communicated positively, negatively or not at all about the provider. Figure 7 shows this.

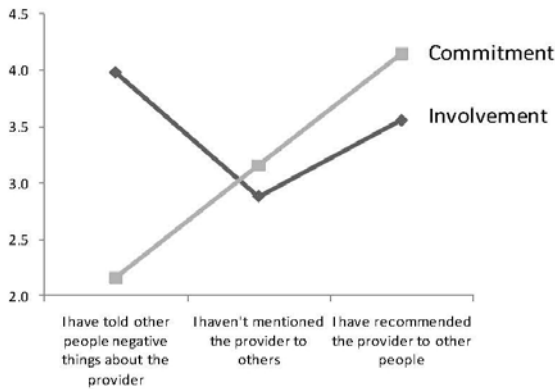


Figure 7: Involvement, commitment and word-of-mouth

The most positive towards the provider were the customers in the high involvement / high commitment group: 88 % of the respondents in this group reported that they had recommended the provider to someone, whereas 81 % of the Low Involvement / High Commitment reported to have recommended the provider. Again we can see that involvement seems connected to the general level of activity, while commitment directs this activity in a certain direction.

This notion was supported by a multiple regression analysis which showed that customers' rating of their switching propensity was negatively related to commitment and positively related to involvement (Whole model's $R^2 = 0.191$ and $p < 0.000$, individual variable's $p < 0.000$) In a multiple regression, involvement was positively related to comparing providers, while commitment was negatively related.

Table 9: Involvement, commitment and comparing providers to each other

“I actively compare different online monetary gaming providers to each other”				
Model significance	Model R ²	Variable	Beta-coefficients	Variable significance
p < 0,000	0,406	Commitment	-0,104	p = 0,039
		Involvement	0,821	p < 0.000

There was a significant relationship between the level of involvement and age of the customer. The greater the age, the less involved the customer. Commitment was not related to age. Involvement also had a significant positive relationship with using the service as a venue for socializing with friends ($p < 0.000$). The findings are summarized in figure 8.

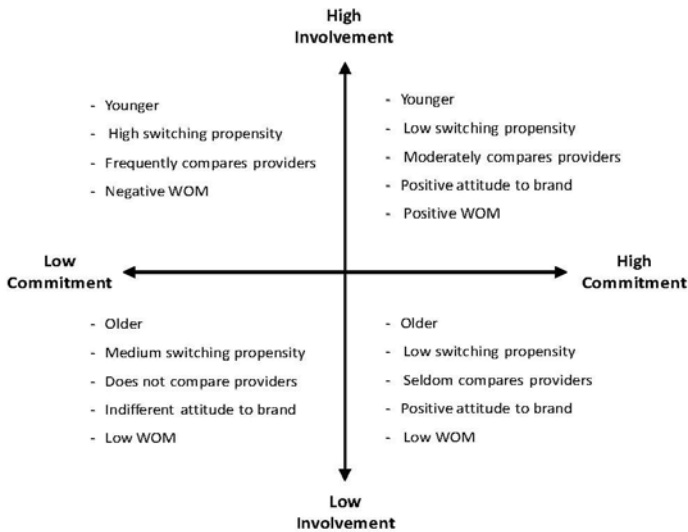


Figure 8: Relationship between attitudes, background and involvement / commitment

Discussion

In the empirical study a key issue was to investigate whether a customer energy-based categorisation of customers having a formal relationship with the service provider provides the marketer with important insights about customer profitability. Based on earlier studies differences in spending behaviour was expected. The findings showed that both involvement and commitment affects spending behaviour and customer profitability. Furthermore, the combination of these elements, labelled customer energy, showed to provide a diagnostically valuable way of forming customer portfolios. The model has earlier been used in a broad qualitative study (Mattinen, Strandvik and Raulas 2001) and has proved to differentiate between consumers' attitudes and behaviour for several different services. Additionally, the authors have used the model in small scale quantitative pilot studies where results also have indicated that model has potential. The empirical study reported here is, however, a first attempt to relate customer energy to customers' use of a service in monetary terms.

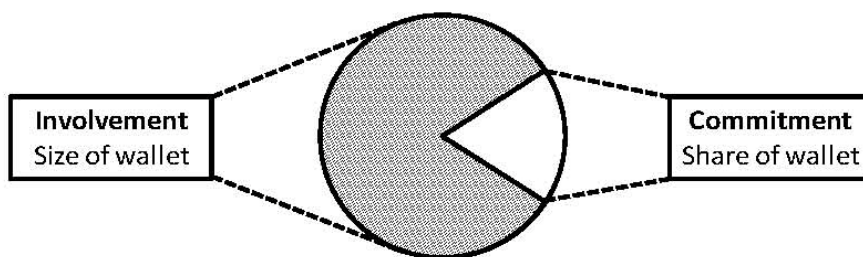


Figure 9: Customer spending within a certain life area or theme

Figure 9 indicates how the influence of involvement and commitment on a customer's spending is divided. The shaded area represents maximum potential revenue for a particular service provider and the white are actual revenue. This model was supported by the data of our study. Life theme involvement is the overall level of energy and effort a consumer uses within a particular area of his life, and is reflected in for example the overall spending at all providers within this area, while relationship commitment is related to the share of this activity which is directed towards a particular service provider.

Considering attitudes, involvement broadens the scopes of the consumer, and raises the awareness of alternatives. This means that high- and low involvement

consumers have different reasons for being committed to a particular provider. Figure 10 shows the main characteristics of the four groups: Low involvement / low commitment customers are indifferent, and can easily be tempted over by a competitor. The high involvement / low commitment group is actively looking for the best deal, and juggles relationships according to their own needs. High involvement / high commitment customers are aware of the alternatives, and have settled for a particular provider, which they know to be the best. Low involvement / high commitment customers, on the other hand, have simply decided on a particular provider, and are not interested in learning about the competition.

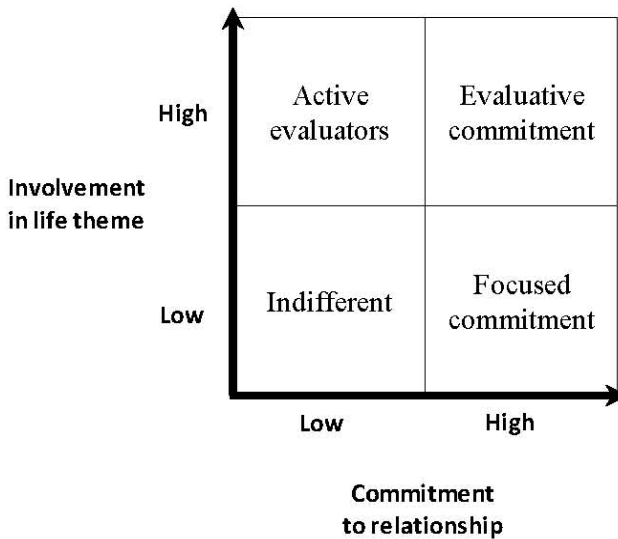


Figure 10: Characteristics of the involvement / commitment groups

The key advantage with the model and the elements of the model, life theme involvement and relationship commitment is that they can be considered to capture a customer's relatively stable mental predisposition and behavioural pattern and has thus predictive power beyond for example customer satisfaction measurements. As commitment has shown to be a useful in diagnosing customer relationship dynamics (the Conversion model in Richards 1996, Hofmeyr and Rice 2000) it seems reasonable to expect that the customer energy model also would have such characteristics. This represents one area for further research. Another is to look more closely into whether customer profitability portfolios can be formed based on customer energy data.

Implications for practice

For practitioners the model represents a rather straight-forward approach that complements customer satisfaction measurements, and has a stronger emphasis on customers' enduring patterns of communicating, searching for information, relating to the company's relationship development initiatives, considering switching service provider, and spending money. As the model is easy to operationalize and administer quantitatively, it should provide an opportunity to collect information about customers that has not been used in the company earlier.

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Innovative approaches to analyzing the Price Sensitivity Meter: Results of an international comparative study

Introduction

Over the past decade, value pricing has been repeatedly identified as one of the key drivers for successful price management (Hinterhuber, 2004; Simon, 2004; Ingenbleek, 2007; Hinterhuber, 2008; Wardell, Wynter and Helander, 2008). One of the key elements in value pricing is the precise measurement of the customers' willingness-to-pay (WTP). In academic research, methods like conjoint measurement (e.g. Kalish and Nelson, 1991; Jedidi and Zhang, 2002; Völckner and Sattler, 2005; Iyengar, Jedidi and Kohli, 2008) and auctions (e.g. Kamins, Drèze and Folkes, 2004; Ding et al., 2005; Sichtmann and Stingel, 2007; Stern et al., 2008) have received a great deal of attention; however, in applied research, the Price Sensitivity Meter, also known as Van-Westendorp-Method, has become a very popular approach. The PSM dates back to the Dutch Researcher Peter van Westendorp, who presented the method back in 1976 (van Westendorp, 1976). Since then the method has only undergone minor changes and improvements. It is still used in basically the same way as it was presented in the 1970's.

The method can be characterized by a number of advantages, such as its ease of use or its low cost (Hofmann, Lederle and Felsch, 2006; Wildner, 2003). Additionally, the analysis can be carried out with standard computer programs and interpretation is relatively straightforward. However, the method has been frequently criticized as it lacks a profound mathematical and theoretical grounding. (Müller, 2009) The interpretation of the PSM is based on intersections of different cumulative frequency curves, but it remains unclear why those intersections justify a price recommendation or set the relevant price range. The main criticism from our point of view is that current PSM-based price recommendations are not linked to the main goals of a company, namely revenue and profit.

The main goal of this paper is to present a new interpretation method for the PSM that allows one to derive price recommendations from the PSM that indicate the profit and revenue optimized prices. We test our argumentation in a cross-cultural study executed in the Business-to-Business sector in the UK, France and Germany. We use the survey data to demonstrate how the classic interpretation can be expanded to arrive at a revenue and profit maximization. Additionally we compare the results of the classic PSM approach to our newly developed interpretation method to demonstrate the advantages of the new method.

Theoretical background

Researchers and practitioners can choose from a variety of methods to measure consumers' willingness to pay (WTP). According to Miller and Hofstetter, 2009b these various methods can be subdivided into two main categories: methods that elicit actual WTP (AWTP) and methods that measure hypothetical WTP (HWTP). AWTP indicates consumers' real (i.e., true) willingness to pay in other words, the maximum amount of money the consumer would spend for a product in a real purchasing situation. Measurement concepts to elicit AWTP comprise methods such as auctions (see Sattler and Nitschke, 2003 for an overview), lotteries (Becker, DeGroot and Marschak, 1974; Wertenbroch and Skiera, 2002) or analysis of past purchase data. In contrast, eliciting HWTP means that the consumer, when stating his or her WTP, is aware of the fact that his or her WTP statement will not have economic consequences (Miller and Hofstetter, 2009a). In fact, respondents do not have to actually buy the product or service for which they state their WTP.

Despite a confirmed hypothetical bias between AWTP and HWTP methods (Harrison and Rutström, 2008), HWTP methods are widely used in practical and academic research. HWTP can be measured directly or indirectly (Backhaus et al., 2005). Direct approaches to measure HWTP comprise different question formats used in techniques of applied market research, such as the Price Sensitivity Meter (PSM) (Gabor and Granger, 1964; van Westendorp, 1976). An indirect measurement of HWTP is conducted by means of conjoint-measurement methods (Gustafsson, Herrmann and Huber, 2007).

Recent empirical studies indicate that direct methods are not necessarily inferior to indirect methods with regard to reliability and external validity (Sattler and Nitschke, 2003; Völckner, 2006; Hofstetter and Miller, 2009). Furthermore, there is evidence for the importance of the direct approach in practical market re-

search. A recent study among pricing managers of Swiss companies shows that a majority (68 %) of the companies that apply price-related marketing research use direct methods to determine hypothetical demand for their products (Hofstetter and Miller, 2009). Hence, direct approaches to elicit WTP have a high relevance for practical market research. This is mostly due to time savings, cost advantages and an easier application compared to indirect methods (Völckner, 2005; Backhaus et al., 2005). Because of the widespread use of direct approaches to elicit WTP in practice, further optimization of direct approaches is indispensable.

The Price Sensitivity Meter

The Price Sensitivity Meter (PSM) is based on four direct questions to elicit the WTP of the customer. The questions, which are presented below, are comparatively short and can be cost-effectively integrated into questionnaires (see e.g. van Westendorp, 1976; Kupiec and Revell, 2001; Weiner, 2001; Müller, 2006):

- At what price would you consider the product too expensive and you would not consider buying it? (Too expensive)
- At what price would you consider the product to be so inexpensive that you would doubt its quality and would not consider buying it? (Too cheap)
- At what price would you consider the product to be getting expensive, but you would still consider buying it? (Expensive)
- At what price would you consider the product to be getting inexpensive, and you would consider it to be a bargain? (Cheap/Good value)

The answers to these questions yield four different price points for each respondent. Subsequently, these price points can be used to plot cumulative frequency distributions. These frequency distributions can be depicted as follows:

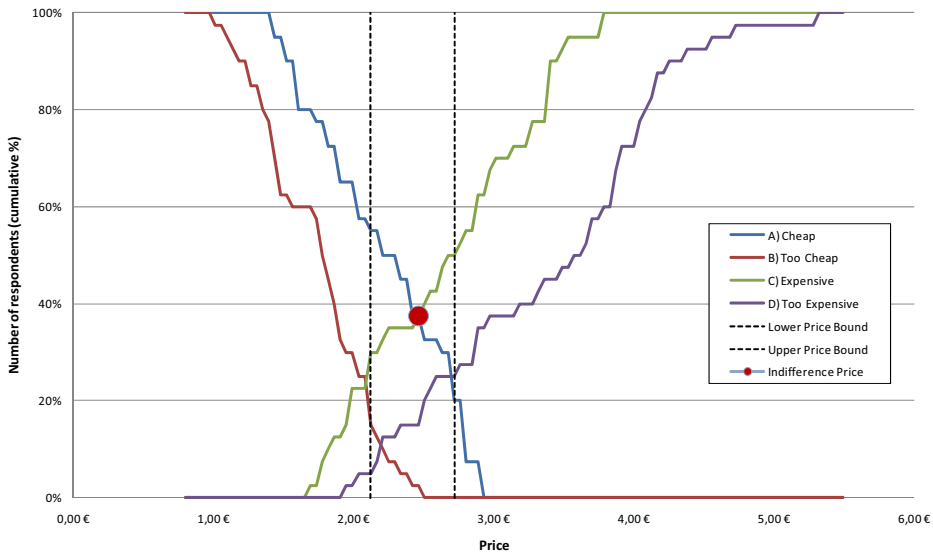


Figure 1: PSM frequency distributions

The accumulation of frequencies (in %) along the price axis results in two declining and two increasing distribution functions that indicate what percent of the respondents stated that the particular price was too cheap, cheap, expensive or too expensive. The intersections of the curves are then used to deduce price ranges and recommendations. The price points that are traditionally used for analyzing the PSM are, briefly, as follows:

- In the PSM, the intersection of curves A and C is referred to as the indifference price. The indifference price refers to the price at which an equal number of respondents rate a product as “cheap” (question A) and “expensive” (question C). The indifference price is often interpreted as the optimal price, and a central price point in the PSM (Müller, 2009). However, it remains unclear why a price that is rated from an equal number of respondents as expensive and cheap should be the optimal price for a product.
- The intersection of curves B and C denotes the price point at which an equal number of respondents rate a product as “too cheap” and “expensive” (Wildner, 2003). Generally, this price point is interpreted as the lower price bound. Again, it remains unclear why exactly this intersection determines a price threshold.

- The upper price bound is deduced in the same manner. It can be found at the intersection of curves A and D. The upper price bound is the price at which an equal number of respondents rate a product as “too expensive” and “cheap.”

Criticism of the present analysis and development of an improved approach to analyzing the PSM

The price recommendations derived from the PSM are based on the intersections of the different frequency distributions. However, it remains unclear why the intersections justify price recommendations. The PSM offers neither mathematical nor theoretical reasoning why the intersections can be interpreted as price barriers and price recommendations (Müller, 2009). The intersections are not linked to the target system of a company. A company intends to optimize either profit or turnover, but none of the intersections have a link with the company's turnover or profit goals (Hofmann et al., 2006; Wildner, 2003). The classic PSM analysis can provide first indications towards optimal prices. Nonetheless, the traditional analysis method based on intersections needs to be modified and complemented to deduce concrete recommendations for applied price management.

The key goal of the new interpretation approach is to develop a method that is able to deduct a price recommendation that delivers a profit and revenue optimized price. To deduct these price points a Price Response Function (PRF) is needed, as the PRF allows a direct calculation of the revenue and profit curve. Thus, the key element of the new interpretation approach is the derivation of the PRF from the Van-Westendorp data. As the PRF depicts the maximum WTP of the customers as a frequency distribution, there is a very close link to the classic Van-Westendorp analysis, which are also frequency distributions.

Looking at the four van Westendorp questions, this maximum WTP is elicited in question C of the van Westendorp technique: “At what price would you consider the product to be getting expensive, but you would still consider buying it?” If a product is starting to get expensive but a customer still intends to buy it, the result is the customer's maximal WTP. Hence, question C yields exactly the data that is required for the price setting process. Subsequently, the maximal WTP as elicited via question C is used to derive a price response function. This is achieved by inverting curve C horizontally. The outcome of this is a decreasing PRF. The PRF is then used to derive a turnover function. Additionally, a profit function can be calculated by taking variable costs into account.

Hypothesis development

Our objective is to develop an additional approach to analyzing the PSM, since the defined intersections are not connected to a firm's target system. We want to compare new price points that optimize revenue and profit with the results from the classic interpretation. Therefore we focus on the indifference price from the PSM, which is often used to derive recommendations in applied market research. We used data from an international business-to-business study to compare the indifference price with the turnover-optimizing and profit-optimizing prices of our extended method. Because the indifference price is not connected to the firm's target system, we assume that the turnover-optimizing and profit-optimizing prices will be different from the indifference price. This leads us to the following hypotheses:

H1: The price that optimizes turnover is different from the indifference price.

H2: The price that optimizes profit is different from the indifference price.

The hypotheses include the idea that companies that rely on the indifference price do not have the right price to optimize either their profit or their turnover.

Since our research is based on an international study that was carried out in three European countries, we can test hypotheses 1 and 2 in an international context. It is our objective to validate H1 and H2 in Germany, France and the UK. If H1 and H2 can be accepted in all countries, we will obtain further evidence for the validity of our approach. As the countries have different market conditions, we expect the optimal prices to differ between the countries. However, prices that optimize turnover and profit should be consistently above or below the indifference price from the classical PSM. Thus, we propose the following hypothesis:

H3: In all countries, the profit-optimal and revenue-optimal prices are consistently above or below the indifference price from the PSM.

Empirical findings

To test our hypotheses, we selected an international study from the B2B sector. The study used the PSM in order to determine the optimal price for a new product. A total of 300 customers were interviewed by telephone interviews. Due to practical reasons question D ("too expensive") was omitted. The survey data were then analyzed using the classical and the newly developed method to reveal systematic differences between the two approaches. Figure 2 displays the results of the classical analysis for UK, which resulted in the following frequency distribution.

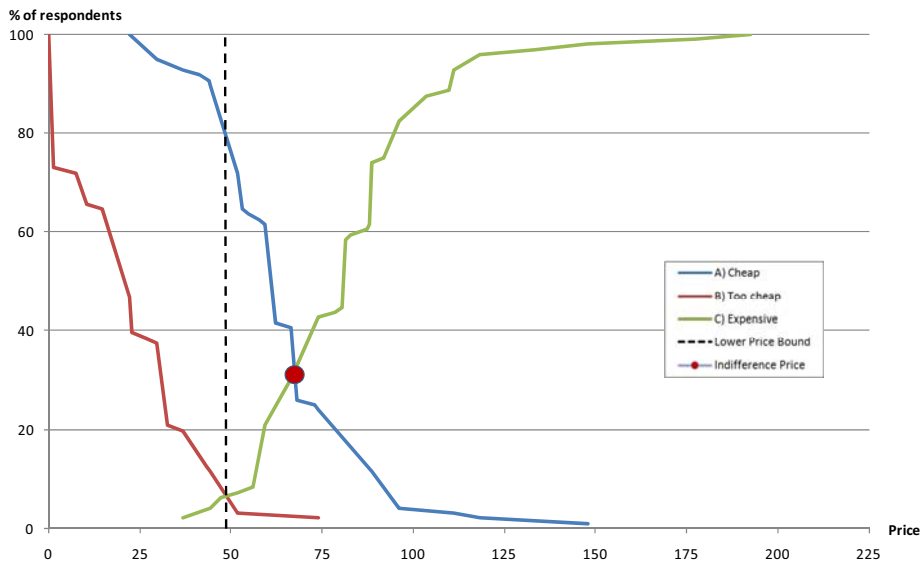


Figure 2: PSM frequency distributions for the UK

Figure 2 depicts only three frequency distributions, as question D was omitted in the study. The intersection between curve A and C, interpreted as the indifference price, is marked with a red dot. The indifference price for the UK is 67,50. The corresponding indifference prices for France and Germany are EUR 51.95 and EUR 50.86, respectively.

The price difference in the three countries is not surprising, as different market and competitive situations can cause a different willingness-to-pay for the customers. The interesting question from a management perspective is, whether the results from the classic PSM analysis have a systematic relationship with the prices that result from the new analysis that optimizes the profit and revenue. Therefore, questions C (“expensive, but still acceptable”) was converted into a PRF as described above. Based on the PRF, both a revenue function and a profit function could be derived, which allows for the calculation of the profit and revenue optimizing price.

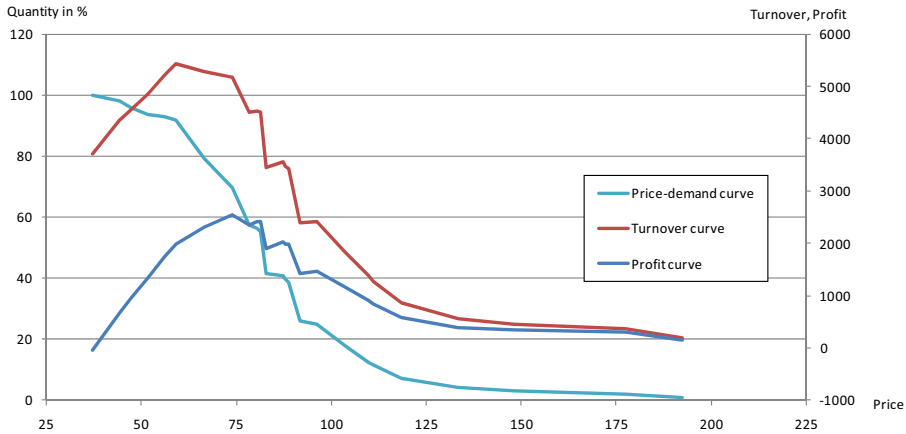


Figure 3: UK price response function

Figure 3 presents the results for the UK. The PRF has both elastic and inelastic sections. In the upper price range (>90 EUR) and in the lower area (<60) the curve tends to be rather inelastic, while the most relevant area, between 60 EUR and 90 EUR, can be characterized as rather elastic. More important, however, is the fact that both curves have an unambiguous maximum that means, there is a clear recommendation for price optimization. The price that maximizes revenue in the UK is 59.20 EUR. Hence, this price is approximately 12% below the indifference price that was derived from the classic PSM analysis.

Additionally, by using cost data, a profit-optimized price can be calculated from our new interpretation method. To arrive at the profit curve depicted in Figure 3, we used the profit formula: $\text{Profit} = \text{Price} * \text{Quantity} - \text{Cost}$, which allows for a calculation of the profit at every price point. Again, this curve has an unambiguous maximum. The price that maximizes profit for the UK is 74.00 EUR.

Table 1: UK results overview

Country	Price for turnover maximization	Indifference price	Price for profit maximization
UK	59.20	67.50	74.00

Thus, the indifference price is equal to neither the turnover-maximizing nor the profit maximizing price. There is a difference of at least ten percent between the three price points. Consequently, H1 and H2 can be accepted.

Subsequently, an international comparison of optimal prices was carried out to test H3. The country comparison of turnover-optimized prices, profit-optimized prices and indifference prices is depicted in Figure 4.

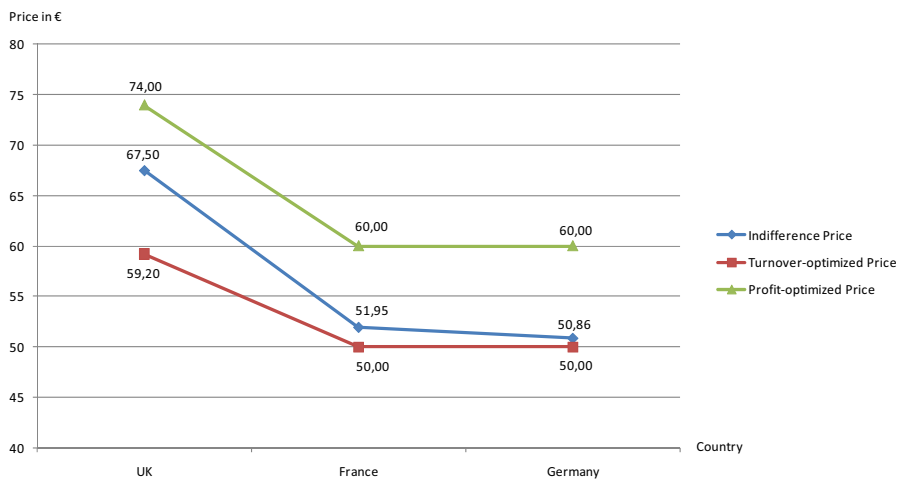


Figure 4: Country comparison

Figure 4 shows that the study yields similar results in all three countries. In each of the countries the turnover-optimized price is lower than the indifference price. The indifference price systematically overestimates turnover-optimized prices in our sample. Hence, companies would give away turnover potential if they used the indifference price for price determination. Furthermore, profit-optimized prices are higher than the indifference prices in all three countries. Thus, the indifference price underestimates profit-optimized prices in all countries. Consequently, companies would give away profit if they determined prices on the basis of the indifference price. Overall, Figure 4 shows that the results are consistent in all countries. Therefore, H3 is supported by our data.

Based on the findings of our empirical study, we recommend analysis by means of our newly developed turnover and profit maximization methods. A price recommendation can only be deduced if turnover or profit is taken into account.

Conclusions and directions for future research

The Price Sensitivity Meter (PSM) is a very popular and widespread method used among practitioners to elicit the willingness-to-pay. However, the method has been criticized frequently due to its insufficient theoretical foundation. As the price recommendations derived from the PSM are based on intersections, there is no clear link to the profit system of the company. The newly developed interpretation approach for the PSM bridges this gap and allows for an analysis that derives a price optimizing the profit and the revenue, respectively.

Empirical research showed that the price recommendations from the classic Van-Westendorp approach also lie between the profit and the revenue-optimized price. Hence we recommend using our newly developed approach, as it gives the company the freedom to decide for itself whether it wants to optimize profit or revenue.

However, there are some limitations to our study which induce a need for further research. These include the geographic region of our sample. The study has been carried out only in the UK, France and Germany. All countries are located in Western Europe and have a similar cultural background. In order to generalize the results, more studies involving countries from different cultural backgrounds are needed. Moreover, our respondents stem from the B2B sector. This was a purposeful sample, as there was a particular lack of research concerning WTP in the B2B sector. Nonetheless, it could be valuable to investigate our hypotheses on the basis of a B2C sample.

Further, the results should be generalized by varying the research object across different product categories. Findings from other pricing studies indicate that the product category can have an influence on the results (Backhaus et al., 2005).

Finally, we may need to compare our direct approach to measure the WTP with indirect methods. It has been criticized that the PSM does not take the competitive context into account explicitly. In real purchase situations consumers derive their WTP in relation to the available competitive products. Therefore, a comparison of our analysis with indirect methods to elicit the WTP might be useful. Conjoint analysis is a tool that is also widely used in practice. It places different product alternatives in a competitive context. Consequently, the resulting WTP might be closer to the consumer's real WTP. It could be interesting to compare optimal prices calculated by means of our newly developed method with optimal prices calculated by means of conjoint analysis in order to investigate whether there is a significant bias between the two methods.

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Can integrated content and congruent sense technology enhance tourism business and/or user experiences? Case: Pömpeli

Abstract

Case Pömpeli was introduced at the Helsinki airport's extended international terminal in December 2009 and draws on the assumption that in order for tourism communication and user experiences to be interesting multiple senses should be activated and aroused.

Case Pömpeli is a multidisciplinary and multisensory project developed at Laurea University of Applied Sciences (Laurea) Kerava unit involving students, working life representatives and lecturers from different fields of study, i.e. business information technology, tourism and business management. Case Pömpeli argues that traditional marketing methods in the tourism sector are insufficient, at least for the purpose of creating ambience, experience, authenticity, attention and interest for new services or destinations as selling a holiday could or should be viewed as the equivalent to selling a dream. Laurea staff and students thus investigated different techniques and technologies in order for transit passengers to experience Finnish tourism and atmospheres through the activation of multiple senses. Hence, while videos are playing, the colours, sounds, scents and wind effects change accordingly, to support content and to arouse interest towards Finland.

There are many studies showing that congruent multisensory stimuli can have a positive impact on sales, behaviour, brand perception, mood, emotions, interaction and ambience. There are, however, not many studies showing the out of scope impact and effect that the integration of multiple senses, content and congruent technology have on the communicative experience, tourism business and/or user behaviour. This paper seeks to understand whether integrated con-

tent and congruent sense technology can enhance tourism business and/or user experiences, case: Pömpeli.

Key words: multisensory marketing, content integrated multisensory technology, usability, user experience

Introduction

A gateway-traveller has plenty of time. He moves around the Helsinki-airport transit area without a specific goal, sees an interesting construction and enters the space. The space is filled with good ambience, tranquillity and excitement. He chooses from the touch screen an icon and touches the picture of Finnish summer. He soon hears the seagulls noising and feels a warm breeze on his face combined with a scent familiar from the sea. He leans back and listens to breathtaking music picturing the market place in central Helsinki. He dives into the experience together with co-travellers, interactively, enhancing authenticity and excitement.

Case Pömpeli was introduced at the Helsinki airport's extended international terminal in December 2009 and draws on the assumption that in order for tourism communication and user experiences to be interesting multiple senses should be activated and aroused (Lindstrom and Kotler 2005). Case Pömpeli is a multidisciplinary and multisensory project developed at Laurea University of Applied Sciences (Laurea) Kerava unit involving students, working life representatives and lecturers from different fields of study, i.e. business information technology, tourism and business management. Case Pömpeli argues that traditional marketing methods in the tourism sector are insufficient, at least for the purpose of creating ambience, experience, authenticity, attention and interest for new services or destinations. Selling a holiday could or should be viewed as the equivalent to selling a dream. (Holloway 1998, 4.) The methods of marketing promotions are often not sufficient as they tend to overemphasize the visuals. To be responsive, tourism communication should, according to our understanding, appeal to all user senses in an intermedial mix. Hence, smell, sound, touch, taste and sight, co-experience, ration and needs must be touched in order for tourism communication to be engaging. Multisensory marketing can be described as the activation of senses, when one is stimulated, the next one is aroused which activates the next etc.. (Lindstrom, 2005, 31.)

Hammond (2008, 77) argues that most companies only appeal to the visual sense. According to Lindstrom (2005, 67–71) most companies appeal to two senses, typically visual and hearing.

There are approximately 100 000 different scents in the world out of which about 1000 are so called primary scents and the rest are combinations. (Lindstrom 2005, 92.) The olfactory bulb in the brain is part of our limbic system, hence vital for memory, emotion, associative learning and mood. Lindstrom's (2005) research shows that 75 % of our emotional states depend on what we smell, not on what we hear or see. Moreover, we can recognize a smell with 65 % accuracy after one year when the corresponding figure for a visual picture is 50 % after three months (Österberg 2008). Lindstrom (2005, 82), shows that for processing information and for the purpose of perception, the scent sense is our most important sense (visual being number one). Customers to whom the visual sense is dominating base their decisions on how things look. The auditory consumers on the other hand use their hearing sense to process information and, base their decisions on what they hear, whereas cinesthetics use their taste, scent and touching senses to process information.

Scent marketing has been applied by coffee shops and bakeries for decades. Research conducted by Maureen Morrin and Jean-Charles Chebatin (2005) shows that a subtle use of lemon increased store-sales by 63 %. The use of scent is also argued to have an effect and impact on our sense of time, i.e. scented areas enhance the feeling of timelessness (Spangenberg et al 1996). Moreover, there are studies relating scent with social interaction, consumer behaviour and brand marketing, showing e.g. that odoured areas increase the usage of slot-machines (Hirsch 1995), that ambient scent has a positive effect on social interactions (Zemke and Shoemaker 2006), that queuing is perceived less stressful in scented areas (Mc Donnell 2002). Lindstrom (2005, 100-101) has shown that our mood is enhanced by 40 % in pleasantly scented surroundings. Mattila and Wirtz (2001), Morrin and Chebat (2005) and Spangenberg et al (2005) have, however, concluded that in order for environmental stimuli to be effective it has to be compatible and congruent.

Lindstrom's research (2009, 163-154) also shows that a picture, when combined with a compatible scent, is better perceived and memorized. Moreover, Martin Österberg (2008, 92) argues that scent can have a strong impact on ambience, mood and behaviour, but in order for it to be effective, it has to be clearly linked to the service, situation or space. In the Bitner service scape model (1992) it is assumed that the optimal combination of temperature, lighting, sounds, music and scent have an impact on customer behaviour. In "The use of multiple senses in tourism marketing communication" research- project, Isacson & Alakoski 2009, were able to show a strong positive correlation between the use of scent, visuals, sounds and sales. With multisensory stimuli added to the sales

situation (city sightseeing tour), the half day national park tour sales increased by 51% (weather and other conditions were more or less the same during the second and third study period).

There are hence many studies showing that congruent multisensory stimuli can have a positive impact on sales, behaviour, brand perception, mood, emotions, interaction and ambience. There are, however, not many studies showing the out of scope impact and effect that the integration of multiple senses, content and technology have on the communicative experience, tourism business and/or user behaviour.

This paper seeks to understand whether integrated content and congruent sense technology can enhance tourism business and/or user experiences, case: Pömpeli.

Case Pömpeli, a description

Laurea's cross-disciplinary programmes had a vision, i.e. to create a multisensory space, for the benefit and purpose of attracting more foreigners to Finland through multisensory tourism communication. The question where to place Pömpeli was raised in 2008. The Finnish airport administrator (Finavia) expressed interest and recognized two objectives for Pömpeli at Helsinki airport's new, extended international terminal 1) to differentiate themselves from other airports and 2) to create interest among transit passengers for Finnish tourism, e.g. Lapland (airports). Finavia thus offered six square meters of space in the non Schengen terminal at Helsinki Airport for the development and placement of Pömpeli. The Airport Business Director, Reijo Tasanen at Finavia, states in an interview (Aviapolis 3.08, p. 3) in the midst of the enlarging process of the international terminal that "we have to find something more, something that an Asian traveller needs, to differentiate ourselves with". In this article and interview Tasanen furthermore states that: "Laurea's students will create a virtual Finland in which one can see trees, smell the spruce tree, and sense the clouds of powder snow" (Aviapolis 3.08, p. 3).

Laurea staff and students thus investigated different techniques and technologies in order to experience Finnish tourism and atmospheres through the activation of multiple senses. The following components were hence carefully coded and integrated within Pömpeli; a computer, content (six videos), a 46 " full HD display with touch surface, a multi-channel sound system 5.1, a scent machine, a lighting system and a wind machine. Thus, while videos are playing, the co-

hours, sounds, scents and wind effects change accordingly, to support content and to arouse interest towards Finnish tourism. A remote/control management system was also connected to Pömpeli, i.e. power control with an update function, video surveillance and maintenance services. Moreover, integrated Pömpeli consists of a 6 m² space and an outer design inspired by swans (Kalevala legends). We first aimed at using wood as material, but rejected the idea because of the hazards posed at the airport by any flammable elements. For the walls surrounding Pömpeli plexiglass was thus used. Moreover, we planned to use mirrors in the inside to create a 3D feeling and atmosphere. This idea was also rejected as tests proved that mirrors caused nausea. The hot/cold machine that was planned to be integrated in the multisensory system soon proved to be ineffective because of its heating and melting problems and was replaced by an effective wind machine. The upper part of Pömpeli was left open to allow place for the lighting and audio system (loud speakers), but primarily to allow scent and air to disappear smoothly from the space. Moreover, as a media-company had exclusive rights to all marketing activities at the airport's public spaces, we were not allowed to show any logos, company names, labels, brands etc. in Pömpeli.

In the Pömpeli case, the stories were created with scents as the starting point. The scents were selected through in-house scent-tests and user-studies. The six videos were planned to be about 1-2 minutes long, in order to arouse interest for Finnish tourism, mainly through nature based, innovative stories. The six scents (pinetree, x-mas scent, popcorn, clean linen, mint chocolate and coffee) that were chosen for the videos were the most appealing and authentic ones according to our studies. The selected scents represented Finland.

Pömpeli was developed and innovated during one year with the help of one lecturer, a part time lecturer, one full time assistant, one half time assistant, in addition to some stakeholders, i.e. a film- & a scent-company and Finavia, the airport administrator. Many of our peers and colleagues felt we underestimated our efforts by labeling our project Pömpeli as it does not have a specific nor an esteemed meaning in the Finnish language and as Pömpeli is often referred to as an unspecified construction (in process).

After many challenges, usability, video (Laurikainen, Palonen 2009) and user experience testing during autumn 2009 among Finnish and Asian users, Pömpeli prototype was launched to the public on December 11, 2009, close to gate 36 at the extended international terminal, demonstrating in practice how experiences can be enhanced with the help of integrated content and congruent sense technology.



Figure 1: Pömpeli in use at the opening of the new extended international Helsinki airport (Non Schengen/Asia) terminal.

Methods: Pömpeli goes business

Pömpeli goes business was introduced as a case study in tourism during autumn 2009. Laurea students interviewed experts (international professors, in-house experts and media, event- and tourism business operators) with the help of Laurea researchers in order to find out about Pömpeli's business potential and future prospects, i.e. experts views and interests for Pömpeli, for a lighter version, other type of applications, contexts and use. Interview-discussions were held with among others, Laurea in-house technical experts (3), a Professor at the Technical University of Helsinki (1), the Curator of the National Museum of Science and Technology in Stockholm, producer of 4D multisensory films (1), a researcher at the Swedish Institute of Computer Science (1), two Swedish brand- and marketing experts at a consultant company specialized in public airport installations (2) and with two Professors at the Royal Institute of Technology in Stockholm (2) in addition to Finnish media-agencies (3), a tourism journalist

(1) and event-operators and representatives (3). All experts were carefully selected and defined as experts due to their vast experience and know-how in this or related fields. The Pömpeli project was demonstrated to experts through project web-pages, oral and written descriptions, and with the help of pictures and videos. Guidelines were given, codes of conduct were discussed and interview forms were developed during- and in-class.

Expert views

Laurea in-house Pömpeli experts stated that mobility, weight and cost were of out- most importance in the next development phases. If all of the equipment could be packed into two safe and durable aluminum cases, light enough for one or two persons to carry, that would allow mobility, possible commercial viability and further Pömpeli use. The overall challenges mentioned were related to cost, space, weight, easiness in use, safety (overheating), maintenance and warranty, supported audio, scent and video formats, electricity, air conditioning and overall operational quality. The development of a lighter micro Pömpeli was though considered both expensive and challenging. In addition the effectiveness was questioned, i.e. is it as engaging as a public/macro installation?

One of the Swedish experts mentioned Morton Heilig, who already in the year 1960, developed a game called Sensorama. The game gave the players an experience of riding a motorcycle at the streets of Brooklyn. The player felt the wind on his face, the vibration of the motorcycle seat, a 3D view, and even the smells of the city. In general, the Swedish experts valued the idea of creating a multisensory environment for the purpose of promoting Finland among transit passengers at Helsinki-Vantaa airport, as good. In addition, Pömpeli was termed innovative, informative and experiential, i.e. a positive effort in relaying messages and experiences of Finland for the purpose of marketing. Similarly, the Swedish experts wanted to know about the hardware and software used. Two experts thought that the reason for placing Pömpeli at the airport, however, was to prevent boredom among passengers, which effectively was and had been one of the airport's aims in this project. Moreover, it was suggested that a micro-device could lack authentic multisensory feeling even for a small group of users due to its compact size. Hence, the Swedish experts indicated that the macro, public Pömpeli would have higher business potential. The interest and target groups suggested were airports, cinemas and interactive media, medical science, educational institutions, shopping malls, exhibition, fair traders and museums, cruise ships and other public places.

A Finnish Recycling Event Manager mentioned that such a device could be used in his recycling event to create an experience about the lifespan of consumables; beginning with the creation process and ending with the smells of a landfill. Similarly, the interviewee mentioned that renting the device was a better option for his business, but that he would like to test it before making any purchase decisions. The interviewee also mentioned that the name Pömpeli gives the device a cheap impression.

The two Art Event interviewees were fascinated by the idea of Pömpeli as they did not have any previous personal experiences of similar products, but had heard of the use of senses such as touch, hearing, and sight in marketing. The combination of aroma was a new concept for them. The interviewees mentioned that the lighter version may lack the feeling of authenticity and experience when used for marketing purposes. They also felt that Pömpeli would be too expensive for their budget and that a desktop version could not cater mass large audiences. The Art Event interviewees also stated that Pömpeli could be more desirable if one could order the videos and scents and not have to produce them oneself which was envisioned as difficult and expensive. The interviewees recommended that the name Pömpeli wasn't suitable and should be changed especially if targeted internationally.

The Tourism Journalist at a daily newspaper interviewee mentioned that the sounds in the Pömpeli videos were excellent, but that the content in the videos were missing a bit of romanticism and she also proposed the use of subtitles for some videos. When asked about the word "Pömpeli" the interviewee mentioned that it was a bit awkward, but for foreigners it could be easy to remember and suggested that the idea of a multisensory platform could be used at airports around the world to promote Finland. The idea of a lighter, portable Pömpeli for international trades and other marketing occasions was considered to be practical and she suggested that for example in Japan the machine could make a remarkable difference in the promotion of Finland.

The Media Agency interviewee's reaction towards Pömpeli-project was positive and he considered it to be a good business idea. The design of the Pömpeli was not so good in his opinion because of the "swans". He pointed out that the structure is too much focused on the inside. He thought that it would be good if there were attractions also on the outside walls. If the portable Pömpeli was light, easy to build then it could have great potentiality according to the media-interviewee. Outer design could have elements of water, pine trees and sauna-walls. It was also mentioned that Pömpeli could be used in railway and bus stations as well as in hotels, museums, cruisers, and all kinds of places where there are lot of

tourists. The interviewee mentioned that he travels a lot and would like to see such a device in other airports around the world.

Another Media Representative interviewee considered the idea to be brilliant, but she didn't like the name and suggested that it should be called something modern, striking and more sophisticated than Pömpeli as it means "shack" in Finnish. New innovative ideas she shared was to use famous Finnish paintings, our national epic, nature, birds, trees and grass in the content. She suggested that the portable version could be used also for other purposes than marketing, e.g. for wellness purposes.

Hence, many proposals related to the design and attractiveness in addition to content (videos), name (Pömpeli) and additional Pömpeli contexts, video subtitles, surroundings and uses for Pömpeli were suggested by experts. Many questioned the ambient impact, interest, cost and effectiveness of a lighter version. The Swedish experts in particular were also curious as to the human computer interface aspects related to Pömpeli, i.e. how do people react to such a device?

Usability and user experiences among Asian transit-passengers

When Pömpeli had been at the airport for 6-8 weeks usability and user experience research was conducted in February 2010 (1.2 and 15.2) by Laurea's 1st year tourism students in collaboration with in-house Pömpeli project experts. The aim was to find out about usability and user experiences in the authentic environment, i.e. at the airport. The study was qualitative with an ethnographic approach and interviews were conducted through semi structured interview forms using two sets of questions and two observation sheet. The interview questions contained open-ended questions allowing interviewees to share their personal views about Pömpeli. The target group for the interviews was randomly selected Asian transit passengers at the airport. The first set of interview questions were divided into 3 categories comprising a) the overall appearance and expectation b) user interface and interaction c) purpose and interest. The second set of interview questions were based on the multisensory elements/effects inside Pömpeli, use and experience. These questions dealt with the following; favourite video, use of smell elements combined with other effects, essence of each video displayed, the usability of Pömpeli and questions related to the perception and change in perception about Finland (pre/post Pömpeli experience). The aim of the observation was to observe the users, i.e. users' body

language and bodily expressions, perception, positioning, luggage, behavior, operability and interaction with Pömpeli.

The respondents were aged between age 10-50 consisting of 8 Japanese, 2 Chinese, 3 Finnish, 1 Polish, 1 Nepalese, 1 German and 1 British respondent (17 in total). The other observation form that the students filled in was related to the general surroundings and airport behaviour at the non Schengen area; i.e. transit passengers use of services, overall service and information contact points etc.



Figure 2: airport behavior

Results and discussions

Many of the passengers at the terminal waiting for the Osaka flight were Japanese, hence language was a barrier and caused some problems. Luckily one of our Japanese students was able to translate and help out. Moreover, transit passengers had to be invited for the experience in order to conduct the study as there were not enough spontaneous users at the time. No body movement or strong facial expressions were revealed by users (Asian passengers) during their Pömpeli experiences whether single or in a group. However, it was noticed that “as the smells appeared they leaned forward to enjoy them more”. Some transit passengers, particularly Asian tourists (Japanese), didn’t feel comfortable entering and some termed Pömpeli as “too technical and unattractive”. During

the use of Pömpeli they were really close to each other with their luggage in front of them (two Japanese female users in their twenties). The users did not attempt to stop the videos while they were running, but they watched them the whole way through. Moreover, two out of three participants reported “that they would tell others about the experience afterwards and they also said that it left a positive impression of Finland”.



Figure 3: User experiences

Pömpeli was not identified as a multi-sensory marketing platform from the outside, and users were not able to say what the appearance of Pömpeli is or what it does. Having experienced it they all understood the purpose of it. Users did find it easy to use, but were hesitant to enter. The upper part of the system is visible and looks very technical in some opinions, strange to a few, even a bit scary to some.

Videos displayed in Pömpeli were considered interesting and funny, but didn't generate memorable experience as they didn't change interviewees perception of Finland.

However, the videos titled “Helsinki Our Fresh Capital” aroused interest among interviewees (3) to visit the White Church and some recalled personal memories of Lapland having watched the video entitled “Memories of Lapland & Chocolate” (2).

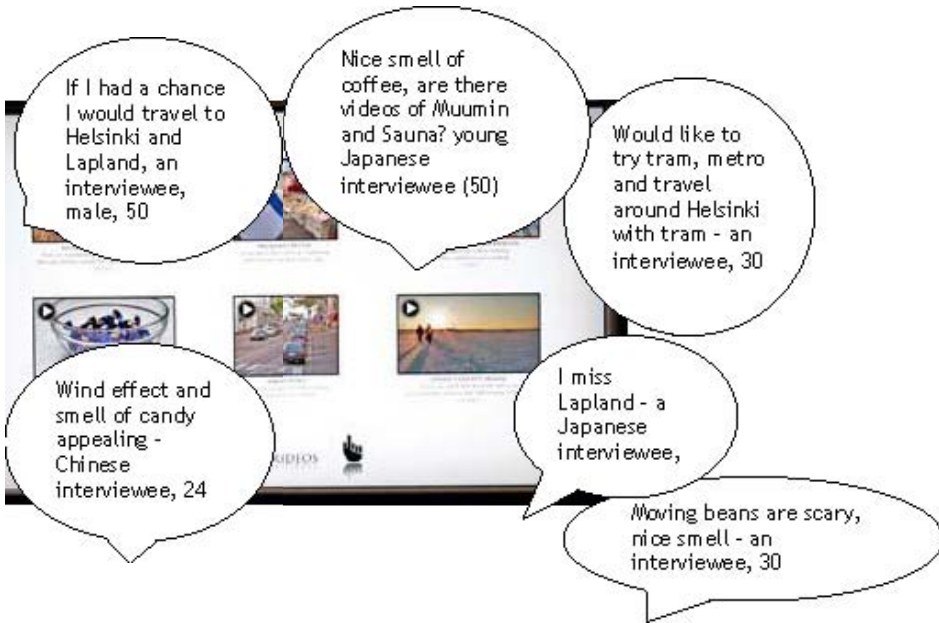


Figure 4. User comments

Interviewees also liked the videos “Amusement in Helsinki” (5) and “Stopmotion Coffee Experience” (3). “Polar Bear meets Santa Claus” (7) was very popular in particular among young users. Some interviewees suggested a more interesting choice of videos, e.g. Finnish sauna experience, Moomin and Northern Lights. It has become quite evident also from the video surveillance camera that Pömpeli has found its audience primarily among younger passengers, i.e. it is perceived fun and entertaining. Interviewees also shared their personal opinions by suggesting the display of colourful pictures of Finland on the outer walls of Pömpeli or painting the walls with some landscapes representing Finland as the presence of numerous advertisements in the surrounding area were considered more eye-catching compared to Pömpeli. The functions inside Pömpeli were described as “easy to use”. There appeared to be some confusion among transit passengers whether there was an entering cost and some Non-English speak-

ers had slight difficulty using it, i.e. some communication/language barriers were detected. Our interviewers suggested distribution of brochures or placing a signage with information of Pömpeli at the airport premises as well as footstep stickers on the floor leading to Pömpeli. At best Pömpeli was called a creative and fun filled marketing platform. Videos were perceived both interesting & funny, but not necessarily motivating them to visit Finland. Users liked the smell effects, e.g. coffee and fire.

As a consequence of the study and discussions with Finavia, the outside of Pömpeli has now (May 2010) been redesigned (see picture) for the purpose of arousing more interest and for the purpose of attraction. Moreover, Pömpeli content will gradually be changed and, hopefully, marketing in order to create awareness and attention for Pömpeli and communication for the purpose of preventing language barriers, to be developed.



Figure 5. New outer design

Conclusion

Case Pömpeli was introduced at the Helsinki airport's extended international terminal in December 2009 and draws on the assumption that in order for tourism communication and user experiences to be interesting multiple senses should be activated and aroused (Lindstrom and Kotler 2005). It was stated that

not many studies show the out of scape impact and effect that the integration of multiple senses, content and technology have on the communicative experience, tourism business and/or user behaviour. This paper seeks to understand whether integrated content and congruent sense technology can enhance tourism business and/or user experiences, case: Pömpeli.

As theory and studies (literature references) in the introductory part of the paper indicates the use of multiple senses can be used to enhance brand consciousness, to stimulate memory and emotion (scent), for the purpose of interaction and ambience (scent and sound), in order to increase sales (visual, sound and scent), for the purpose of influencing behavior (scent and sound) etc.

Case Pömpeli indicates that for the purpose of tourism marketing communication with the aim of selling dreams, it is the service, content and the narratives that are the primary drivers for interest and imagination, activity and behavior, supported by e.g. scent and sound. Hence, to create out of scape imagined authentic like experiences, i.e. to sell dreams, it is the story and service, whether told, shared, seen or imagined that should be at focus. When a good (personalized) story and service is supported with congruent stimuli,

e.g. a suitable scent, appropriate sounds (music), seductive videos or other types of visual images, ambience and taste (food, material, temperature, lighting, colors, wind), design, interactivity and usability, true interest can be enhanced, sales be increased and new images aroused.

Pömpeli has created interest among researchers, operators and media. Laurea has had demand from e.g. a mid-sized city interested in promoting the city through a mobile version of Pömpeli, a video store-chain is interested in promoting films by showing trailers in Pömpeli, a university campus with many religions for the purpose of creating a multicultural meeting place, an airport for promoting and enhancing sustainable development. It seems that public places are suitable for installations such as Pömpeli and it is also evident that the effects would suffer if the installation was small or without outer design/walls.

As for tourism business it seems that there are many challenges left, but some demand already created for a lighter / micro / mobile Pömpeli version. There are hence possibilities identified for Pömpeli light, one with adjustable attractive design and usability, harmonized with congruent content and stimulating senses depending on context, purpose, environments and culture. In order for Pömpeli, however, to become a commercially successful innovation, a viable product, further research would have to be conducted.

The current Pömpeli is an excellent example and prototype of an interesting edutainment project. The installation has created interest and enjoyment, pleasure and curiosity among many transit passengers, especially among children and families. At best people are queuing for the experience and many go there in groups. According to our studies and surveillance data Pömpeli has activated transit passengers to more than 35 000 clicks (May 2010). Pömpeli is easy to use, it works and with integrated content and congruent sense technology it has enhanced, at least to some extent, users communicative experiences.

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The Education-Enterprise Model and Its Interaction to Indian Healthcare Sector

Abstract

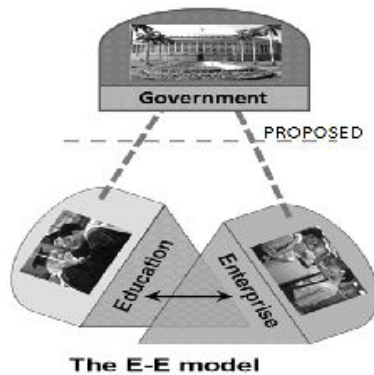
The role of academia and Industry has renewed a great degree of interest due to their wider realm of influence and stakeholder support mechanisms available with them. The Education-Enterprise (EE) model, which is the collaboration of industry and the academia, will have implications for the healthcare industry due to its increasing role in the modern economy and its strategic importance. The paper addresses this core theme by proposing to create micro-enterprises in the health domain while solving the health problems at the grassroot level of a developing society through the Education –Enterprise model. However, the government's role is context dependant due to the various inherent limitations which needs to be highlighted. The government being the enabler and the chief bearer of public welfare has a bigger responsibility to assist entrepreneurs with friendlier policy regulations and support mechanisms. The industry seeks to be a part of the healthcare based business creation mainly to further its business interest and its Corporate Social Responsibility (CSR) responsibility. Comparatively Academia intends to further its research interest to generate academic output which will be valuable for policy makers, industry partners and various stakeholders.

Introduction

The basic objective of this paper is to highlight the need for greater collaboration by the academia and industry partners in the healthcare sector in the non-metro cities of India to create employment opportunities for the poor by medical entrepreneurship. The role of higher educations and industry partnership based initiatives could be a greater design to foster innovation centric business models at all levels of the society including the Bottom of the Pyramid (BOP) as referred by

Prahalad.C.K (2005). The Higher Education Institutions (HEI) have always played important role in the creation of intellectual workforce of any nation. They are also interlinked with the industry counter-part as their output ends up serving the industry and thus acting as supporting agencies. The role of the government as a super enabler in societal development is unique as it is expected to indirectly support the collaboration without being a party to it. Thus, we propose to partner the Industry and Academia share a common interface for alleviating societal discrepancies.

Figure 1: The Education –Enterprise model



Innovation is viewed as the ability of organizations to adopt new ideas, processes or products. Learning alliances between industry and academia can enhance both flexibility and speed of innovation. Industry-University (I-U) collaboration is recognized as a critical form of learning alliance, and an essential instrument to gain speed and flexibility in technology innovation, while reducing cost in R&D (Etzkowitz and Leydesdorff ,2000, pp.117-18).

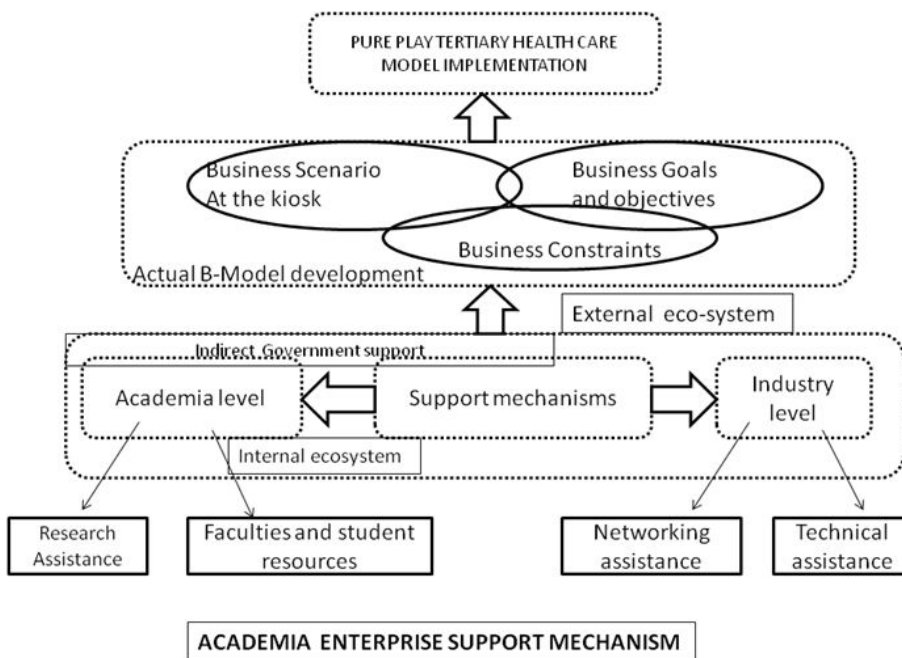
Need for Education-Enterprise Partnership in Healthcare

Industry is no longer considered as a university separate institutional sphere to which the knowledge has to be “transferred”. Industry is now increasingly present within academia, potentially co-constitutive of the knowledge production. In an asymmetrical way, the university through this institutional innovations is also co-constitutive of its industrial environment (Leydesdorff and Etzkowitz,2001).

HEIs can play an important role in micro-enterprise co-creation in the medical domain due to its wide support base and its available and quality manpower while assisting in building a viable medical research base. They have research and innovation based ecosystem. Institutions lacking an environment for entre-

preneurial thinking and innovation support mechanisms can seek necessary support from the industry sponsors for establishing the necessary infrastructure.

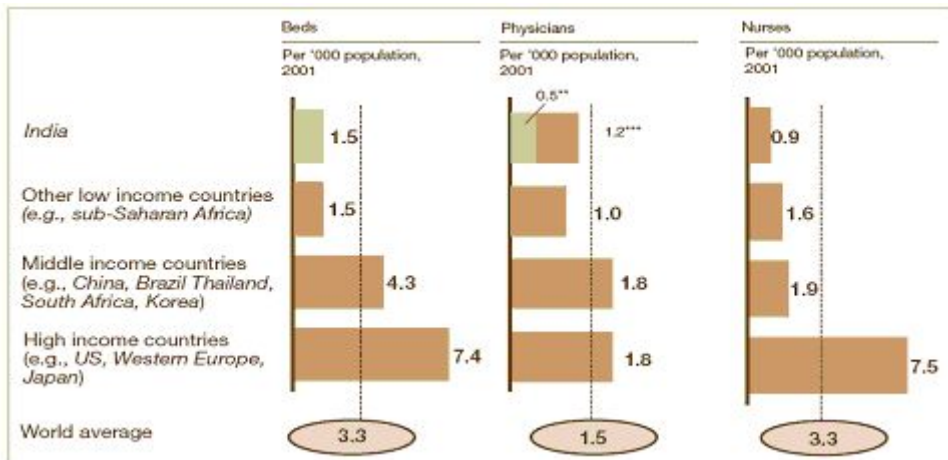
Since, health is a main concern for everyone. The rural and urban health scenario has a vast difference. The 72 percent of Indian population which is rural suffers widely from simple health ailments (Census 2001). To bridge the widening gap between the healthy urban and unhealthy rural population, HEIs must promote innovative co-business models and disruptive innovations. This co-creation must be implemented at the grass-root level in non-metro cities. Enterprise creation based on academic health partnership can enhance not only the health but also the economic welfare of the society.



HEIs like Johns Hopkins University, United States have established Medicine, Nursing and Public Health Schools to aid health research with the motto of the advancement of individual scholars, who by their excellence would advance the sciences they pursue and the society where they dwell. Most of the prominent research institutions where world class medical research is presently taking place are located inside the universities such as IIT Kharagpur, India.

Present State of Healthcare in India

Healthcare is one of India's largest sectors, in terms of revenue and employment. The growing population of India which is presently touching the 1.2 billion mark and projected to topple China by 2040 AD along with other structural fallacies needs a serious attention. The importance of healthcare in developing nations would enhance the overall world health and economy. Though the rural sector in emerging economies face a drastic setback of unavailable health services. Williams and Torrens (1984, p. 420) points out that poor health care access may be reflected in delayed care seeking, absence of preventive care, and low patient satisfaction.



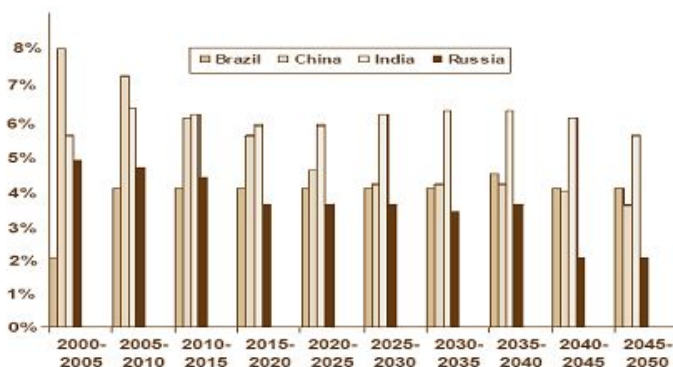
Corporate giant, Pricewaterhouse Coopers (PWC) reports on the emerging market (2007), that the Indian healthcare has grown from the annual rate of 16% in 1991 but has stagnated at 6% of GDP in 2007. India's healthcare sector is projected to grow to nearly US \$ 40 billion in next two years i.e. 2012. India has not been able to improve its healthcare infrastructure in proportion to its healthcare needs and growing population. There are infrastructural shortages in the present system especially in rural sectors which can be inferred from the below table. The following table shows a high infant mortality rate and a poor health statistics in India (National Health Profile 2008).

Table 1: Present Healthcare scenario in India

SL No	Major Indicators	India
1	Crude Birth Rate per 1000 population	22.8
2	Crude Death Rate per 1000 population	7.4
3	Total Fertility Rate (children per women)	2.68
4	Infant Mortality per 1000 population	53
5	Prenatal Mortality Rate per 100,000 live births	48.5
6	Maternal Mortality Rate	254
7	Life Expectancy at Birth (male)	62.6
8	Life Expectancy at Birth (female)	64.2

The government is not so financially strong to build up the healthcare facility in all remote areas. Here comes the role of Academia to support the Government by creating micro-enterprises in association with other industry partners. For instance, though India needs 74,150 community health centers per million populations, it has less than half that number. Moreover, at least 11 Indian states do not have laboratories for testing drugs, and more than half of existing laboratories are not properly equipped or staffed. Out of the 15,393 hospitals in India in 2002, roughly two-thirds were public (PWC report, 2007). Indian Government has marginally succeeded in its initiatives to provide basic facilities at most of the major cities but the penetration to the tertiary towns and cities of rural areas still face basic healthcare unavailability depicted by figure 4 (Goldman Sachs)

Graph 2: The growth trajectory of BRIC Developing countries *Vis-à-Vis* India



Healthcare Education in India

Medical education in India has been limited itself in promoting regular medical courses among universities having medical colleges in most cases controlled by the government. Actual research which are handled by Government supported labs like ICMR (Indian council of Medical Research) and AIIMS must be promoted to similar institutions. Consequently, enterprise creation the healthcare sector has remained little neglected. It is hence imperative to bring in the need for active industry and academia support to mitigate these lingering problems due to their wider realm of influence in their local domain.

Healthcare opportunities in the Non-metro cities for entrepreneurs

Urban citizens have good access to healthcare treatments and necessary infrastructure as two-third of the hospitals are located in such cities classified as metropolitan, tier 1 , tier 2 cities. On the contrary the rural sector faces a lot of trouble in availing proper medical facilities.

Table2: Rural –Urban Divide in India

Per Lakh (100K) population	Beds	Hospitals	Dispensaries
Urban	178.78	3.6	3.6
Rural	9.85	0.36	1.49

Source: Review of Health Care in India, 2005

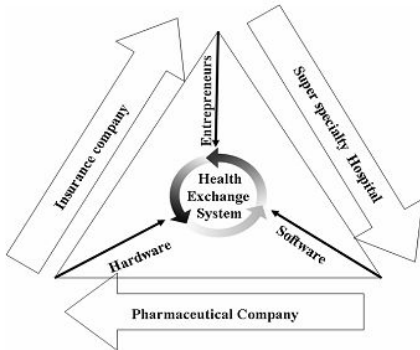
The above graph shows the divide between the rural and urban population. Coupled with the fact is the scarcity of trained manpower resources like doctors and nurses, lack of proper budgetary allocation to handle adequate capacity expansion in the health domain. This becomes an opportunity for the private sectors to play in the healthcare business level playing field.

Role of academia in healthcare problem mitigation at the non-metro Indian cities :The case of Advanced Healthcare Delivery model at Durgapur

The concept of EE model is adapted in the healthcare delivery model with a Higher Educational Institution like IIT Kharagpur playing a prominent role by pro-

viding necessary support with the industry to start up the Advanced Health care model in an urban area called Durgapur which acts as a nodal point for other ad-

Figure 3 Structural component of Advanced Health Model

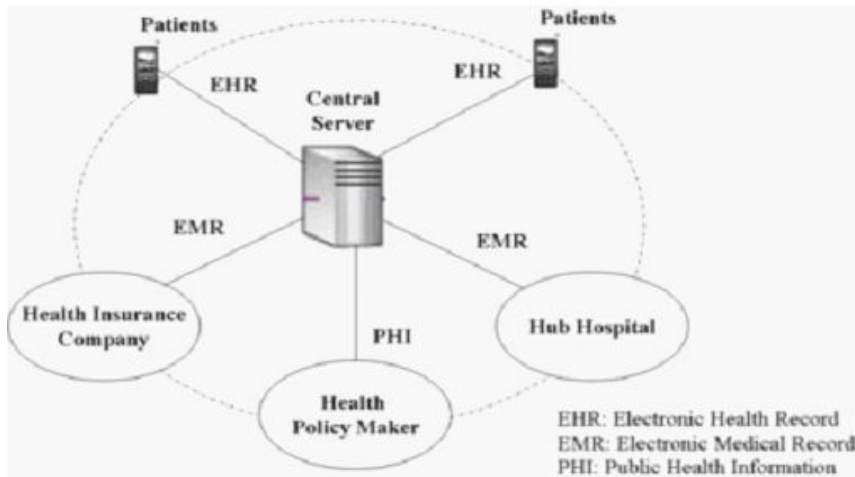


acent rural towns. This model provides them with a platform to co-create networking support with the experienced intellectual workforces. The model flourishes with the amalgamation of ideas and becomes considerably more feasible for implementation on a wider scale. This model has three structural parts as in the figure 6 below,

Hardware, Software and Manpower (entrepreneurs) as the components interact to each other. The gap between the poor and the medical assistance is widening and most of the rural people find difficult to travel to hospitals in urban places. To cater to the growing needs of outflow of treatment to urban areas, Health diagnostic devices (i.e. multifunctional medical instrument) are needed.

Health Management System (HMS) is advanced healthcare informatics software for government and private organizations involvement. HMS is incorporated in this model to improve the delivery of healthcare. HMS process and analyze health related data using software. Software part includes Enterprise Resource Planning architecture, Database systems, and operating systems dedicated to optimized on-demand health information systems. ERP is used for customer registration data, Personal Health Insurance Data, Diagnostic Data and Insurance claim filling. Diagnostic data of each patient is called Electronic Health Record (EHR). Total data of each kiosk is called Electronic Medical Record (EMR) comprising chunk of EHR. Total health information of that area is called Public Health Information. Kiosks act as data-collection house, collect these health data and uploaded to Hospital database. So there comes the need of database management system and ERP to handle these data. A special operating system is needed to support ERP application in Mobile for health informatics.

Figure 4: The Interface mechanism at Health Management system



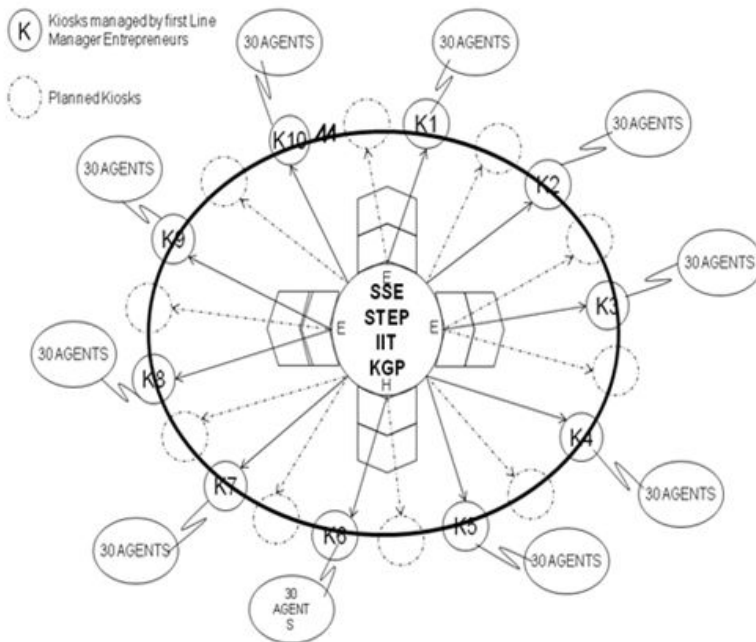
This model is entrepreneur driven by equity ownership of entrepreneurs and community platform to deliver public service to grass-root population through leveraged private enterprise network supported by an organization called Society of Social Entrepreneurs (SSE) which has been formed with the concept of EE Model. The partners are entrepreneurs, researchers, doctors, academicians who work to establish a unique and vigorous entrepreneurship driven health exchange business system.

The model of entrepreneurs also involves a super-specialty hospital which acts as the hub. With the help of technology interactions rooted in the Health Delivery Model patients can avail of efficient doctors from the super-specialty hospital round the clock at the kiosks. In addition, it has been planned to place a primary healthcare doctor who will also be trained by the Hub i.e. the super -specialty Hospital. A trained Physician will be available at the kiosk and who will look after the minor treatments, diseases, checking the physical condition of the patient and taking the necessary actions deemed required on a case to case basis. To provide quality healthcare services it provides accurate diagnosis by advanced healthcare product based on the doctor's advice. The model shall also support to train local people to become entrepreneurs in the health domain and thus provide a large number of people with viable employment opportunities in and around the locality through the kiosks. Problems regarding pirated/expired/spurious and placebo medicines are strictly monitored before providing the kiosks to sell the drug. The kiosks maintain

their interest in the business model by introducing secondary business models relating to healthcare. They include collaborating with pharmaceutical companies for sale of validated and original drugs through kiosk owned entrepreneurs. A reputed Insurance company has been tied up to provide insurance facilities with low deposits and provide social entrepreneurs a secondary business to help them earn extra livelihood.

The model consists of a series of Hub and spokes with a reputed hospital as a focal point or hub connected to the end-users or Kiosks with a spoke. To interconnect the hub with the spoke, various state of the art technologies are being incorporated. Multifunctional health products for conducting critical medical tests and examinations are being developed and video conferencing using web2.0 incorporated in order to tune up the model to its needs. Patients in need of the service need not go to the hospital or search for doctor but can connect with the kiosk and get the necessary treatment and suggestion via videoconferencing. If the patient needs any further super specialty care, they are immediately referred to the hub hospital with all the information regarding their costs made available to them.

Figure: 5 The Advanced healthcare delivery hub and spoke Network



I

In keeping with the fact that Indian healthcare sector lacks good Support services (Ramani & Mavalankar, 2006), these kiosks will provide better and cheaper facilities to the customers.

To make healthcare facilities affordable this model introduces technology interaction and interventions designed to deliver quality products and services intended for the customers at a fraction of market costs. IIT incubated company called Azure is engaged in the development of a Multifunctional instruments capable of measuring and conducting critical tests. The instrument consists of two parts having a Multi-factor Medical Measurement Instrument used to measure 6-Lead Electrocardiogram, Blood pressure, Pulse Rate, Blood Glucose and Body Temperature as the first part. The second part consists of a Specialized Cardiac Measurement Instrument which acts as a 12-14 Lead Electrocardiogram, Doppler, Oxygen Saturation and Heart Beat. This product will be capable of storing vital signs & healthcare information for future use and transmission of the data through an appropriate transmission medium (computer, internet or cell phones) as and when required. Enterprise Resource planning (ERP) is being used for enlisting of patients to the specific doctors as well while building a strong referral system for in patients and out patients.

This referral system helps patients to get quality tertiary care with discount as well. This helps to reduce the price of the treatment considerably while bringing relief for the patients to a great extent. Microfinance policies are also incorporated to bring down price level of healthcare. To solve basic issues of accessibility and affordability it comes as a ray of hope in the life to the major sections of the society generally deprived of medical services. As 75 % of all the treatment does not require surgical interventions, these cases can be solved by providing primary-care using telemedicine and e pharmacy available at the kiosks .Other tertiary care patient can be served by first consulting and then referring to the hub hospital with added advantages for further additions if required.

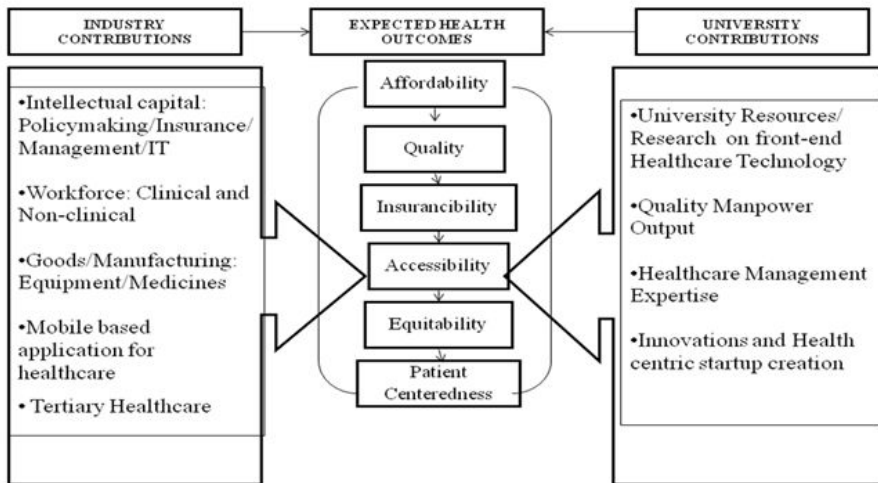
How industries as part of E-E model can address the Healthcare problems?

The private sector accounts for more than 80% of total healthcare spending in India. Unless there is a decline in the combined federal and state government deficit, which currently stands at roughly 9%, the opportunity for significantly higher public health spending will be limited (PWC 2007). There is hence an urgent need felt to promote entrepreneur driven business model to assist industries and private sector to initiate business models in the rural areas.

The participation of the Industry in all areas of health activities that is primary, secondary or tertiary has been welcomed as an important step. However, looking at the past experience of the private sector, it can reasonably be expected that its contribution would be substantial in the urban primary sector and the tertiary sector, and moderate in the secondary sector.

This will create micro-enterprises in the health, energy environment and education domain which are the pillars of the society. The industry can be well assisted by the Academia as part of the E-E framework to create employment opportunities at the tertiary /non –metro cities and rural areas similar to the advanced healthcare model at Durgapur.

Figure 6: Academia –Industry Collaboration and Expected Output



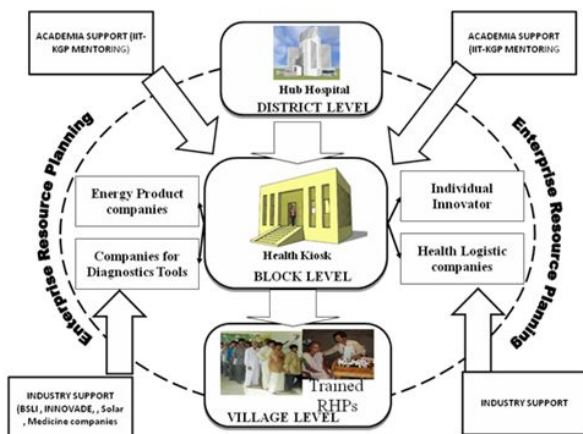
There has been exponential growth in the health investments made by private industries in health care sector with an eye on creating an academic research aligned with their business goals.. Leading industries like Escorts and Apollo, Aqua-Fortis group are examples of industries coming up with investments in academic sector. Most of these hospitals are categorized as super-specialty hospitals and offer the best facilities in India comparable to World standards. Most of them cater to the middle, rich and the super rich class but undertake CSR activities also.

SSE kiosk as Human Technology living lab for HEI & Industry Supported Healthcare Business Models

Human Technology refers to the human-centered approach to technological systems and methods that takes into account human needs and requirements as well as its implications for humans. Human technology lab basically relates to the knowledge society and which places emphasis on the human perspective and will provide human performance management with needs assessments. A primary objective of this lab is to create new and to develop existing know-how in the area and to facilitate the transfer of this know-how to the operating companies. Another objective is to create new companies, and to improve the business conditions for all companies in the local area.

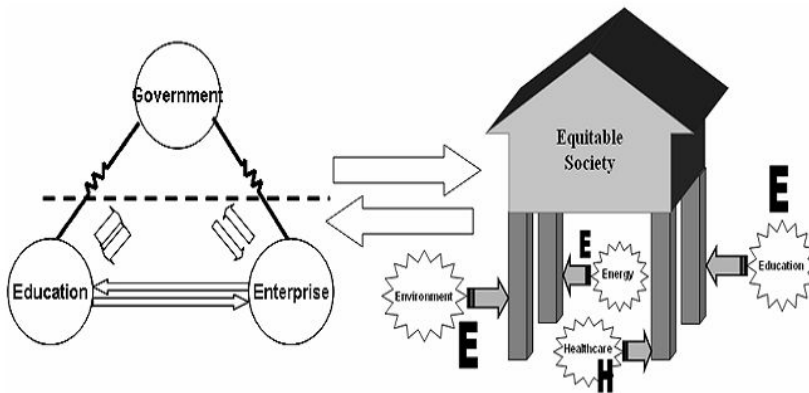
This Human technology approach is best applied in already implemented Advance Healthcare Delivery System in area around Durgapur, West Bengal. In this system, kiosk which acts as living lab is identified as key node where local people around it are hand picked by the SSE, IIT Kharagpur and trained to become Entrepreneurs. Kiosk acts as a center for implementation of several critical business model and research related projects. Research scholars and innovators use this living lab to find out solutions to some key problems affecting the society within the domain of EEEH. Kiosk is the focal point for creating business infrastructure. Several organizations utilize kiosk as a node to spread out their knowledge and also make a profitable business which include energy sector companies, the insurance firms and the logistics support agencies.

Figure 7: Tertiary Care Pure Play Model, an example of Industry–Academia



Health technology assessment in the broader sense can be linked with all the systems that encompasses the health care domain like systematic evaluation of properties, development of health care devices, development of information systems, financial model, risk taking, decision making, policy making etc. This can be used to support decision making by clinicians and patients. Technology-oriented assessments are focused in determining the characteristics or impacts of particular technologies. Problem-oriented assessments focus on solutions or strategies for managing a particular problem for which alternative or complementary technologies might be used. Project-oriented assessments focus on a local areas or use of a technology in a project. To make health care safer by relying on scientific evidence and a group of good physicians is the demand for public health care. Two most important aspects in this context can be health care device and decision making tool. The device industry faces a significant challenge in meeting the increasing demands of the health technology assessment process.

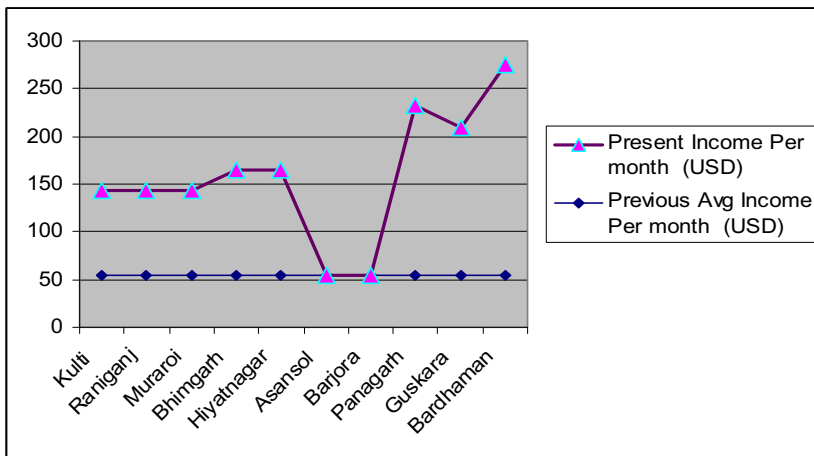
Figure 8: Academia–enterprise integrated model for solving EEEH problem



Output

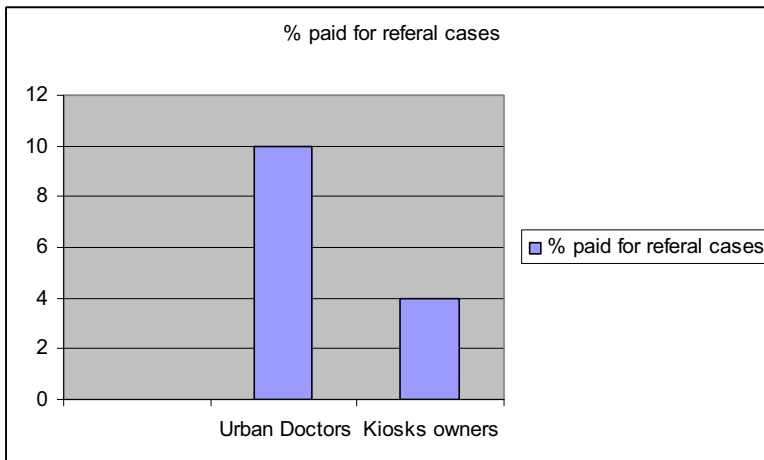
This is the first time that HEI like IIT Kharagpur has utilizing the EE model to create a sustainable healthcare delivery model driven by entrepreneurs as micro enterprise to solve healthcare problems. This model is based on catering to the poor who earned 2 \$ per day. The model now has changed the lives of local people as well as the entrepreneurs themselves. At its pilot stage only 10 kiosks

have been set up, out of which 8 kiosks are running successfully. Below graph shows income of each kiosk owners.



Graph 3: Income of the kiosk owners

Superspeciality hospital utilize kiosk for penetrating into the rural markets and also save money through referral system.



Graph 4: Comparable amount paid to urban doctor and kiosk owners.

Conclusion

IIT Kharagpur has initiated the Education Enterprise model for promoting small and micro enterprise driven Higher Education Institutions in the domains of Education, Energy, Environment and Health through local problem solving by globally collaborated solutions. Now for the first time the Education Enterprise model has been extended to create an impact on the tertiary care health delivery domain for non-metro areas in the emerging/BASIC countries. Our model has already been applied at a pilot level with positive results in eastern India. The output has resulted in creation of ten micro-enterprises, with income generation over three times prior to the impact. In future, we will report on strengthening of the education-enterprise model to sustain creation of micro-enterprises in collaboration with “higher education institutes” that will eventually deliver services commonly expected from the government sector delivered through micro-enterprise that are run by empowered grass-root entrepreneurs.

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Dhrubesh Biswas, Amrita, Punit Saurabh & Parswati Das

An Entrepreneurship Driven Wellness Business Model in Non-Metro Indian Cities

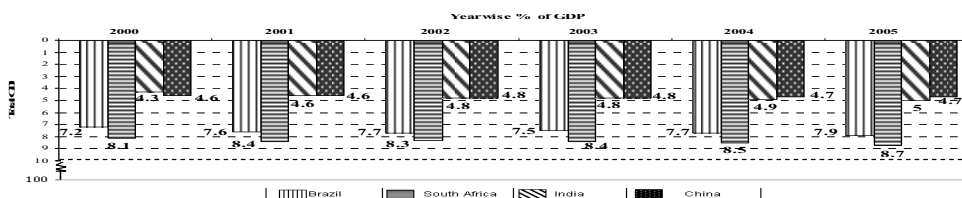
Abstract

The rising costs of healthcare, rapidly changing demographics, increasing population and heightened demands in pricing for technological healthcare usage in emerging economies necessitate a unique wellness delivery business model. The move from illness to wellness will be achieved in emerging/BASIC economies only when we identify and cater to the inefficiency of health delivery service models. Health is a primary subject of concern especially in developing countries where the services are not at par with the developed nations. Primary Care Services are being offered by many organizations all over the world but there is an urgent need for initiating Tertiary Health Care Services for sustainable solutions. The paper seeks to discuss entrepreneurship driven wellness business model being developed by Society of Social Entrepreneurs (SSE), a not-for-profit organization founded by academicians, researchers and entrepreneurs. The organization has for the first time started the wellness delivery network through tertiary healthcare service business which not only improves the economic status of grass-root entrepreneurs but also creates accessible, affordable and available healthcare to tertiary Indian Cities. This wellness entrepreneurship has partnered a Higher Educational Institution (HEI), Insurance Company, Hospitals, new breed of entrepreneurs and most importantly people at large through a case to case approach and which adequately explains “Global Solutions to Local Problems”.

Introduction

Healthcare sector remains a challenge for most of the underdeveloped and developing nations on account of its nature and importance in the nation's economy. Major population residing in BASIC Countries (India, South Africa, Brazil

and China) belong to the middle and bottom of the Pyramid, have a major role to play as their actions determine the trajectory the world which follows in making it a better and healthy place to live. The policies and program initiated by these countries need to be studied in the limelight of serious lacking of health related infrastructural/service facilities which make their citizens helpless. The below graph of BASIC countries reflect the little contribution in healthcare expenditure as a part of its total GDP. Though population-wise China has more heads than India, they share similar percentage as compared to South Africa and Brazil.



Graph 1: Total Expenditure on Health in BASIC Countries as % of GDP (2000-2005)
(Source: CIA, World Fact Book)

Not only the emerging countries face the deprivation of emergency care, the OECD countries also face similar situations with respect to the provision of health services despite differences in the culture, social, history and healthcare institutions. Developed country like USA has largely succeeded in ensuring universal access to essential healthcare services (Anderson and Frogner, 1999). The socio-economic challenges in developing nations like India are in sharp contrast with those of developed nations. Only two million people in India (0.2 % of the total population of 1 billion) are covered under schemes like Mediclaim, whereas in developed nations like USA about 75 % of the total populations are covered under some insurance scheme. The main problems of affordability and accessibility in healthcare facilities are major points of concern in developing nations. The problem that rural sector now faces is to maintain affordable healthcare in the phase of increasing public expectations about the deliverables (Naylor, 1999). In 2006 UNAIDS estimated that there were 5.6 million people living with HIV in India. World Health Organization reported (2008) that India was amongst the four countries in the world which remains polio-endemic as well as has the largest number of cases of the world's tuberculosis. Looking into the facts of maternal childbirths occurring in India 75 percent of these belong to the rural sector (ORC Marco, 2007). Hence, new methods must be devised to cater

to the wellness sector in India, especially the rural sector which accounts to 72 percent living in 638,596 Indian Villages (Census 2001).

Wellness related Business Models must aim to serve the Below Poverty Line (BPL). The rural and unprivileged both face problems in availing quality wellness benefits. Businesses catering to the rural sector wellness scenario must be encouraged. Healthcare is currently one of the largest sector and worth US \$34 billion in terms of revenue and employment generation. However, Wellness Industry in India is largest growing sector in terms of revenue and employment (PWC, Emerging Market Report, 2007).

Healthcare in India

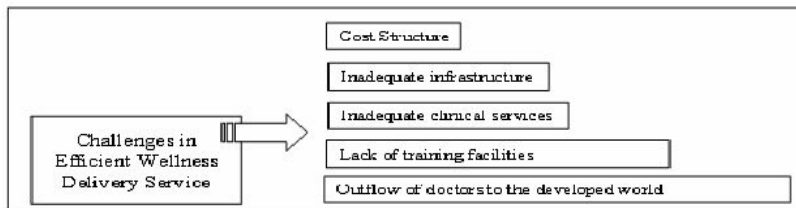
The current healthcare scenario in India needs a considerable concern with more than 100,000 mothers dying every year i.e. one maternal death per 5 minutes. Most of these deaths (75%) can be prevented with a proper and basic medication facility. Urban health has also become a major concern for the government. The rise of slum areas in the urban cities at the rate of 5% the civic and health authorities in the municipalities and towns are already in a state of alarm (Ramani & Mavalankar, 2006). Poor hygiene and sanitation is responsible for 9% of all deaths in India. It is estimated that 27.4 million lives are lost each year due to this cause. Presently only 20% of the rural households have sanitation facilities. Contamination and sanitation are responsible for the spread of a large number of diseases (Ramani & Mavalankar, 2006). Hence, this scenario shows an urgent need for establishment of tertiary care in fringe areas of urban Indian cities.

Moreover, only 10 percent of the Indian population has health insurance reflecting a tremendous scope for growth in this domain. Both Yes bank and Assocham reports that the medical insurance sector would account for US \$ 3 billion in the coming three years, with current size of over US \$ 1 billion. In 2008-09, health insurance has emerged as one of the fastest growing segments in the non-life insurance industry with 30 per cent growth. Health insurance premium collections touched increase US \$ 0.32 billion in 2008-09 compared to previous year, the Insurance Regulatory and Development Authority. Hence, catering to the mutual needs of rural health and wellness industry businesses expansions, there is an urgent need to create wellness based enterprises to overcome the shortcomings of the current industry.

i. Challenges in Tertiary Wellness Network and Entrepreneurship

The concern of healthcare services has mainly been restricted to primary care diseases like diarrhea, malaria, tuberculosis, leprosy, respiratory infections, and poliomyelitis. In recent times tertiary diseases such as cardiovascular, cancer, neurological and mental health diseases have attracted need for care. The following figure shows the challenges faced by the wellness delivery service in Semi-urban Indian Cities.

Figure1: Challenges in Efficient Wellness Delivery Service in Indian Tertiary Cities



Services such as blood banking, ambulance services, communication, medical-social work, hospital waste management, form a very important part of the Healthcare systems. Moreover, in rural India there is a severe shortage of blood, unreliable ambulance service and medical infection control and waste disposal are in very poor condition (Ramani & Mavalankar, 2006). In spite of the above deficiencies 1% of GDP was spent on health in India before 2007 (Centre: Rs.35 Billion (0.13% GDP); State: Rs.186 Billion (0.72% GDP); Local: Rs.25 Billion estimated (0.10% GDP)) (Gupta, 2006). Presently 2% of GDP is spent according to the 11th 5 year plan (Ahluwalia, Oct. 27, 2007).

The fact that India is reported to have highest maternal mortality rates in the world i.e. 300 per 100,000 live births accounting to more than 20 percent of the worlds reported maternal deaths which are preventable if given the proper infrastructure and resources. The majority of these maternal deaths occur in poor, rural areas, where access to proper healthcare is unavailable (Srivastava, 2008). Providing healthcare and disease prevention to India's growing population of more than a billion people becomes challenging in the phase of increased competition for resources. The healthcare network should be created as endeavors towards helping the rural entrepreneurs start the wellness business in tier 2 or 3 cities. Medical treatment in Indian rural sector differs in basic accessibility, availability and affordability of quality healthcare than those of towns. Involving wellness based entrepreneurs from the same sector would help create a fine network for providing these people with better access to health services.

Entrepreneurs make things happen, as well as they convert the concepts into reality, be it a product, policy or a institution (Zilberman, 2007). Entrepreneurs are innovators who become champions of new processes. Openness to new ideas, freedom for investigation of operation and promotions are keys to entrepreneurial innovation. Coupling technological advances with apt business models is the best prescription to our ailing healthcare industry (Hwang, Clayton, 2008). A wellness entrepreneur in the broadest economic and social sense is a self-employed individual who has autonomy, controls his affairs, and is willing to take risks in the wellness sector. Economic assumptions of self-interest and entrepreneurial skill have sparked a debate about their impact on management behavior which leads to change in health care services model. The evolution of wellness care industry may be linked to system incentives to reduce costs and/or the propagation of economic theories in health administration programs and business schools (Bigelow and Arndt, 2007). The advent of wellness entrepreneurship in the rural areas will help to reduce the healthcare challenges faced by the population of those areas.

ii. Are Non-Metro Indian Cities Suitable for Tertiary Healthcare?

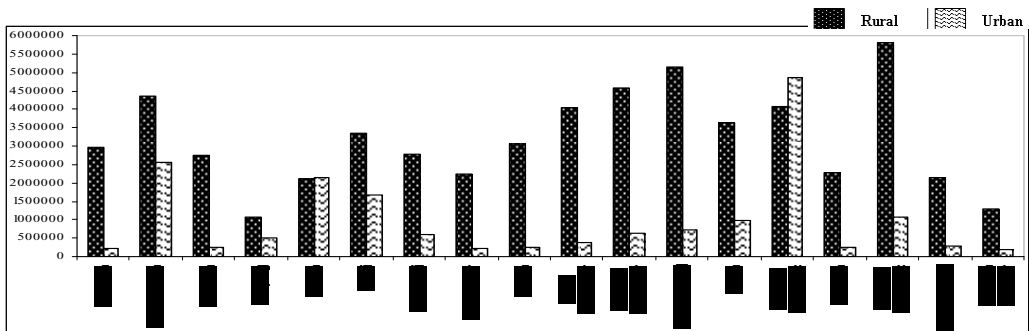
Unlike most other countries where those who have the power to buy wellness facility from the market get this without much expenditure, on the contrary those who are below the poverty line are forced to spend much more comparatively. This demographical and affordability issues lead to the concept of Advanced healthcare delivery model which is driven by local entrepreneurs in the state of West Bengal. The non-metro cities act as the opportunity for private health enterprises. Due to the less population density in these cities, government is not able to support them as they are not financially strong enough. The scale of bigger companies does not fit to these cities as there are no takers of the services.

Most of the centers of excellence in healthcare service and delivery are located in the urban areas. Even if the wellness infrastructure exists, the facilities are limited and are inadequate in meeting the healthcare demands. For instance, the number of maternal deaths, in rural areas, remain under-reported, thus results in mortality ratios that are often based on estimates rather than verifiable evidence. Conventional surveillance systems, unfortunately, are inaccurate and prohibitively expensive, and as a result, "there have been only three published trials that have attempted to measure population maternal mortality ratio" (Srivastava, 2008) in India. WHO reports that only 37.4 percent of remote rural women get skilled birth attendants, whereas the urban get 73.4 percent which shows the unavailability of skilled healthcare service providers. This scenario can only be

changed when we train local people as entrepreneurs for such services. Most public health facilities lack efficiency, are understaffed and have poorly maintained or outdated medical equipments. There is a need to rope in urgent measures and suitable programmes from the government and the industry to strengthen the healthcare sector in the these non-metro cities.

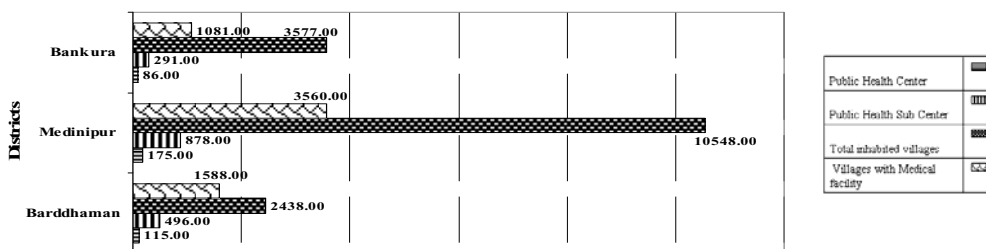
iii. Referring to the needs of Non Metro Indian Cities

India has largest number of medical colleges in the world which produces largest numbers of doctors. Due to its cost effectiveness, 'Medical tourists' from many developed countries drop in to avail facilities in a cheaper rate. India is the fourth largest producer of drugs by volume in the world and is among the largest exporter also. In spite of these medical resources most of the non-metro towns of India suffer from lack of wellness care. If we analyze the demography of districts in West Bengal in the below graph we can easily derive that rural population is much more than the urban (Department of Health Family Welfare, Government of West Bengal, 2009).



Graph 2: District-wise Rural and Urban population areas (2001) of West Bengal

A huge mismatch exists between number of villages and medical centers in the Districts. The following graph shows districts of Bardhaman , Medinipur, Bankura in West Bengal, comparing the number villages with medical facilities i.e. half of total no of villages.



Graph 3: Comparison of Health Centers to number of villages in 3 districts of West Bengal

The total value of the health sector in India today is annually over US \$ 34 billion. This works out to about 32 US\$ per capita which is 6 per cent of GDP. However, of this only 15 per cent is publicly financed, 4 per cent is from social insurance, 1 per cent private insurance and the remaining 80 per cent is spent out of personal resources (85 per cent of which goes to the private sector).

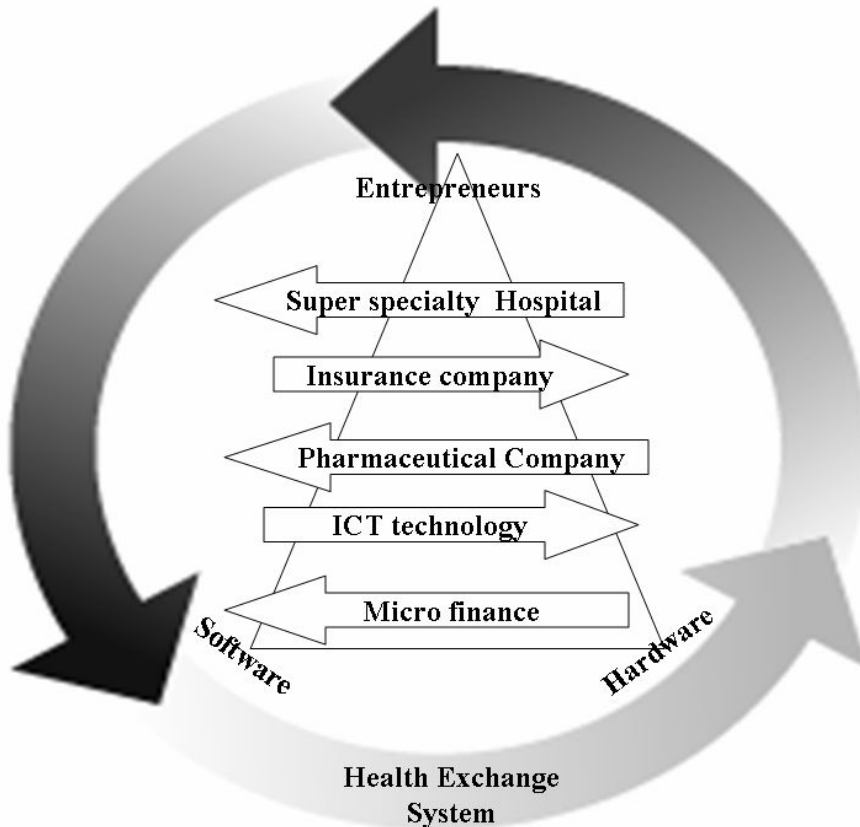
The Advanced Wellness Model by Society of Social Entrepreneurs (SSE), IIT Kharagpur

In consonance with the “affordable, accessible and available” healthcare needs of the rural India, and the growing wellness industry, SSE, a not-for-profit organization has put efforts in creating an Advanced Wellness Model. SSE is Science & Technology Entrepreneurs’ Park (STEP), IIT Kharagpur based not-for-profit organization found in the year 2008 by a group of IIT professors and students, for the solo purpose of promoting sustainable and responsible “for-profit” businesses while achieving a Social Return on Investment (SROI) in the field of EEEH (Education, Energy, Environment & Health) with special emphasis on innovation based technology and businesses models. It is inspired by the novelty of creating local business solutions for local problems by local entrepreneurs, in association with IIT faculty and students and research scholars. It has already trained over 350 local entrepreneurs and is currently in the process of leveraging them into real business through intensive handholding. This outreach program of IIT Kharagpur will create sustainable economic development in currently impoverished sectors.

The Health Exchange System of Advanced Wellness Model of SSE comprises of structural and functional components.

i. Structural Components of Health Exchange System (HES)

This model combines three basic elements i.e. Hardware, Software, and Manpower to enhance the communication between several health partners.



Hardware includes Diagnostic and Health monitoring devices.

Software refers to Health Information Management (i.e. financial and medical) comprising of

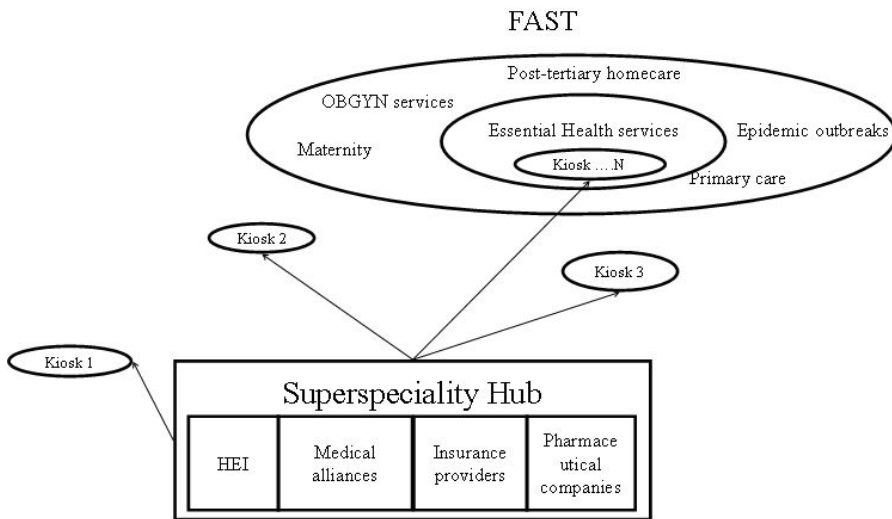
- i. Enterprise Resource Planning Architecture,
- ii. Patient-Doctors-Hospital Database Management system,
- iii. Simulated workflow software and operating systems dedicated to optimize on-demand health informatics.

Manpower implies to the partners such as entrepreneurs, researchers, doctors, academicians who together work to establish a unique and vigorous entrepre-

neurship driven health exchange business model to build innovative mechanisms and channels. This offers flexibility to networked service providers such as tertiary wellness providers, pharmaceuticals, diagnostics, post-tertiary homecare, elderly care, OBGYN services including maternity and epidemic outbreaks.

ii. Functioning of HES

The functioning of the structural components is facilitated by centers called Fringe Area Service Transport (FAST)-Points/Kiosks. These kiosks also act as immunization center, public health awareness and other related services centers. It is working to establish a unique and entrepreneurship driven wellness business model to build innovative mechanisms and channels, offering flexibility to networked service providers such as tertiary wellness providers, pharmaceuticals, diagnostic, post-tertiary homecare, elderly care, OBGYN services including maternity and epidemic outbreaks. The economic model is further revived by SSE through a variety of essential health-centric services which are inexpensive and environment responsive.



FAST: Fringe Area Service Transport
 HEI: Higher Education Intuition

FAST-Points/Kiosks are linked with the a private Tertiary Healthcare provider at Durgapur, West Bengal as Hub hospital, to extend its services in the surround-

ing small towns and rural villages i.e. referring to the non-metro cities in the districts of Bardhaman such as Kulti, Guskara, Hiyatnagar, keeping Durgapur (developed city) as the nodal centre of the current activities of these tertiary wellness services.

The Pilot Project of the Entrepreneurship driven Wellness Business Model

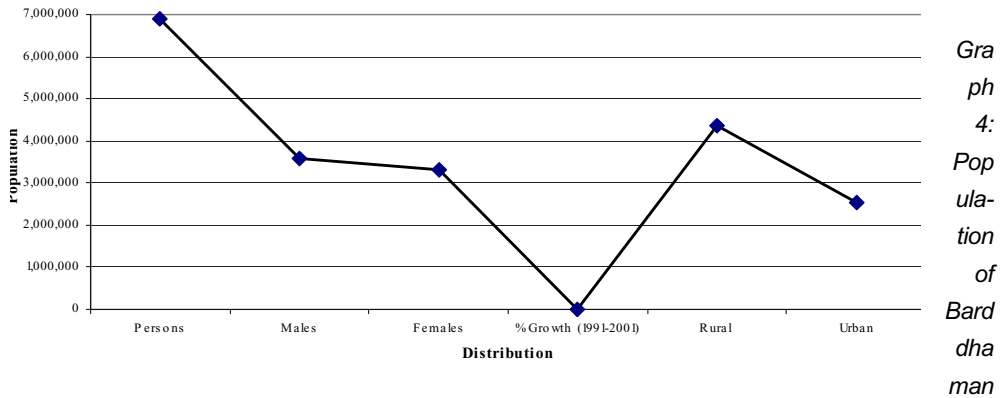
i. Starting Point of Ideation

The whole idea of setting up wellness business model was started by the group of academicians and professionals of healthcare keeping in mind the affordable the better and quality wellness services to all. The expenditure of enquiry for suitable wellness service is much higher than that of getting treated. Amenities & Infrastructural Facilities of non-metro cities of Bardhaman district, 300 km areas around Durgapur, does not have quality healthcare. The following table (Census, 2001) shows the statistics of these facilities.

Table 1: Amenities and Infrastructural Facilities of Bardhaman District, West Bengal, India

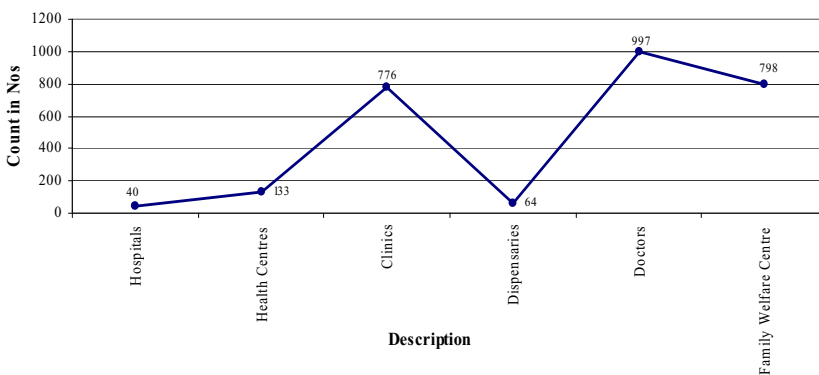
SI No.	Amenities and Infrastructure	Number
1	Total Inhabited Villages	2,438
2	Drinking Water Facilities	2,437
3	Safe Drinking Water	2,433
4	Medical Facility	1,588
5	Primary Health Centre	115
6	Primary Health Sub-Centre	496
7	Bus Services	1,134
8	Paved Approach Road	1,626
9	Mud Approach Road	2,199
10	Post, Telegraph and Telephone Facilities	1,372

Demographic details below show poor doctor to patient ratio and low no of health centers with respect to population of Bardhaman district. The motivation to provide the very basic healthcare facility and the inaccessibility of doctors in these small towns of Durgapur has led to the initiation of kiosk in Bardhaman district.



District , West Bengal (Source: Census of India 2001)

According to the official website of the Bardhaman District, around 6073354 patients get treated yearly in various medical centers where as the number of beds for admission are 6715. The below graph shows the number of wellness facilities available in the Bardhaman District.



Graph 5: Medical Facilities available in Bardhaman District

It is derived from the graph that there is a mismatch between the number of clinics and the doctors stating that there is a scarcity of infrastructural facilities and hence the few number hospitals.

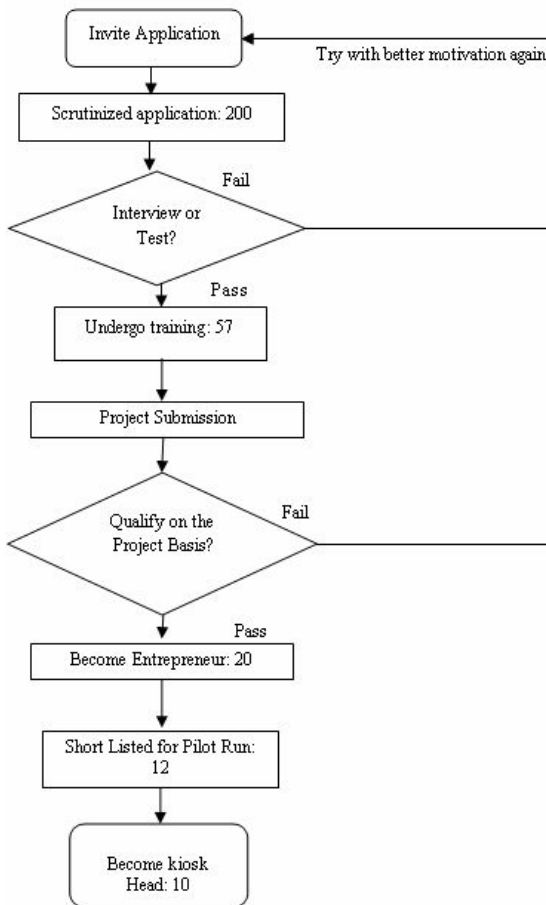
ii. Early work towards the Wellness Services Setup

Society of Social Entrepreneurs' (SSE) business process of FAST-Points/Kiosks has emerged from the one of training modules of Technology Based Entrepreneurship Development Programme (TEDP), a programme in collaboration with the Department of Science and Technology (DST), Ministry of India. TEDP is one of the flagship programmes for Grass-root entrepreneurship conducted at IIT-Kharagpur. It trains entrepreneurs in the domains of Energy, Education, Environment, and Health (EEEEH). The wellness business entrepreneurs are a product of the 'Health Training Module' of TEDP which was attended by 57 grass-root students.

The First Pilot of Wellness model started in March 2009 by an initiative of Prof. Dhruves Biswas together with SSE, STEP, IIT Kharagpur. The project started with five towns (now ten) around Durgapur, in collaboration with SSE, IIT Kharagpur and Health partners like Mission Hospital Durgapur. Durgapur was selected as the nodal urban areas due to the existence of the fringe areas like Kulti and Galsi. This pilot plan of health has been started from Moreover, Durgapur has a good number of doctors compared to the other surrounding cities and the common mass residing in the fringe areas visit here for treatment. It is an entrepreneur driven model where local people around Durgapur were identified by their skill and traits of becoming entrepreneurs.

- **The TEDP Process Flowchart**

People with entrepreneurial zeal are invited to attend the TEDP course. After short listing, they are trained to become entrepreneurs keeping in mind the local problems they face. They are given rigorous training in personality development, business calculations and risk management. The following figure 5 shows the whole TEDP process flowchart followed right from calling people to become entrepreneurs to convert them into kiosk owners as real entrepreneurs.



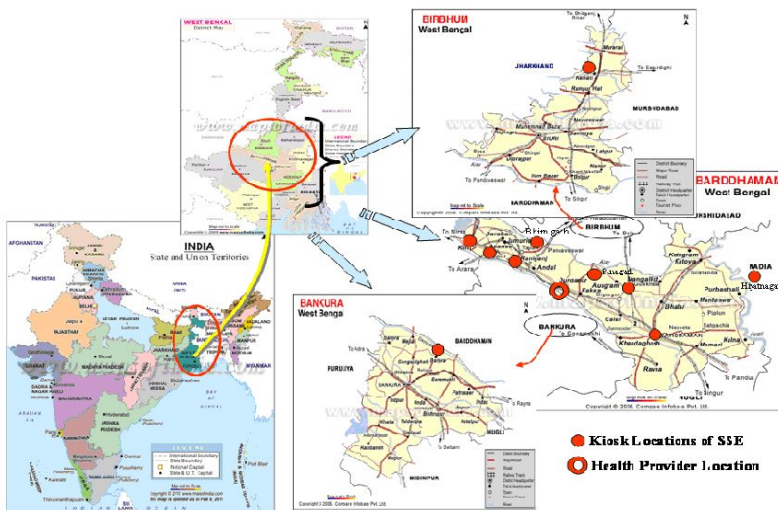
As shown in the above flowchart, applications were invited for TEDP. People responded to this advertisement with applications out of which 200 were short listed. After this, the applicants were called for an interview and based on this interview 57 candidates were selected to undergo the training modules. Entrepreneurship: The trainees are taught to recognize their Entrepreneurial skill. A brief lesson about the basics of entrepreneurship, creation of a venture, economic utility, rules needed to create a company and laws are taught. Leadership and Motivation: Students are motivated to identify and solve local problems through business creation. Communication Skills: Language Communication is taught for psychology of customers. Business Skills: Real business plans are developed by the entrepreneurs. The flaws are identified and they are asked to revisit their ideas, finally creating a viable business model. Domain: EEEH domain carry more learning loads for the students as they are taught to create domain based business.

iii. Ongoing work

SSE has adapted the wellness delivery model in partnership with a Higher Educational Institutions (HEI) like IIT Kharagpur which is playing a prominent role and STEP, IIT Kharagpur, by providing the necessary support for scale up. This model provides with a platform to blend and provide networking to the intellectual workforces. The model flourishes with the amalgamation of scalable, co-entrepreneurial approach facilitated by academicians, engineers, doctors, management staff, global partners and grass-root entrepreneurs have come together in order to co-create a sustainable wellness ecosystem.

iv. Existing Results

At the end of the training, a project work was given to the students which served as an experimental assessment. 20 candidates were selected for real implementation. The successful implementation of the system was started by opening the first kiosk at Bardhaman in the Bardhaman district of West Bengal on August 21, 2009. The below District Map of West Bengal depicts the Kiosks centres which have already been established by SSE and are functioning in the first phase.



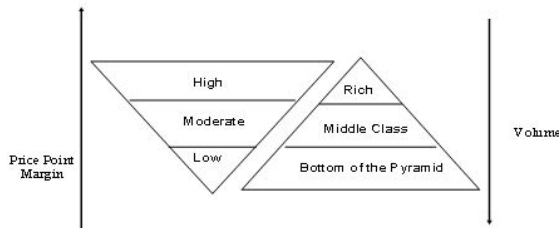
12 out of 20 trained entrepreneurs were filtering and were offered the opportunity of wellness business. Now 10 kiosks have been setup as shown in the above Figure 6. These entrepreneurs were given the charge of managing and maintaining the kiosks. In the current implemented wellness business model, kiosks act as a data warehouse for patients, doctors, pharmacists and others which can

be used for medical research. Strengthening service processes means identifying areas of improvements and conducting process improvements (Lee, Khong and Ghista, 2006, pp 568).

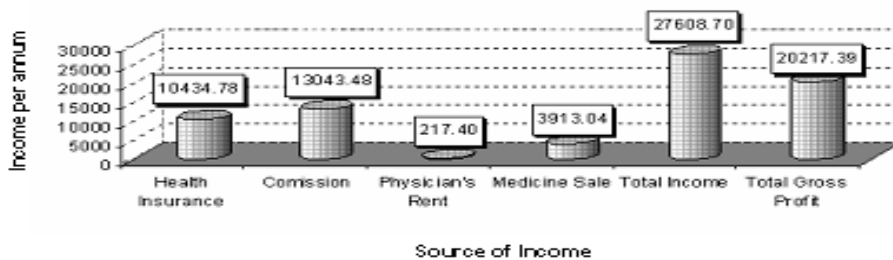
v. Impact Analysis of this Model

I. ENTREPRENEURS' LIVELIHOOD

SSE, IIT Kharagpur refers to the wellness needs at low price point margin with no compromise in the quality. It also addresses to a high market volume at BPL. The following figure 7 depicts the price point.



This price points not only caters to the rural people of the region, but also gives a livelihood to the wellness entrepreneurs. Hence, kiosks are practice based living labs where different alliance of healthcare/insurance providers, technology partners and academicians co-partner to utilize knowledge and skills for implementation. Kiosks owners have generated income from this Model. The average income of a kiosk owner is US \$153.00 per month.



Graph 6: Income of Kiosk owners

II. COST BENEFIT FOR USING KIOSK FOR HEALTHCARE

The discounted quality treatment cost for local people is another satisfaction level for the residents.

Table 2: Treatment charges through discount to kiosk customers

Treatment	Days of Stay in hospital	General Ward (US \$)
Normal Delivery	3	326
Caesarean Section (Lscs)	4	543
Total abdominal hysterectomy	4	543
Total vaginal hysterectomy	4	543
Lap. Total abdominal hysterectomy	4	652
Lap. Total vaginal hysterectomy	4	652
D & C (Inclusive of Biopsy Charge)	0	109

People as customers of kiosk get cost reduction up to 20% in those above category diseases. They also save money by avoiding repeated visit in tertiary care hospital which is shown below.

Table 3: Cost-Benefit for Kiosk usage

SI No	Particulars
1	Discount earned by availing kiosk physician (66.67% of cost of urban physician, Rs.150/-)
2	Money saved from traveling expenses for visiting urban physician (50% of cost of traveling to urban area, Rs. 400/-).
3	By avoidance of repeated visits to the tertiary care hospitals(50% of traveling expense for visiting tertiary care hospital at least 2 times ,Rs. 500/- per visit)
4	Rs. 1000/- Cash discount in cases above Rs. 50,000/-
5	5 % discount on room rent of acute care cases

III. AUXILIARY PEOPLE BUSINESS IMPACT

This model also incorporates several secondary models for sustainability. These secondary models solve the problems relating to energy, education, environment, health by near simultaneous approaches. Energy products like solar lantern are also one of the necessary steps to solve energy issues in non-metro towns.

VI. CHALLENGES FACED

The challenges faced during the first phase implementations are the insufficient funds, Customer Traffic, Hub hospital interference, Technology Interventions. The kiosk model is in its stage of infancy and needs funds to expand. At present, these kiosks run with the help of grants from SSE, IIT Kharagpur and the Government of West Bengal, India. Customers need to visit the kiosk for keeping the traffic to hospitals going. Generally, people do not have faith in the new concepts and it is very tough to create credibility in infant stage. Many of them do not know about the functioning and working of the kiosks and shy away from coming. The hubs try to buy out these kiosks for their own benefit as franchise. This would appease their solo benefit rather than that of scale-up of the kiosks. Further and continuous technology interventions are needed for bringing down the price of wellness services for protecting the profit of each health partners.

Conclusion

The wellness scenario in India like other emerging economies is about to witness a huge market. In consonance with this the rural and the unprivileged must also get the benefit of affordable, accessible and available healthcare. For the first time our team at IIT Kharagpur has developed a unique business model to address the tertiary care health needs of non-metro cities emerging/BASIC countries through resource aggregation of human resources, hardware and software necessary to create a platform on which healthcare and insurance providers can deliver the necessary services. This not only alleviates empowerment of local entrepreneurs but also creates unique micro-business enterprises where opportunities are not lucrative for the scale of conventional firms. This is in fact a conglomeration of several business models to form technology and management perspectives. We have also discussed its pilot demonstration in Eastern India and currently scaling up. In future, we will report on the macro-scale up of the model along with optimization of hardware/software components of the model to increase efficacy to its users i.e. healthcare/insurance providers and the patients. The beyond faster, better and cheaper wellness services can only be achieved when people from different sectors would partner to collaboratively eliminate all the flaws of the current system.

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Vesa Saarinen

INNOVATIVENESS AND INNOVATIONS UTILIZATIONS IN AN ICT-COMPANY

Introduction

The ICT-business is in a turbulent situation at the moment, with the financial crisis heavily impacting all competitors. In order to cope with the situation, industry needs to adapt by introducing operational savings, improving production efficiency, and in the longer run by increasing innovation amongst employees at R&D department in a global ICT-company.

This document summarizes a number of theories and concepts about innovative business models, motivation and creativity and performance management, which form a framework for the action research. The framework is deployed into practice as a tool when assisting and coaching groups to improve their innovativeness. This report contains reflections about the theories and practicalities and realism at work.

Abstract

The purpose of this study is to understand the background of the innovativeness and to reflect the research results to company realism and practicalities. The aim of this action research is to improve the innovativeness amongst the personnel.

As innovativeness is mostly a human internal matter and is based on internal motivation of an individual. The creativity, courage and hard working are the key elements of the innovativeness. The triggers for waking up the internal motivation are important as well. The supportive leadership models and company cultures studied in the paper also. The performance management models are compared and proposals for KPIs are stated. Summary chapter is combining the research results from theories into an innovativeness model.

Problems in practice are related to the need of being cost efficient and out perform all the time. There slack of doing crazy experiments, trying out something outside the project duties, is not allowed or officially supported in wide scale. Some persons regard innovations at least partially as many change programs, which are coming and going without rooted deeply into operations and processes. Brainstorming and networking is seen as key drivers for increasing the innovativeness.

Reasoning for innovations

Financial turmoil and fierce competition are forcing industry to re-think their business models, re-write their strategies, and deploy these strategies in an efficient way in order to survive in the field and in order to find new businesses through innovative products and services.

There is a need to invest for uncertainties, i.e. to pilot, try out, and to tolerate risks. Godin (2008, 110-111) states: "The safer you play your plans for the future, the riskier it actually is." That is, the incremental improvements are not enough in those businesses which are having declining profits. Mature industries require radical innovations on products, services and business models. (Gibson & Skarzinski 2008, 128; Kim & Renee 2004.)

The innovation brings something new to the businesses and markets (Drucker 1993). The real radical and disruptive innovations are also altering the social practices (Chesbrough 2004.)

The benefits may be gained during a short time frame. The business case and therefore the value propagation can become unfavourable if the innovation is introduced too late. The quickest learner gains and wins. (Godin 2008.)

Sources and triggers for innovations

Innovation processes are not often specific and deterministic, but unexpected and disruptive instead. This leads to often to non predictable results and the development and creation time varies also in a case by case manner, according to Erkki Uusi-Rauva (Juuti 2005, 31).

The triggers for innovativeness and entrepreneurship are at least the following: (Juuti 2005, 53; Drucker 1993, 35; Gibson & Skarzinski 2008, 101; Cagan & Vogel 2003, 40.)

- Observed price difference in the market
- Observed need and opportunity in the market or process
- Problem on market, scarce resources and discontinuing situations or the unexpected event (success, failure or external event) trigger the dissatisfaction to change things
- Opportunity for creative copying
- Opportunity for new combinations
- The incongruity – gap between the reality and the assumed one
- Changes in industry structures or market structure
- Demographics – population changes
- Changes in perception, mood and meaning
- New knowledge, both scientific and non-scientific
- Interception points of insights
- Different and cultural differences

There are number of different definitions for the term 'innovation'. The actual innovations in practice are combinations of multiple innovation types (Himanen 2007). A collection of different innovation types follow: (Himanen, 2007; Gibson & Skarzynski 2008, 98-101; Hamel, 2007; Kim & Renee, 2004, 33-43; Cagan & Vogel, 2003; Hämäläinen & Heiskala, 2004; Chesbrough, 2004.)

1. Technological innovation: create new technology or utilize creatively existing
2. Business innovation: the actual competition between companies are held between business models
3. Design innovation: usability belongs also to this artistic category, which brings added value
4. Product-/service innovation: typically only of note when combined with other innovation types
5. Cultural innovation: re-structuring of organizational culture and -structures in a creative manner
6. Operational innovation: refined operational processes
7. Cost innovations: Cost reductions done by utilizing partnering in low wages regions

8. Experience innovations: Re-invention of customers' experiences in the purchasing processes, or introducing extraordinary easy usage of products or services

9. Management innovations: company's core management processes such as strategic planning, scenario planning, brand management, total quality management, lean manufacturing, Six Sigma, capital budgeting, project planning, training and development, in

ternal communication, knowledge management, business reviews, performance management, compensations

10. Industry innovations: building new industry architectures

11. Value innovation: a combination of increased value to the customer and reduced cost factor

12. Social innovation: The new structures and models for societies, improving society's welfare and performance

13. Open innovation: Company internal and external ideas and R&D and joint business model.

Enablers for innovativeness

Innovativeness is a human and personal matter. There are many ways to influence people. New type of behaviour, which is expected in all change programs, requires both motivation and competence to learn and achieve the goals, or act in an innovative manner (FIGURE 1). The path towards the goals may be easier or more complex depending e.g. on the size of problem and the competence around the subject.

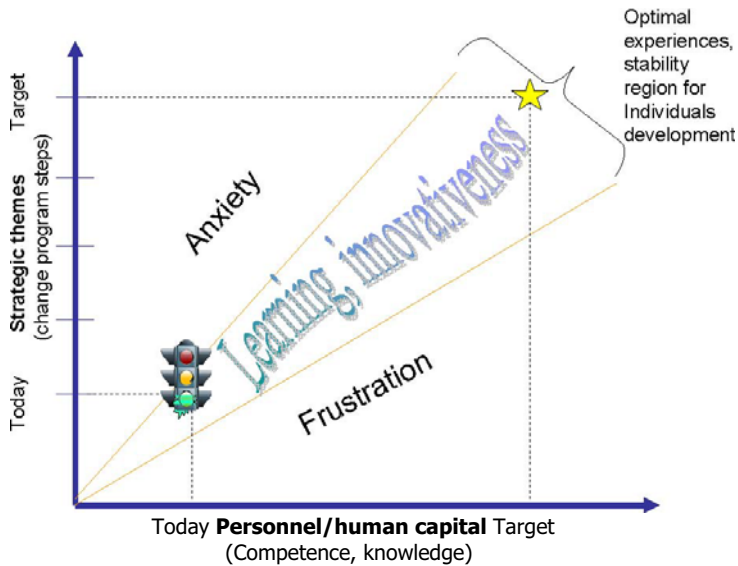


FIGURE 1 Individuals and groups optimal behavioural development towards the strategic goals. The author's modified version from Csikszentmihalyi's (1990, 117;2004) and Kes-ti's (2007, 47) illustrations.

Business model and support for innovativeness

Often big companies are using hierarchical structures throughout all operations, such as in line management and project management. These structures cause different kinds of problems e.g. in cases of flexibility and dynamics of changes. The company internal entrepreneurship is seen as an alternative in many places to gain dynamics, and it can be regarded as a rule-breaking solution for stagnated collaboration, slow acceptance and negotiations for seeking the approval for actions. The entrepreneurial company has informal and centralized managerial structures. (Handy 1993, 257; Koironen & Pohjansaari 1994, 16; Drucker 1993; Cahan & Vogel 2003, 176; Hamel 2007; Pinchot 1986; Heikkilä 2006, 40.)

Innovation management aspects are handled in Davila's (2004) concept as follows:

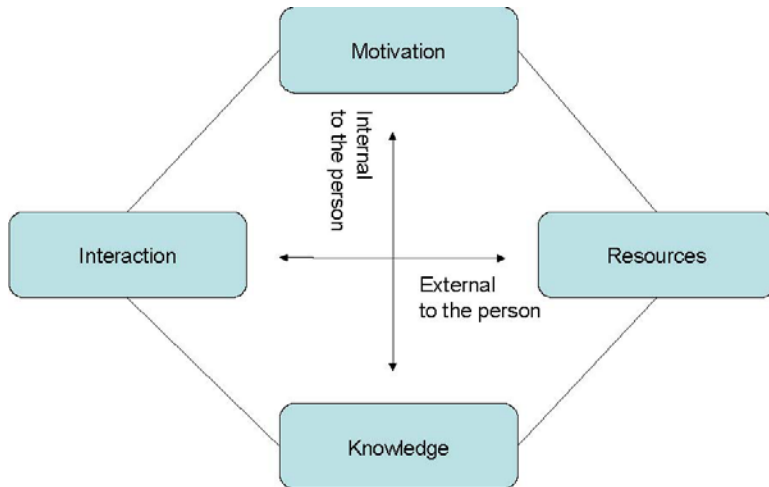


FIGURE 2 Levers of innovation are either internal (motivation and knowledge) or external to the person (interaction and resources). (Davila 2004.)

A summary of authoritative ideas and aspects supporting innovativeness in business are discussed next (Tapscott and Williams 2006; Orre 1987, 155; Ranta 2005, 30; Gibson & Skarzynski 2008, 202-208; Sydänmaalakka 2001):

- Open mindedness: networking, sharing, self-organized teams, encouraged people
- Peering and networking: networked development, open source type of government
- Information sharing: Balanced intellectual property management, partially open and partially protected
- Acting globally: peer production communities provisioning access to new markets, ideas and technologies
- Knowledge management: Knowledge , competence and utilization of different talent, training how to become extraordinary innovators, emphasis on continuous learning
- Responsibilities: Individual's responsibilities of his/her duties
- Equal treatment of individuals: Perception of equality despite of positions in the organization
- Autonomy and degree of freedom: Allowance of creativity on direction towards the strategic goals

- Values and norms: Trust, respect, loose membership norms, good team spirit
- Intrinsic willingness to innovate: Creative individual is willing to abandon the routines and current behavioural models. Such a person dares to reach out towards new challenges and try out alternatives
- Technology infrastructure: “online suggestion box” for democratization of innovation
- Coaching and mentoring: supporting others and nurturing ideas, a role of innovation champion
- Rewards and recognition: “For most of the people, the biggest reward from innovation has nothing to do with the money”, but “creating something new from their own head, and which is takes them beyond the bounds of the usual daily routine”
- Communication: Rich, informal and abundant communication
- Tolerance and risk taking: Allowing for mistakes

INTRAPRENEUR

The intrapreneur could be regarded as an entrepreneur inside the company, who owns a certain set of capital, networks people and resources, and makes sure the opportunities are tried out so, that the “normal” operations can take an advantage from the outcomes of the pilots or conceptual try outs (FIGURE 3). Intrapreneurs are not typically interested in having plenty of subordinates or admirable rewards. They are also not satisfied by promotions or by gaining the respect of colleagues. (Pinchot 1986; Godin 2008; Himanen 2007; Hämmäläinen & Heiskala 2004.)

Drucker (1993, 140) says: “Successful innovators are conservative. They have to be. They are not “risk-focused”; they are “opportunity-focused.”

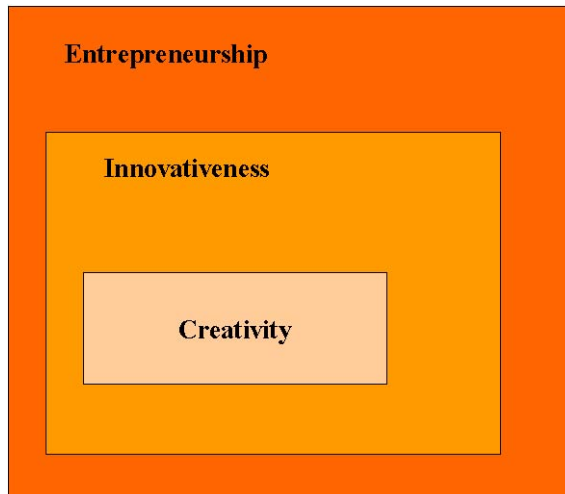


FIGURE 3 The relationships between creativity, innovativeness and entrepreneurship (Koiranen & Pohjansaari 1994).

The freight of own employability may impact negatively to the change driver person so, that the commitment to the “non-core business”, i.e. innovation missionary operations, are left pending for better times. (Amabile 1993.)

DRIVING FORCES

The psychological ownership reveals the internal entrepreneurship. The person feels, the subject and duty belongs to him/her. Good results increase the psychological ownership sentiment and this brings with it, joy and pleasure. The internal ownership can also be among the society, such as a work group. (Juuti 2005, 56; Lefingwell 2007, 313-316; Cahan & Vogel 2003, 176; Ceserani 2003, 100; Gibson & Skarzinski 2008, 202-208; Drucker & Maciariello 2006, 49.)

It's important for all people to gain respect despite their achieved level of success. It is also important to gauge his or her success and get a clear feedback on that (Heikkilä 2006, 7375). Therefore it is necessary to get positive feedback through successful experiences. There is a model defined by Fredricson, where positive emotions lead to positive behaviour and positive up-spin upwards. (Juuti 2007, 119; Fredricson 2002; Sachau 2007, 378; Posner 2003, 35-37; Thomas 2002, 98; Csikszentmihalyi 1990, 18; Csikszentmihalyi 2004; Blanchard & Muchnick 2003.)

Transformational leadership values and characteristics are motivating and changing the priorities of followers to exceed their expectations (Kark & Dijk 2007). The transformational leadership term is introduced by James McGregor Burns (1978; Sydänmaalakka 2004, 42-47; Deep Lead 2009.). The following 4 key factors in the transformational leadership are: idealistic influencing (high ethics), caring of individuals (caring and encouragement), inspirational motivation (inspiring vision, emotional arguments) and intellectual stimulus (increasing awareness, new perspectives). There are research data evaluated on solutions and leadership styles and on the leadership's impacts on group creativity. The result was that the transformational style in the nominal groups generated the most creative solutions. (Watson 2007, 432; Kark & Dijk 2007.)

Creativity process

Innovativeness is often referred to as visionary thinking or insights. Beyond that, there could be plenty of hard and persistent work, including trials and testing of markets. These trials are providing learning possibilities through feedback from stakeholders. Creativity and innovativeness are highly coupled with each other. Creativity without innovativeness is target less work or play, and the innovativeness without creativity is useless copying, according to Juuti (2005). Sometimes the expertise can be a limiting factor of being creative, if the expert is stuck on the common solutions and if control is sensed throughout. He or she cannot think abnormally and break the barriers of standard routines in such cases. (Anttila & Halonen & Kalakoski & Kreivi & Paavilainen 2007.)

The pathways to creativity are defined in the following FIGURE 4:

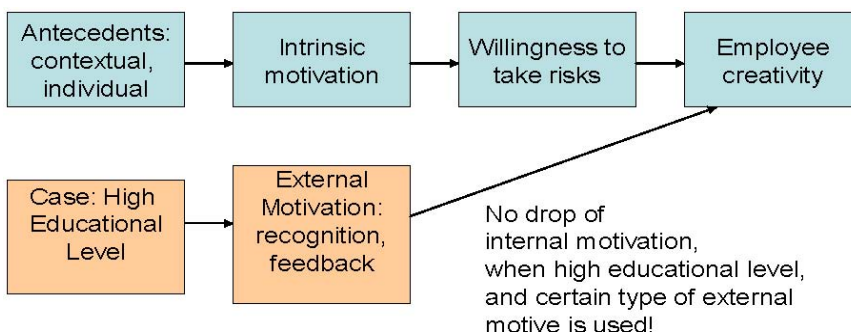


FIGURE 4 The paths to employee creativity, intrinsic motivation is on high level in both paths (Dewett 2007; Amabile 1993).

Triggers

The initialization of the creative process requires dissatisfaction as a background. This is an internal emotion or need to perform tasks in another way, better than before. This dissatisfaction of individual matter, concern or on the other hand contextual/external issue is a trigger, which loads a potential or internal pressure for changes. The second basic trigger is a “hunch” on an alternative method which could be a candidate for solving the problem. This “hunch” or perceived potential for success is providing a direction to the change. (Helin 1990, 23; Dewett 2007; Anttila & Halonen & Kalakoski & Kreivi & Paavilainen 2007.)

There are definitions in the literature for common antecedents or triggers for creative thinking. Those are supervisory encouragements (contextual antecedent), self-efficacy as a belief of a capability to perform in a specific task (individual difference) and openness to experience and receive feedback (individual difference). (Dewett 2007.)

Besides functional expertise, the other prerequisite for being creative is the ability to look at things from different angles and perspectives, and for being able to create associations and analogy between them. This is called divergent thinking. (Anttila & Halonen & Kalakoski & Kreivi & Paavilainen 2007, 167; Grönfors 1996, 102.)

The third necessity for being creative is that people are internally motivated to perform. Nobody can force an individual to be creative. The goals shall be clear, relevant and emotionally inspiring in order to get satisfaction from the activities. Goal setting is an important tool for steering the attention to relevant direction, towards new and challenging duties, which can lead to flow experiences. (Csikszentmihalyi 1990, 78&322; Csikszentmihalyi 2004; Anttila & Halonen & Kalakoski & Kreivi & Paavilainen 2007, 168.)

Motivation factors

There are many theories about the humans' characteristics, motivation for work and assumptions around it. One classification by Schein (Handy 1993) follows:

Rational-economic: “Passive animals” to be motivated and controlled by organization

Social: “Social animals” getting identities from relationships

Self-actualization: Primarily self-motivated and –controlled, external control reduces the motivation

Complex: Variable and many motives based on the situation and own needs

Psychological: Psychological development towards the ego-ideal, utilizing opportunities provided from the work. The gap between ego ideal and perception about us and reality drives the development.

INTRINSIC MOTIVATION

Herzberg (1982) used the term motivators or “motivator factors”, which are related to the intrinsic motives. These involve high levels of self-direction and productivity (Sachau 2007).

Internal motivation and self rewarding is based on the following requirements (Anttila & Halonen & Kalakoski & Kreivi & Paavilainen 2007, 16; Pink 2009; Sinemäki 1998; Grönfors 1996; Vakkuri 1989; Thomas 2002; Csikszentmihalyi 1990; Csikszentmihalyi 2004; Godin 2008; Niermayer & Seyffert 2004; Heckhausen 1980):

- Willingness to be competent and expert in certain branch of life, mastery
- Need to be self-governing and self-guiding, autonomy, independence, power, responsibility
- Getting satisfaction from collaborations with other individuals e.g. customers, immediate feedback
- Purpose, relevant subject
- Curiosity and interest
- A proper level of uncertainty to keep duty exciting

EXTRINSIC MOTIVATION

The external motivation (a.k.a. extrinsic) is coming external from the activities. Those are rewarding, money, tangible assets, admire, acknowledgments and fear of punishments.

Herzberg named the issues which are dissatisfying as “hygiene factors”, which are associated to the extrinsic motives. Herzberg and his colleagues noted that, similar to medical hygiene, fair pay, good interpersonal relations, fair policies, and pleasant working conditions do not appear to provide much long term satisfaction, but they do prevent dissatisfaction. Once a person has experienced a new higher level of a given hygiene factor, the new level becomes the minimal acceptable level. (Sachau 2007.)

MOTIVATIONAL DIRECTIONS

Psychologist Carl Jung introduced a concept called introversion-extroversion of identifying “types”. This is about how people are “energized” in life. (Borg 2007.)

Jung has also classified people’s behaviour as follows:

TABLE 1 People’s behaviour in how pay attention and make decisions (Borg 2007, 230-237).

Dimension in behaviour	Styles in the dimension
Paying attention	Senser / iNtuitive
Making decision	Thinker / Feeler

Ranta (2005) divides individuals into categories about how they're motivated, how to deal with changes, how the systems are understood and which is the most natural work model for different personalities.

Kark & Dijk (2007) are referring e.g. to Higgins’ (1997) studies about people’s two basic self-regulation systems, promotion goal or prevention goal, which are regulating and modelling ones behaviour i.e. they are modelling and showing and the motivational directions.

The co-existence of both internal and external motivation is possible in certain cases, as depicted in FIGURE 4. Also the setting high expectations and goals are impacting to the total motivation remarkably (both extrinsic and intrinsic parts).

Learning organization

Development and learning is much more than reading another book, again. It is as much improvement of the work processes as learning to know people around in the network (Nordström & Ridderstråle 1999). Learning is a key element for building corporate innovations, since try outs either in development phase or in markets requires reflective approach and therefore lessons to be learned before next try out.

The intelligent and learning organization has following characteristics (Juuti 2005, 130; Sydänmaalakka 2001, 51-54):

- It learns quicker than the competitors' organizations
- It can see the needs for changes in very early phases
- It can deploy the changes into practice quicker than the competitors

Innovations are said to be created as a result of a collective and social learning process, when there is not fear of receiving strong criticism or flak. (Juuti 2005, 140; Hämäläinen & Heiskanen 2004; Anttila & Halonen & Kalakoski & Kreivi & Paavilainen 2007, 177; Ceserani 2003, 100.)

Hamel & Prahalad (1994, 2006, 213; Hamel & Pharalad 1994, 206, 216-217; Cahan & Vogel 2003, 167) state that one way to increase the diversity and widen the perspective is to borrow a portion of personnel to other companies aside from utilizing different vendors as partners. The company's capabilities to mix-ture different types the persons in a new way can multiply the value of the resources.

Transformative learning may begin with deep reflection, critical analysis, and de-construction before rebuilding. It transforms the way the group members perceive their roles, responsibilities, and relationships. On the other hand there is always a risk for incompatibilities of roles e.g. with operative and innovative parts that could cause psychic entropy (Handy 1993 65&72; Csikszentmihalyi 1990; Csikszentmihalyi 2004). Transformative process is synthesizing divergent views and resolving conflicts through argumentations, not compromise or majority rule. Critical reflection shifts group members' beliefs, attitudes, and emotional reactions for recreating group purpose and interactions. (London & Sessa 2009, 358.)

Kinnunen states: "People who are always busy are not creative, since they don't have time to digest what they have learned." (Juuti 2005, 133.)

Performance management

According to Grönfors (1996, 47) "The human resource management aims to two goals: improving the employees' performance and increasing the efficiency of the organization".

INTERNAL SUPERVISION, SELF-EMPOWERMENT

In order to manage in this turbulent business environment, each of us must develop an own strategy, a survival kit, now (Nordström & Ridderstråle 1999, 217). Kotter (1996, 178) states, that the lifelong learning is important in increasingly

changing business environment. The other main factor is the competitive drive. Both of these factors are giving people an edge by creating competitive capacity.

Thomas (2002, 28) describes the self-management process as follows:

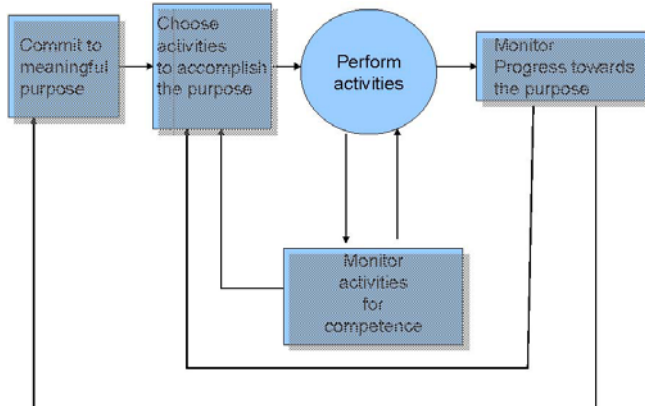


FIGURE 5 The self-management process (Thomas 2002).

Monitoring of competence of performance and progress towards the purpose are both important aspects in the model.

TRADITIONAL METHODS

The traditional performance management process goes typically as follows:

1. Company strategy is defined and communicated
2. Key performance indicators (KPI) are defined
3. Goals are set for those KPIs and those are communicated
4. The performance is measured and followed up

This methodology could be adapted to the incremental innovations (improvements) as Davila (2004) illustrates this in FIGURE 6.

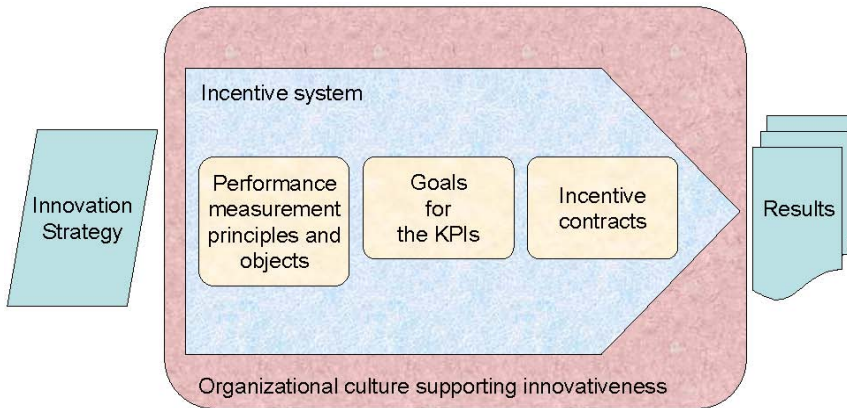


FIGURE 6 Incentive systems design model is for incremental innovations (Davila 2004).

The incentive system above by Davila (2004) is based on balanced score card by Kaplan & Norton.

MODERN METHODS GRÖNFORS (1996) DEFINES THE PERFORMANCE AS THE FOLLOWING EQUATION STATES:

Performance = f(ability, effort, opportunity)

Ability is knowledge, skills and technological conditions

Effort is a function of needs, goals, expectations, motivation and rewarding.

Opportunity means a situation and possibility to utilize individual capacity and effort in a meaningful manner.

The commitment, trust, joint values among individuals and company, resource availability, social connections and bindings are also factors, which are impacting to the performance (Grönfors 1996, 38-41).

Innovation driven companies reward learning, try outs and experiments. New duties and challenges and opportunities are regarded as rewards. The recognition is rated high among the intrapreneurs especially, when the recognition is seen as legitimacy for actions (Pinchot 1986, 219). The need for legitimacy is typically increasing one after other innovation project. Without the (intra)capital there is a

need to ask permissions. (Pinchot 1986, 235; Posner 2003, 23-25; Koiranen & Pohjansaari 1994, 52; Gibson & Skarzynski 2008, 24-25; Drucker & Maciariello 2006, 298; Sloman 2008, 239.)

Quoting Thomas (2002, 8): “Workers have been forced to take more responsibility for their own careers, going where the work is rewarding and where they can develop skills that will guarantee their employability”. People are seeking for meaningful and worthwhile work which senses rewarding.

The giving of feedback is seen remarkable impact for individual’s increase of self-esteem. It is also important to take to account less successful people’s self-esteem. It’s important for all people to get respected despite of their success. It is also important to sense his/her own success and get a clear feedback out from that (Heikkilä 2006, 73-75; Sydänmaalakka 2001).



FIGURE 7 The circle of self-empowerment by Heikkilä (2006, 76), referring to Borba’s studies about the subject.

Thomas (2002) illustrates below the intrinsic motivation sources and how to gain and improve those without disturbing the “internal fire.”

TABLE 2 The four intrinsic rewards by Thomas (2002, 43).

	Opportunity rewards	Accomplishment rewards
From the task activities	Sense of choice	Sense of competence
From Task purpose	Sense of meaningfulness	Sense of progress

Measurement of innovativeness

The following structures are used for evaluating the innovativeness among the personnel:

- Ideabox statistics
- Interviews
- Questionnaires
- Knowledge sharing sessions, like innovation board meetings

Proposals for metrics and KPIs for checking effectiveness of innovation process and innovativeness:

Summary of innovativeness

Issue to be measured	KPI (s)
Idea activism in ideabox	# of entries per period
Feedback activism	# of comments per period
Decisive feedback speed	Answering time average per analysis stage
Number of persons involving try outs	# of try out persons/total # of persons in unit
Number of ideas offered for implementation	# of idea try out offered/period
Number of improvements/ideas implemented	# of ideas implemented/period
Number of ideas implemented from total	# of ideas implemented/total # of ideas
Value of the implemented ideas	Value per idea average, the ranges of values (max & min)
Employee satisfaction	Innovation satisfaction factors: learning, progress, feedback, recognition, motivation, technological tools and methods used, innovations opportunities offerings, freedom to act, resource availability, supportive management, fair compensation policy
Employee networking	Networking capability factor: new communications contacts, quality of collaboration, coaching
Self-empowerment	Self-empowerment factors: satisfactory level, ability to find opportunities and set own goals, perseverance on mistakes, sensing of progress, sensing of reward
Stakeholder satisfaction	Stakeholder satisfaction factors: subjective image about the unit, development of innovativeness, quality of innovation communication, cost efficiency and innovations

The literature references and background are summarized in the following figure:

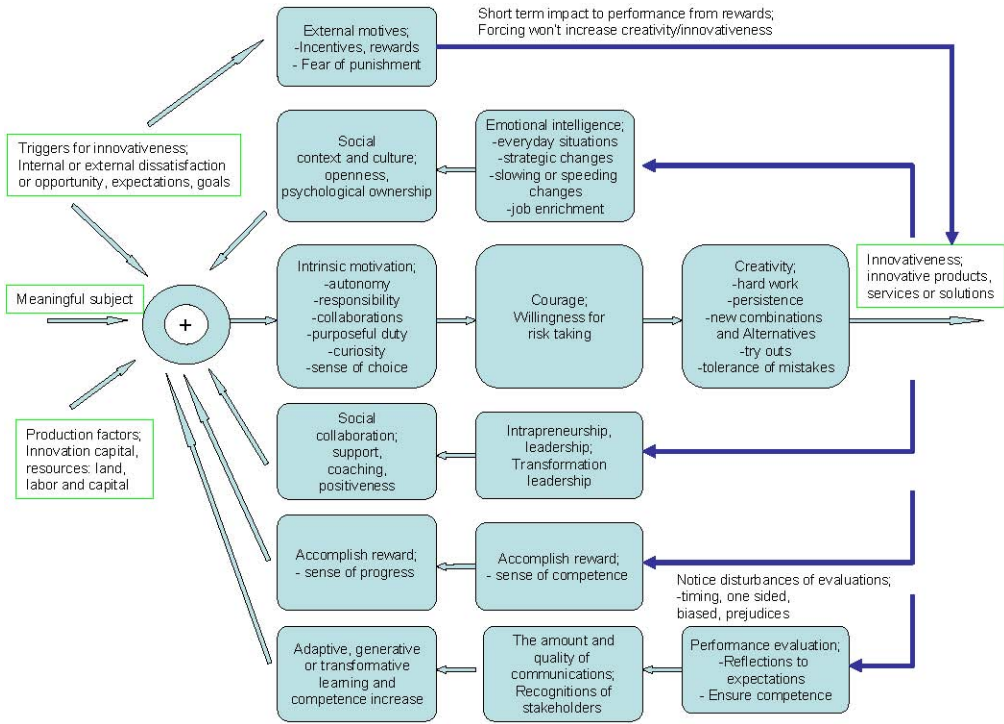


FIGURE 8 Author's illustration about innovativeness process.

The inputs to the innovativeness process are triggers and production capital. The main driver of the innovativeness is the internal motivation of the individual. Sometimes there is a need to trigger and wake up the activities externally in order to steer the initial steps to wanted direction. There are number of issues, which can increase or decrease the innovativeness, since there are plenty of feedback loops illustrated in FIGURE 8. The performance can naturally also increase, temporarily though, when utilizing external motives properly. The drawback of those are, that humans tend to get used to those, and therefore the activities and directly bound to those extrinsic motives like rewards. The impact of the external motives is decreasing in time, that is, in order for someone trying to control the human for extraordinary performing manner need to increase the mo-

tives all the time. Also the impact lasts much shorter time than in case of intrinsic motives. Performance management's one essential problem is how to measure it and how to be sure the data to be used for decisions is valid. Therefore the quantitative methods should not only be used for evaluations, but the qualitative methods should be used mostly, since occurrence of social innovation and learning requires plentiful communication and dialogs among people.

The important notice is that if an individual senses someone is trying to control him or her, the intrinsic motivation decreases. In that sense, the process is fairly fragile from managing point of view. But on the other hand, when offering purposeful duties and jobs with the innovations and idea developments, there are possibilities to see job enrichments working and efforts done for these innovations related activities.

As there are not that many actions a.k.a. management mandates, which are preferable in order to steer and influence the people to do the creative duties, this is a fragile concept as such. There are always phantoms around this i.e. fear of employability especially at the recession times, fear of losing your face i.e. getting embarrassed, fear of losing career path. In order to come over or reducing these fears, the management should consider encouraging people for making risks, rewarding persons "breaking the inter-organizations barriers" and taking risks instead.

Methodology

The action research has been going on since spring 2009, when the idea box and basic organizational structures were set up in the company. The main intention has been waking up the open discussion about the subject.

There are number of different methods used so far. Background and research result analysis, brainstorming in different stakeholder groups, utilization of questionnaires for specifically targeted areas, interviews for analyzing motives, and unofficial discussions in the work groups and core team for observing the perceptions.

Practicalities and realism at work places

The biggest concerns are the demands to be operationally efficient enough and keeping key stakeholders satisfied by trying to show something in order to keep the stakeholders calm. You have to perform well continuously and keep time frames and manage your duties with even scarcer resources, and being a nice

person to others. This paradox situation makes it difficult to make proper plans for future. The overloaded situations are taking the lead if the commitments and ambitions are high. Need to run sprints, but where to? Where is the leading star or strategic approach? Where is the slack for thinking, socializing and innovating?

How do individuals define and understand the innovation? Typically answers state this means either invention or a product, which is creating a hype phenomenon. These kinds of solutions and ideas are expected from everybody in the company. If you don't get enough and immediate feedback to your brilliant idea, you are for sure getting frustrated and cynical. Many persons who want to keep activism living, they are ignoring the official processes, getting supportive people around and start implementing the improvements and piloting something inspiring. Many find the innovation budgeting and acceptance rounds too complex and slow. Some persons are even ignoring the whole idea box and are analyzing and doing small scale applied research by themselves in order to maximize the peace of mind for creativity reasons. The majority remains fairly passive or they're spending the minimum efforts on innovations, which fulfils the manager's requests or incentive program's trigger.

The pilots and try outs require also hard work and investments, which are difficult to get during the recession times. It also requires plenty of courage to start driving the ideas further. If you're an appointed innovation coach, do you act as an intrapreneur or a security seeking bureaucrat? There is a fear to fail with the "wrong ideas" and not enough "sexy" products. There is a risk to loose the next appointed position as a "driver" or "program manager".

What motivates us with the innovativeness? There have been fairly simple performance management and rewarding models used so far. People may be passive for new duties until management gives requirements or incentives. If you've got used to this, it works fine for tedious and "must" type of duties. Bonus bribes are effective for getting ideas collected or routine duties completed without worrying too much about the quality of the ideas. Of course there are people who are driving ideas successfully further in a way or another, for expecting personal salary increase and for reputation reasons or just due to inspired activities with piloting.

Common problem is that some ideas entered to idea boxes are far too complex to understand in half a minute. People don't spend time for analyzing others problems automatically, unless there is time reserved e.g. in work shops or in brainstorming sessions. Innovations are still regarded as secondary and addi-

tional duty, which don't have much priority, and this is often regarded as a typical bi-annual management program, which is replaced with something else soon.

The innovations related activities should be served as opportunities to learn, try something new, gain competence, and get to know new persons. The personal competitiveness is anyway based on the competence and networking capabilities. Who cares about your competence and when? The competences or actual performances are assessed typically for the personal development discussions, or they're collected during bigger organizational changes. The competence increase and "maintenance" is mostly on your personal account. The innovative try outs and pilots and participation in real active pilot projects are working as a learning exercise as well, if you're lucky to get into one. Do you need to sell yourself around the company for getting into such duties or do you need to change departments?

Since the company is aiming to change the business models for supporting the innovativeness supporting, there are still work to be done e.g. in collaboration and control structures. Innovativeness is also requiring time, space and resources, which could be arranged by individuals' autonomy. The innovation coaches are given an annual budget, which is shared between the pilots and try outs. Does each and every idea require an official budget portion and acceptance from dozens of innovation coaches? This is a traditional budgeting method rather than an innovative solution, but predictable cost structure though.

How are these ideas created and occurring? Some colleagues said the best ideas are popping into the mind when spending time in the shower, or maybe when walking from parking lot to the office premises. Often people get brilliant ideas in situations, when they doing something else like; when cycling between home and job, early in the morning just after the wake up, or while picking up blue berries in the woods. Possibly an unintentional event, relaxed, positive and open minded mood could be found in all of these cases. The systematic approaches are also good tools for finding solution through hard work and theoretical background underneath. However, I wonder, how often are you in such a mood during working hours?

The messages about successes, changes or interesting things are typically spreading quickest from peer to peer, friend to friend or in the coffee table talks. People rely on other colleague or friend more than the manager or a salesman for marketing new innovations and "crazy" trials. As these successful pilots generate positive feelings and great stories amongst the colleagues, the activism may spread, if the innovation was promoted and actively encouraged by the

management. Activities with short term wins get therefore much easier appropriate support and foundations under the feet.

Conclusions

The innovation as such is currently regarded as hype, but also a necessity to survive as a company. There are many people, who have been working in an innovative manner always. The researchers are naturally working mostly like that. But the majority of the R&D developers are working for projects, which have efficiency improvement requirements from business units. As the innovative behavior requires slack, happiness, and freedom to act, there are challenges to root the importance of the mission into everyday practices.

There are signs the innovativeness can get growing gradually after the hype phase, but there is a need to increase the individuals' activism as well as get support from management for those.

Networking capabilities and improvements needs to be investigated further, since the innovations are rarely happening without critical masses of people around.

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Determinants to Service Innovation Success: an Organizational Orientation Perspective

Abstract

What makes business based on service innovations to become more successful? In defining relevant determinants for the success, we focus on service providers that offer business-to-business services. This perspective highlights the significance of organizational orientation, which is an emerging approach in the service literature. We identify its three key dimensions that affect service businesses' innovation success. These three dimensions; customer, entrepreneurial and value creation orientations, are both parallel and overlapping, and they interact throughout the service creation and consumption life-cycle. We propose that the most successful innovators in the contemporary service economy need to simultaneously become customer-driven and engage entrepreneurially in needs co-creation, and commit themselves to value co-creation activities. The implementation of these orientations can, however, be challenging because a new kind of attitudinal perspective is required. This paper contributes to service literature by describing key factors that drive success of the providers' business based on service innovation. Our work helps firms in perceiving and developing their service strategy, sales and customer relationships.

Keywords: Service, innovation, organizational orientation

Introduction

Services make a vibrant and growing sector in most economies in the world. Consequently, a thorough understanding of service innovation is required to compete with services. This is because service innovation is crucial for service business success (Smith et al. 2007). However, literature on what makes for successful business based on innovation comes from the new product develop-

ment research, although innovative developments in service industries seem to be difficult to explain in terms of traditional innovation theories and typologies (Van der Aa and Elfring 2002). Hence, Akehurst (2008) suggests that there is a need to understand the complex interaction of the contributing drivers and factors of the service innovation success.

In multifaceted environments, such as the business to business service sector, neither one discipline nor philosophy will offer the practitioner, or researcher, an answer to the challenges of creating and sustaining 'success' (Paton and McLaughlin 2008). Nevertheless, service innovation is fast becoming the key driver of socio-economic growth and as such warrants increasing academic and commercial research attention (Paton and McLaughlin 2008). Service innovation is poorly understood (Maglio and Spohrer 2008) as the emphasis of prior research has been on product innovations and their processes, and only a few studies have focused on innovations in services (Van der Aa and Elfring 2002).

A recent phenomenon in service research is the emergence of orientation studies. Antioco et al. (2008) explored organizational antecedents and consequences of service business orientations that explain relative product sales and service volume of manufacturing companies. Moreover, Lusch et al. (2010) suggested that in order to cope in the emerging service economy, all service providers need to adapt a "service-dominant orientation". By this notion they mean that a service-centered view can be captured by eight commensurate shifts in thinking, primarily related to the operation of the firm and exchange of its resources. Collectively, these shifts provide a frame of reference for a mental model that encourages the organization to sense changes in customer needs and preferences, adjust its service offerings to remain responsive to the rapidly changing and complex environment, and learn from this experience (Lusch et al. 2010).

The majority of service-dominant orientation research is rather superficial. For example, the conceptualization by Lusch et al. (2010) lacks many important aspects found in the literature on organizational orientation and its dimensions, when it comes to understanding customers, enhancing the firm's operation, or reallocating key resources (see e.g., Antioco et al. 2008). In addition, the specific relationships and outcomes of such orientation remain to a large degree overlooked. Therefore, to provide a more in-depth perspective on the firm orientation-service success relationship, in this study we analyze how a service provider's (1) customer orientation, (2) entrepreneurial orientation, and (3) value creation orientation affect its success in business-to-business service innovation.

The paper is structured as follows. After this short introductory section, we offer a literature review on the theoretical foundations of the study. We discuss what service innovations are and introduce the selected dimensions of organizational orientation, including customer orientation, entrepreneurial orientation, and value creation orientation, each of which we anticipate being a determinant of successful business based on service innovation. Thereafter, we formulate propositions based on previous literature and establish a research model. Finally, we conclude the paper by discussing the implications of the study and providing some avenues for further research.

Literature review and theoretical framework

Service innovation

Innovations have contributed to the growth of service firms and to the scale of their operations, which in turn has increased their economic impact (Van der Aa and Elfring 2002). Still, the subject of innovation within services sector industries appears to have, in relation to product driven research, been somewhat neglected (Paton and McLaughlin 2008). Van der Aa and Elfring (2002) note that both technological and organizational innovations in services have been discussed in the literature, but it is difficult to compare the various forms. The reason for this impediment is mainly related to the fundamental differences in the characteristics between products and services.

Service innovation can be defined as "a new or considerably changed service concept, client interaction channel, service delivery system or technological concept that individually, but most likely in combination, leads to one or more (re)new(ed) service functions that are new to the firm and do change the service/good offered on the market and do require structurally new technological, human or organizational capabilities of the service organization" (Van Ark et al. 2003). Van der Aa and Elfring (2002) stress that adding service activities to the existing service portfolio does not necessarily imply innovation, and in many instances, unrelated diversification does not lead to new service concepts. To be innovative a certain level of integration through co-creation is required.

Service business studies have witnessed a recent emergence of organizational orientation approach. This perspective builds on the argument that in order to cope with fierce competition, service providers need to adapt an aspiring and feasible mindset in a form of various organizational orientations, such as the service business orientation (Homburg et al. 2002; Antico et al. 2008). Accord-

ing to Homburg et al. (2002) a firm's service business orientation consists of three dimensions: (1) the number of services offered; (2) the number of customers that are offered the service; and (3) the company's proactive emphasis of the service.

A firm's service business orientation seems to have tremendous potential. Janssen and Joha (2008) submit that it can offer all kinds of benefits, allowing companies to improve their efficiency, consistency and reliability, to reduce costs and risks, to create agility and flexibility and to reuse existing processes on the basis of service-oriented design. Janssen and Joha (2008) further stress that firms should address management issues when adopting a service orientation. Service innovation calls for organizations and employees who can cope with complexity and diversity of the service-oriented approach (Paton and McLaughlin 2008).

Since services are interactive processes between customers and service providers, customers become subjects with whom the service is co-produced. Customers are characterized as co-creators, who have a role in quality and productivity in service co-development process, and ultimately in firm's profitability (Gummesson 1995). The co-creation process of service innovation consists of three sub-processes: input, throughput, and output (Mills et al. 1983; Gouthier and Schmid 2003). It can be argued that these sub-processes are subsequent and parallel, and they are iterative. That is, any sub-process can be repeated a number of times and the output can turn into a new input.

The process nature of service co-creation calls for inputs in various factors and stages. Maglio and Spohrer (2008) maintain that bringing new services to market involves inputs and specialists in organizational change (human factors), business design (management and economic factors), and technology design and implementation (engineering factors). We argue that organizational orientation may be seen the same way. Customer, entrepreneurial and value creation orientations are iterative and simultaneous dimensions of the organizational orientation that is necessary for successful service innovation. Next, we will discuss each of these three dimensions in more detail.

Customer orientation (CO)

Service firms need to obtain information on their customers' preferences to better serve the needs of their customers (Rust and Chung 2006). Customer orientation refers to the ability of a firm to understand its customers' current and future needs and preferences, and to respond to them organization wide (Kohli

and Jaworski 1990; Narver and Slater 1990). CO is often discussed as a vital dimension of market orientation, other dimensions being, e.g., competitor orientation, supplier orientation and environmental orientation (Matsuno et al. 2005; Sorensen 2009). As the meanings of customer orientation and market orientation have changed over time and they are often seen similar concepts, a clear distinction between them is hard to make (Shapiro 1988). In this study, we discuss CO over market orientation, because customer has a special role in service business as a co-producer of service. In spite of that, we recognize the significance of other dimensions of market orientation.

Customer orientation has a multitude of effects in business. First, it has to do with creating and retaining a satisfied customer which, according to Drucker (1973), is the purpose of business. It also has been shown to be positively correlated with profitability (Jaworski and Kohli 1993) that is another purpose of business. Moreover, CO advances organizational innovativeness and customer service performance, which, in turn, foster organizational performance in terms of firm profitability and sustainable competitive advantage (Theoharakis and Hoolley 2008). Customer orientation also facilitates organizations' innovativeness and performance (Han et al. 1998) and Akman and Yilmaz (2008) provide evidence on CO's role in enhancing firm's innovative capability and innovation success, which is an interesting observation considering the present study's objectives.

Customer orientation seems especially important in service business. This is due to that a service-centered view is always customer oriented and relational (Lusch et al. 2007). Grönroos (2000) claims that instead of purchasing goods or services, customers buy offerings consisting of many components, and the idea behind service perspective is that market success requires more than a single core solution (i.e. a product or a technology). All aspects of a customer relationship should be developed to build sustainable competitive advantage. We agree with this perspective and maintain that service innovations stem from the holistic needs of customers. Thus, customer-oriented firms aim at the best total solution for a customer. Galbraith (2002) studied how a customer oriented company differentiates from a product oriented and argues that they continuously search for more customer needs and wants to satisfy. For this purpose, Payne et al. (2008) suggest that many firms use their every employee as a 'listening post' to learn customers' needs and gain profound customer insights which are utilized in helping customers co-design their services.

Customer orientation aims at creation of superior customer value. It is based on understanding customers' conscious and subconscious needs and wants that

are used as the premise of service development (Alam and Perry 2002). According to Payne et al. (2008), intense customer understanding includes learning of customer's relationship experiences, and gives weight to examining emotions, cognition and behavior. Matthing et al. (2004) emphasize that behind the solution there might be an interesting yet unfulfilled latent need, and different knowledge and skills are needed to identify it. However, CO does not mean being customer-led (Slater and Narver 1999). Customer-led firms are concerned with satisfying the customers' immediate expressed needs in a reactive manner whereas CO firms have a proactive approach to service development (Slater and Narver 1998). Proactive development is based on co-creation and emphasizes promoting an in-depth interaction and dialogue in customer-provider relationships (Payne et al. 2008).

We emphasize that customer needs and wants are dynamic. They change over time (Re Velle 1991) which can be seen as a driving force for innovation, but also a challenge for customer understanding. Therefore, a good customer understanding helps firms to understand what customers actually value and why they value those aspects. Value has at least two meanings: what customers perceive they receive in purchase or use situations, and what customers want to happen when interacting with suppliers or using their products and services (Flint et al. 2002). The latter refers to understanding desired value and relates to the notions of customer desires, needs and wants (Flint et al. 2002). However, it goes beyond the obvious needs and wants concerning operation, performance requirements and financial requirements into the less obvious criteria of valuation, and includes, e.g., how customers value the relationship experience or what kind of emotional needs they have on the service experience. Such intense understanding corresponds to CO and helps the company in anticipating the dynamics of changing customer needs.

Another issue accentuated in business services is: whose needs we do really mean? This is important considering that customers must want to adopt the new innovation in order for it to become successful. Therefore, the solution used in the innovation must match with customers' needs or wants seamlessly. However, typically individuals within customer organizations experience the business service and they have certain set of needs and wants (e.g., related to daily operations). Then again, there are heterogeneous needs on the department or group level (e.g., cost and implementation issues) and finally on the organizational level (e.g., strategy related preferences). Some individuals and groups within customer organizations have more influence than others. Therefore, it is important to identify the true decision makers and influencers within customer

firms, because they often are different from those having a formal status, but they may contribute even most strongly to the success of a service innovation.

The essence of a successful innovation is the idea of concept. The service concept refers to the prototype for the service, i.e. the utility and benefits provided for the customer; it specifies primary and secondary customer needs and both the core and supporting services that will fulfill those needs (Smith et al. 2007). It links together the market aspects that include understanding of customers' motives and needs and the technological aspects that include the solution (Orihata and Watanabe 2000). Service concept engineering is systematic, customer-focused action that aims at integrating customers' needs, wants and requirements into design activities and concepts (Burchill and Fine 1997). Customer oriented companies are considered particularly proactive in designing new concepts. Finally, service logic links the engineered service concept and a potential solution to a holistic view of customer motives and needs (Grönroos 2000), which prerequisites the evolution and transformation of customers from 'passive audiences' to 'active players' (Payne et al. 2008). Based on these supporting notions, we establish the following proposition:

P1₊: Customer orientation (CO) in terms of (a) continuous search for needs and wants, (b) promotion of interaction and dialogue in relationship, (c) understanding customer's desired value, (d) identification of true decision makers and influencers, and (e) systematic, customer-focused service concept engineering, drives provider's service innovation success.

Entrepreneurial orientation (EO)

Entrepreneurial orientation describes the way companies should recognize and develop opportunities in the marketplace (Covin and Slevin 1991; Stevenson and Jarillo 1990; Shane and Venkataraman 2000). It has typically been considered essential for manufacturing firms and their economic performance (cf. Ireland et al. 2009; Rauch et al. 2009). This is because an EO captures the innovative, proactive and risk-taking decision-making styles, processes and practices that specify how a firm intends to operate and compete in dynamic environments (Lumpkin and Dess 1996; Covin and Slevin 1991). To date, EO has however gained little attention in service business research although some authors, e.g., Lee and Lim (2009) point out that it seems to have a positive impact also on service firms' performance.

We argue that pursuing opportunities and EO-related actions can significantly enhance service providers' innovation activities. In this context, we conceptualize opportunities as client's needs. Needs are as vital to service innovations as

opportunities are to entrepreneurship. Needs cannot, however, become viable or successful unless they are entrepreneurially developed (cf. Ardichvili et al. 2003). Akman and Yilmaz (2008) discuss innovativeness and show that the aspects of EO drive firm's innovative capability and ultimately lead to innovation success. Moreno and Casillas (2008) reveal that EO has a strong positive impact on firms' expansion based on attention to new needs, and, ultimately, on firms' growth. Addressing relevant needs and developing them entrepreneurially can potentially determine whether or not service innovations are based on proper and encompassing understanding of client's expectations and lead to service innovation success.

Entrepreneurial opportunity theories offer two interesting perspectives to needs. On one hand, opportunities (or needs) are said to exist in the market, waiting for an entrepreneurial actor to 'discover', or identify, them. On the other hand, opportunities can also be 'created', or formed, by the actions of entrepreneurial agents (Alvarez and Barney 2007). Both discovery and creation of needs are essential when considering service innovations. The discovery perspective represents the customer side of need formulation. We label them as "customer-initiated service needs". Service providers obviously have to identify the existing needs of customers. Sometimes this is uncomplicated, especially when customers explicitly tell what they want, need and desire. On other occasions, they may have more implicit needs that have to be surfaced. The creation perspective can be thought of as progressing mainly out of the service provider's initiative. These "seller-initiated service needs" involve more uncertainty since customers' contribution is minimal, if not inexistent, at the beginning of need creation.

We propose a third perspective to service innovations based on customer needs. We label this approach as co-created service needs, because it seems that both customer- and seller-initiated, discovery- or creation-based needs can be considered, to a certain extent, insufficient. Instead, we anticipate that successful service innovations are based on a very early sense-making between service providers and their customers about what is truly needed in order to solve current and future problems and challenges in companies. This view is supported by, e.g., Matthing et al. (2004), who claim that to uncover latent needs customer participation in the development process and observations of customers in real action are required. If the needs are client- or seller-initiated at the outset, they should be addressed and developed in the preliminary stages of service innovation process. Tackling needs in the fuzzy front end of innovation process enables quick failure and learning thereby leading into better solutions and a more efficient innovation process.

The selling function is at the crossroads of need co-creation and development in the B2B context. The ongoing shift towards service orientation promotes the evolution of customer-focused 'sales organization', where sales-related employees invest in considerable improvements in the level of customer contacts (Sheth and Sharma 2008). Also Antioco et al. (2008) show that the relationship between the service business orientation and sales growth becomes stronger with increasing levels of cross-functional ideation between front-end employees (i.e. sales people) and the rest of the firm. Salespeople need to engage themselves into collaborative efforts to promote ideation between themselves and other organizational units, which, in turn, facilitates need co-creation. Thus, proactive sales and ideation of possible future states on the part of each salesperson can effectively enhance the need co-creation processes. Cross-organizational ideation requires a detailed consideration of all processes and activities contributing to the service (Smith et al. 2007).

Because interactive situations between firms and their customers are common in B2B contexts, most of the co-creation takes place in interactive communication. In these situations, mutual trust is essential in opening previously confidential processes to each other in order to understand more deeply how service innovations evolve on both sides. Furthermore, to customize or create a new service, sellers must possess the skills and opportunities to listen and appeal to the purchaser. A good quality of social interaction inside entrepreneurial companies has been shown to have a positive effect on pursuing entrepreneurial opportunities (DeClercq et al. 2010). In addition, co-creation opportunities can be identified by the provider 'teaching' the customer certain co-creation behaviors and communicating expectations to the customer on how they can actively participate in the co-creation process (Payne et al. 2008). The foundations of successful service innovations are laid in meetings with customers.

A key aspect of service business is the high involvement of customers in the creation of the service. Thus, we argue that knowledge exchange becomes vital for customer-oriented sales organizations in pursuit of service innovation based on co-created needs. A service provider's ability to leverage its entrepreneurial activities into success depends on internal social exchange processes that facilitate various types of knowledge and experience utilization between organizational actors, teams and departments (Floyd and Lane 2000; Ireland et al. 2003; Dess et al. 2003). Furthermore, Blazevic and Lievens (2008) show that customer co-produced knowledge can contribute in every stage of the innovation development. EO mobilizes a firm to generate explorative knowledge and increases internal variety through knowledge richness, which is associated with innovation

and superior performance (Hughes et al. 2007). Exploitative knowledge aims at, e.g., finding improved ways to commercialize services (Dess et al. 2003). Knowledge exchange should stress explorative learning, because EO has strong impact on firm's business performance in explorative companies.

Co-creation of service needs can be enhanced by motivational support to customers. Service providers should detect customers' motives and social benefits to better understand them. Etgar (2008) submits that in the B2C context customers may decide to participate in production activities because the very act of participation and performance of the relevant tasks can yield experiences that provide psychological benefits or social benefits independently of the nature of the services created in the process. These motives can be either 'intrinsic', such as aesthetics, ethics, deviation, excitement and variety seeking, or 'extrinsic', such as excellence, autonomy, uniqueness, enjoyment, and self-expression (Etgar 2008). Customer's participation in service co-creation may also be driven by various expected social benefits, such as self-esteem, dialogue, social contacts, production and brand communities, or social control. The need for detecting customer's motives is important also in the B2B context, as Van der Aa and Elfring (2002) suggest that motivational support is a key process for the firm in any case where customer is the co-producer of a service. Hence, based on these advantageous notions we propose that:

P2+: Entrepreneurial orientation (EO) in terms of (a) pursuing co-created service needs, (b) engaging in proactive sales and ideation, (c) fostering interactive communication, (d) promoting inter-organizational knowledge exchange in service processes and (e) providing motivational support to customers boosts provider's service innovation success.

Value creation orientation (VCO)

The creation of value is the core purpose and central process of economic exchange (Vargo et al. 2008). Consequently, Cova and Salle (2008) identify the co-creation of value, the supplier and the customer as the pillars of service-dominant approach. Moreover, they recognize that although the service provider offers a value proposition, value actualization occurs in the mutual usage and consumption process which call for collaboration with the customers and other co-producers of the service. According to Lusch and Vargo (2006), the roles and operation of suppliers, customers and others are expanded in new and novel ways in the service-dominant view on innovation. The intangibility of service innovation causes value co-creation to take forms rather different from those familiar through studies of innovation in products. Value co-creation in services involves influential interaction between the innovators, and can be extended

beyond the customer-supplier dyad to intermediaries, thus involving many-to-many business relationships (Gummesson 2007).

Co-production resources and opportunities in the relationships lead to enhanced competitive advantage (Lusch et al. 2007). In this vein, service innovation becomes the unifying purpose of value co-creation among multiple innovators through continuous resource allocation, i.e. procurement, production, distribution and consumption of resources that are needed for novel service (Ballantyne and Varey 2008). Ellram et al. (2007) emphasize that a failure to allocate resources to functions where they can be most effectively used has been documented in numerous organizations, and the challenge or services lies in their production and delivery process, as it either enables or disables the parties' potential for value creation (Lusch et al. 2010). Furthermore, Vargo and Lusch (2008) maintain that according to service-dominant logic, customers are not targets but resources themselves. In fact, according to Vargo et al. (2008) all social and economic actors are resource integrators. They must be assisted in their own value-creation processes (Vargo and Lusch 2008) and a combination of processes, skills, materials, and other resources must be integrated to result in planned or designed service innovation (Van der Aa and Elfring 2002; Antioco et al. 2008).

Vargo and Lusch (2008) identify two major aspects of service innovation creation: 'value co-creation', a co-created dialogue that improves resource allocation and manifests through novel service process, and 'value co-capture', co-production of a value proposition that builds on the service process and results in co-created service offerings and business models. Customer is always a co-creator of value (Lusch et al. 2007) and helps to conceptualize the service innovation. Service firms hope to exploit these explicit conceptualizations; offerings and models, particularly in business markets in which customers take active and tangible roles (Van der Aa and Elfring 2002; Ordanini and Pasini 2008). Hence, superior value propositions (Smith et al. 2007) that are relevant to customers, should give rise to greater opportunities for co-creation and result in benefits (or 'value') being received by the provider by way of revenues, profits, and referrals. Value co-creation may further lead to improved service process efficiency, as the customer carries out tasks that otherwise have to be carried out by the provider (Fließ and Kleinaltenkamp 2004), and vice versa.

Customer participation is the degree to which the customer is involved in service innovation (Dong et al. 2008). It is based on the view that customers and the provider interact before, during, and after the service innovation production and delivery process. At minimum, a service provider depends on the customer's information about the requirements the service has to fulfill, and about where and

how the service should take place or be used (Fließ and Kleinaltenkamp 2004). Dong et al. (2008) stress that more intense customer participation is critical because, under the service-dominant logic, customers collaborate in service processes. They contribute to the processes of innovation, production, marketing, delivery and consumption of services (Martin et al. 1999). In services the process and its outcome are inseparable, as they are produced and consumed simultaneously (Gummesson 2007) and processes require the participation of the customer during all service operations as a co-producer (Lusch et al. 2007). Dong et al. (2008) even argue that collaborative service processes should include co-created service recovery. Nevertheless, customer participation causes challenges for the provider's service process management (Fließ and Kleinaltenkamp 2004).

Service technologies are constituent enablers of a firm's services. Bolton and Saxena-Iyer (2009) argue that interactive services have some form of customer-firm interaction in an environment characterized by technology. New methods and technologies offer opportunities for developing new or improved services (Smith et al. 2007). Moreover, the use of service technologies moderates the relationships between service business orientation and its outcomes (Antioco et al. 2008) and precedes service innovation emergence (Chen et al. 2009). Thus, service technologies are most profound in the value co-creation process and support the new service development activity (Van der Aa and Elfring 2002; Lusch et al. 2007; Ordanini and Pasini 2008). However, Antioco et al. (2008) illustrate that in some cases service technologies may hinder service development, because technology is typically directed at enabling standardized, large-scale production, whereas many services call for one-off, customized co-creation. On the other hand, service innovation may rely on the availability of service technologies, if the service delivery and use are technology-based (e.g., online banking) or include tools to communicate, collaborate, co-design, customize and co-create needs, wants, ideas, and solutions.

Collaborative or co-opted decision making offers a process for key decisions on service innovation. According to Raghu et al. (2001), such a decision making is an argumentation process difficult for many managers. However, Möller et al. (2008) point out that traditional management thinking may become myopic in the extreme, as it tends to overemphasize the interests of either the service provider or the customer. Moreover, some failures in service co-creation may be characterized by a perceptual mismatch between providers and customers regarding whether and to what extent a service is innovative (Zofagharian and Paswan 2009). We share the view of Möller et al. (2008), who argue that in value co-

creation related to service innovation, the balancing of both provider's and customer's interests becomes important, and the winning service business models require integrating the value-creation strategies of both the client and service provider. Such thinking calls for an understanding of value co-creation in terms of mutual competitive strategy, with attention to the relational complexity, operational priorities, and cognitive exigencies. Consequently, the VCO perspective suggests that service co-creation partners will make any decisions on service innovation jointly, bearing the mutual benefits in mind, and pondering the effects of decisions to all participants. Employees on both sides are encouraged to make a short- versus long term trade-off that is best for the service provider and the customer (Rust and Chung 2006). Following the above stated argumentation we make a proposition that:

P3+: Value-creation orientation (VCO) in terms of (a) resource allocation and integration activity, (b) new service offerings and business model design, (c) collaborative service processes management, (d) feasible use of the service technologies, and (e) co-opted decision making in the innovation process, augments provider's service innovation success.

Research framework

In this chapter, we combine the three established propositions into a framework (see Figure 1) to illustrate the anticipated positive effects of customer, entrepreneurial, and value creation orientations on provider's success in its business based on service innovation. This success is labeled as service innovation success, because a provider's business success arguably relies on continuous innovation success, and at least the majority of specific innovations need to be successful. Moreover, in the service context the process and its outcomes are inseparable, thus making it difficult to distinguish between individual innovations. Hence, as service innovation is multifaceted and can take many forms, in addition to the framework we describe our view on what aspects comprise the provider's service innovation success. To begin with, Chen et al. (2009) investigate the antecedents and impacts of service delivery innovation on firm performance, and identify both financial and non-financial performance effects. This categorization is useful for our purpose; thus, we identify various financial and non-financial indicators of the innovation success based on previous literature.

Jaworski and Kohli (1993) show that customer orientation is positively correlated with firm profitability. In a similar manner, Akman and Yilmaz (2008) demonstrate that innovation success refers to the commercial performance of a new product or service. Financial measures as a whole reflect the value-in-exchange that is characteristic to service co-creation (Vargo et al. 2008). Hence, we see

that financial profitability of a service innovation is an indicator of its success. This assumption is supported by several authors, e.g., Rust and Chung (2006) and Smith et al. (2007), who point out that new service development is seen as essential for enhancing firm's profitability through cost reduction and increased sales. One of the most widely-used performance indicators in companies is sales growth (Rauch et al. 2009), which demonstrates both short- and long-term success (Hughes et al. 2007). However, other types of evaluations, such as return on investment are needed, too (Akman and Yilmaz 2008).

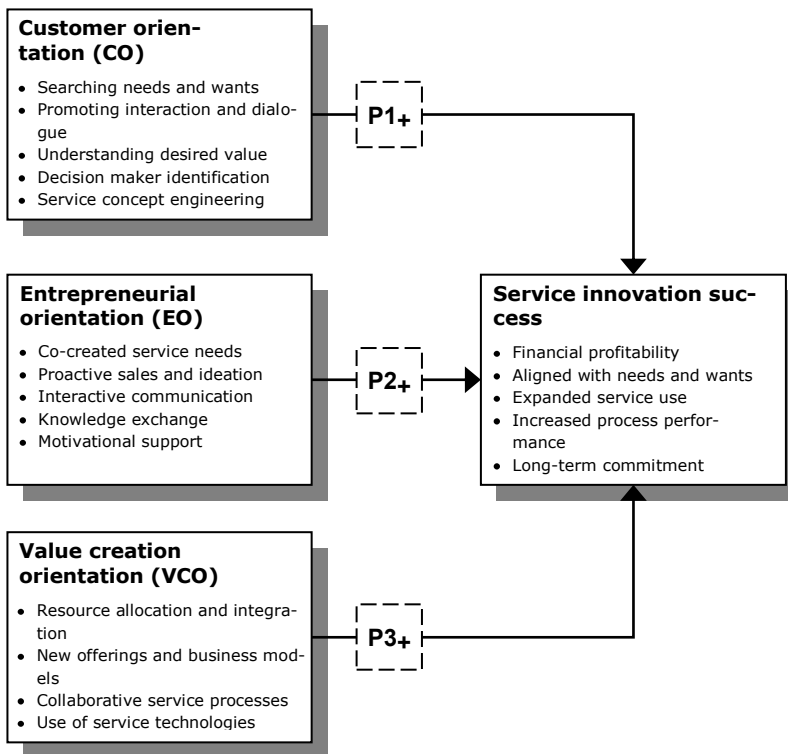


Figure 1. Three dimensions of organizational orientation required for successful service innovation

Rust and Chung (2006) claim that higher margins from the offerings sold are generated from the better fit between customers' needs and the solutions offered. Consequently, this notion directly suggests that a relevant non-financial measure of success in business based on service innovation is how well the resulted and conceptualized innovations are aligned with the customer's needs and wants. It can be argued that a superior alignment leads to improved cus-

tomers value. For the service provider, achieved skill to align co-created services perfectly with customer needs and wants is an organizational competence which may lead to competitive advantage over competitors. From the perspective of customer, service solutions which are well aligned with their needs enable value-in-use, the derived value that is distinctive to service co-creation (Vargo et al. 2008), which makes alignment an indicator of a service innovation success.

Expanded service use may be achieved through positive word of mouth (Rust and Chung 2006). A positive word of mouth may improve provider's organizational image, attract new customers or users within current and new customer firms, and open opportunities for market repositioning and new market entry (Moreno and Casillas 2008), both of which may expand the consumption volumes of services, or enable new kind of use for the service (Smith et al. 2007). Akman and Yilmaz (2008) further support the idea of expanded service use as a pointer of innovation success by claiming that success can be measured by estimating an innovation success compared to the sector average. Achieving a larger user base (as compared to competing services and service providers) in the sector indicate an expanded service use and, thus, an innovation's success.

Because of the collaborative process nature of service co-creation (Vargo and Lusch 2008), increased process performance should take place among all parties of collaboration. Increased performance includes various competences, e.g., better customer service performance (Theoharakis and Hooley 2008), new or improved capabilities or resources required in the service production, or quickened development and delivery time for services. In addition, increased process performance concerns improvements in internal and inter-organizational processes, such as sharing knowledge and co-ordinating knowledge more rapidly (Akman and Yilmaz 2008). This is because service is the application of knowledge and skills by one entity for the benefit of another (Vargo and Lusch 2004). Furthermore, Vargo et al. (2008) stress that the purpose of value gained from co-creation is to increase adaptability, survivability, and system wellbeing through service (applied knowledge and skills) of others. Hence, providers should evaluate their own changes in performance levels, such as enhanced learning or the innovation capability of the more motivated staff, and the performance levels those of customers and other relevant parties (Smith et al. 2007; Vargo et al. 2008).

A beneficial sign of an innovation's success is whether the customers and other relevant parties become committed with the innovation. Commitment to service innovation goes beyond the service use. Antioco et al. (2008) emphasize that service offerings, because of the interactivity between the providers and the cus-

tomers, and service support in the organization through the adaptation of organizational orientations, can create committed long-term relationships, which is essential. Several authors (see e.g., Rust and Chung 2006; Antioco et al. 2008; Chen et al. 2009) further stress that more long-term relationships with customers likely prompt greater relative customer satisfaction and loyalty and greater economical performance. Moreover, Payne et al. (2008) submit that committed customers make good referrals in markets. Hence, we see that committed long-term relationships make a good indicator to illustrate service innovation's success.

Discussion and Conclusion

Our study brings up several standpoints on service innovation success. The objective was to examine how three dimensions of service provider's organizational orientation; customer, entrepreneurial, and value creation orientation affect its business based on service innovation. For this purpose, we established three propositions based on previous literature that show what aspects form the dimensions and how they manifest themselves in the B2B service context. Furthermore, each of our established propositions suggests a positive causal relationship with service provider's innovation success, meaning that organizational orientation is an important issue in service business. The idea behind our view is that services are always co-created together with customers and other relevant participants. Our findings are particularly interesting.

First, our study reveals that each of the identified dimensions of organizational orientation; customer (CO), entrepreneurial (EO) and value creation (VCO) drive service provider's short-term and long-term innovation success. Based on the literature, we conceptualized CO in terms of continuous search for needs and wants, promotion of interaction and dialogue in relationship, understanding customer's desired value, identification of true decision makers and influencers, and systematic, customer-focused service concept engineering. Similarly, EO was seen as pursuing co-created service needs, engaging in proactive sales and ideation, fostering interactive communication, promoting inter-organizational knowledge exchange in service processes and providing motivational support to customers boosts provider's service innovation success. Finally, VCO was described through resource allocation and integration activity, new service offerings and business model design, collaborative service processes management, feasible use of the service technologies, and co-opted decision making in the innovation process. These three orientations are parallel, overlapping and potentially iterative.

Second, we suggest that these orientations require high volumes of interaction in the co-creation and co-capture of needs, solutions and concepts. This is in line with the notion by Payne et al. (2008), who claim that interactive and interdependent nature of value co-creation processes challenges traditional management practices, and value co-creation requires an ability to engage 'the extended enterprise' by managing across and within customer and supplier value creation processes. We maintain that 'co-creation' provides a common mental and managerial challenge, which unifies all dimensions of service providers' organizational orientation. Furthermore, we suggest that the importance of co-creation, which is characteristic to service business, has not been emphasized sufficiently in the literature on organizational orientation and its implications. This is because much of the previous literature is based on manufacturing industries and product innovation. Services make a new and remarkably different field of study for the organizational orientation research.

Third, our study suggests that in order to gain success in service business, co-creation activity should be the principal focus not only in the three identified dimensions of organizational orientation, but it should take place throughout the service innovation lifecycle. For a second time, this finding is supported by Payne et al. (2008), who highlight the benefit of customer involvement at every stage of product or service development and argue that managers and customers should be encouraged to consider innovative co-development of new offerings. However, innovation for services does not function in the same way as product innovation. Services should be viewed from the process perspective rather than as entities, apart from their business manifestations. This is because services make a process where the innovation, production, delivery, consumption and even recovery take place time and again. Hence, throughout the entire innovation cycle, service providers need to rethink their processes and come up not only with solutions to their customer needs, but also with new concepts and business models for themselves and potential partners.

Fourth, our framework highlights the importance of proactive behavior for service innovation success. We propose that anticipating potential for future co-creation activities is essential for both service providers and customers. The notion of proactiveness is inherent in all the proposed organizational orientations. Due to the process-like nature of services, proactiveness may be in a more profound and continuously-present role in service development compared to product innovations and their creation. Our suggestion is consistent with previous empirical findings in especially EO research, according to which proactiveness appears to be the primary factor in encouraging and enabling an effective function-

ing of entrepreneurial orientation and leading to innovative behaviors (Tang et al. 2008). From the service innovation perspective, proactiveness is thus a primary enabler of co-created activities in service innovation.

Our study has some practical implications despite of its conceptual nature. The contribution of this paper lies in describing the challenges of service innovation, so our work can help companies in creating new ways to perceive and develop their service strategies, sales and customer relationships. We propose that the most successful innovators in the contemporary service economy need to simultaneously become customer-driven and engage entrepreneurially in needs co-creation, and commit themselves to value co-creation activities. However, the implementation of the three focal orientations can be challenging for companies because a new kind of attitudinal perspective is asked for instead of more traditional ways of operating with customers. Co-created service needs are an unconventional approach to the challenge of service innovations. Hence, service firms' managers need to seek new ways of involving the customer in co-creation behaviors. It is also a notable challenge to both parties because it indicates a possible shift in power relations and innovation investments. The requirement of proactiveness in co-creation activities obviously adds to this complexity.

To conclude the paper, we offer several options for future research. Further research on the proposed interdependence between customer, entrepreneurial and value creation orientations is highly welcome. Many research approaches are suitable for exploring their nature, process and effects in the service innovation context. The present study provides researchers with descriptions of the orientations and the success, which could be easily converted into scales and variables for quantitative survey analysis. Qualitative researchers could focus, e.g., on actual interactive situations between service providers and their customers in order to understand how needs are co-created and developed in communication. Interviewing all participants after these situations by way of explicit statements about need co-creation could be worthwhile in giving a more encompassing view of all co-producers to this process. Subsequent research might also gain from addressing specific case companies in various stages of their client relationships, i.e. their relations with prospective, new and long-term client companies and how needs are co-created and developed in them.

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II RESEARCH NOTES

Should We Consider User Readiness A Prerequisite For Innovations Diffusion?

In contrast to the previous research, which hypothesizes that user psychological and social determinates such as attitude, norms, and intention underpin all user factors involved in previous adoption researches, study argues that user readiness does correlate with the success in innovation diffusion process that are related to User's Information-Based Readiness. Although, there are many factors that can influence the acceptance of an innovation but when users' information on that innovation is too low, researcher dispute that innovation acceptance either will be very low or will not be accepted. Furthermore, researcher argues that an innovation is accepted or rejected because of a positive or negative value communicated to the potential user on a single aspect of the innovation. This single aspect could be the innovation characteristics itself. In some cases, a combination of costs and benefits, risks and admittances, positives and negatives, across stages of innovation diffusion may determine the relative acceptance or rejection of an innovation. Diffusion in the literature of Rogers (1995) is defined as 'the process by which an innovation is communicated through certain channels over time among the members of a social system. Therefore, the diffusion process outlined by Rogers (1995) has five stages; knowledge, persuasion, decision, implementation and confirmation. User acceptance in information systems research defined according to Dillon and Morris (1996) as the demonstrable willingness within a user group to employ information technology for the tasks it is designed to support. Some authors define innovation acceptance as an outcome (i.e. Davis, 1989), while others define it as a process (Rogers, 1995). In this study, we argue that innovation acceptance is both an outcome and a process. It means that, potential adopters of an innovation have to learn about an innovation and be persuaded to try it out before making a decision to adopt or reject the innovation. Figure 1 displays this study framework, which shows that learning about the innovation starts once potential adopters involved in innovation-need recognition process by which potential adopters enter an in-

novation exposure step. In this step the outcome of market communication tools, such as mass media, word-of-mouth, search engines, social networks, direct email, advertisement impression and blogs, will take part and drive the potential adopter towards the second step of search and persuasion which achieved when awareness outcome enforced by adopters. Awareness tools such as review innovation literature and change detection and comparison will lead the potential adopter to further innovation understanding which in turn result in adopter's persuasion towards innovation acceptance. Following the exploration stage (exposure and awareness), adopters will move step further to the pre-adoption stage in which they will acquire more experience to be gained on that particular innovation. Further experience on innovation require the potential adopter to involve in some pre-adoption activities such as free innovation trial, feedback analysis, use of innovation, research the innovation, among others. The common characteristic of this stage is that potential adopters run and involved in an evaluation process by which they compare and contrast the result of their experience in the light of the alternatives to that innovation. Following to the pre-adoption and implementation, the adopters decide to either continue using the innovation or stop using it. The adopter's interest in gaining new knowledge and also the admittances, positive attitudinal effects and opportunities at both individual and organizational may contribute much to innovation confirmation. The purpose of the research is to gauge the stages of diffusion process of an innovation or (Rogers'1995) in the light of users' informational-based readiness and innovation acceptance in the field of information systems. The implications derived from this research findings is to establish a foundation and call for a holistic and philosophical approach to promote user readiness across IS researcher and practitioners and refocus their efforts in IS informational adoption process research. This study also provides an extensive review of three general adoption behaviour theories of individuals by incorporating four different factors in User's Information-based Readiness Process.

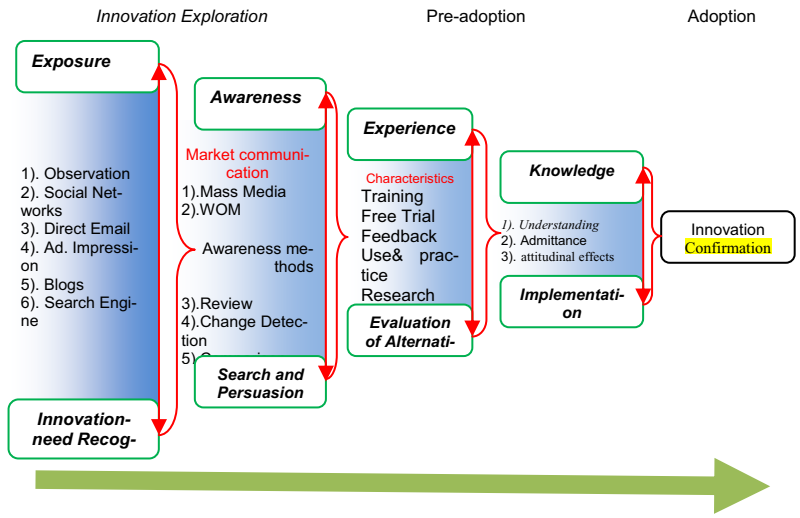


Figure 1 User's Information-based Readiness Process Model (Source: Zolait, 2010)

Helena Turunen

The Concept of Service Internationalisation Revisited

This study challenges existing understanding of the internationalisation of a firm, and especially the theories of service internationalisation, the resource-based view and the network approaches. It introduces a location-bound, resource-based, and inward perspective in the context of tourism SMEs, representing domestically located exports as a mode of internationalisation.

Earlier theories of service internationalisation are only of limited relevance to location-bound tourism enterprises as they are based on the assumption that a company has full control over the marketing and image-creation of its product. Moreover, existing theories do not recognise the internationalisation of domestically location-bound service companies: internationalisation typically refers to service operations and processes that are transferred across borders. Given that tourism production is physically bound to a particular location, in most cases it is the customer who comes to the service and not the other way round.

Furthermore, according to Welch and Luostarinen (1988), internationalisation could be defined as “the process of increasing involvement in international operations”. It is argued that this definition is insufficient in terms of explaining the internationalisation of location-bound service SMEs, which has a strong inward and inbound nature. Parallel with the findings on the process of inward internationalisation, the internationalisation of entrepreneurship as a concept was identified as an essential factor in the international development of individual tourism SMEs, tourism areas, networks and destinations.

Additionally, the degree of internationalisation includes the identification of different types of tourism companies within a system, situated on an active-passive continuum. Accordingly, three illustrative types of entrepreneurs in tourism SMEs were identified in the study: “the passive developer of internationalisation”, “the emerging developer of internationalisation” and “the international entrepreneur”. Those engaged in active internationalisation create the markets and act as key companies in the tourism production and product development, whe-

reas the passive ones may have an essential role in developing the quality and contents of the products in terms of offering authentic tourism experiences to visitors. The interplay between passive and active internationalisation requires a clear vision of the distribution of work within a tourism system.

The findings of the empirical study show that the internationalisation of entrepreneurship in the case of tourism starts if there is comparative advantage. This means that the environment of a firm offers the pre-requisites international tourism services - such as the physical premises and environment that make the service and the destination internationally attractive. Many industry-specific resources could be characterised as tangible, such as the facilities and the special environment. Significantly, however, tangible resources are sources of comparative advantage, providing the tourism destination with a unique or special appeal compared to other destinations.

Consequently, the capability to utilise these resources in co-operation with public authorities and other tourism enterprises, leading to profitable tourism business and competitive advantage, has an effect on the development of entrepreneurial internationalisation among the different actors in the field.

In the case of the tourism business the interplay between tangible and intangible resources and the actors' abilities to develop and utilise both significantly affect the success of an individual company and of a tourism destination. Consequently, attention should also be paid to the entrepreneurial and collaboration capabilities of tourist owner-managers in order to understand how comparative advantage can be developed into sustainable competitive advantage.

In sum, it could be concluded that existing theories of service internationalisation, the resource-based view of the firm and network approaches to internationalisation have their strengths in explaining the internationalisation of SMEs, but, individually they seem to be insufficient in terms of explaining and understanding the location-bound and inward nature of internationalisation in tourism SMEs. Hence, as a contribution to the theory of service internationalisation it is held that here are context-specific issues that are not recognised in the existing approaches. This study introduces a context-specific approach by linking the three background theories and analysing the internationalisation of tourism SMEs from the location-bound, inward and resource-based perspectives.

Vesa Salminen

SYNERGY MANAGEMENT BY HYBRID INNOVATION IN INDUSTRIAL SERVICE BUSINESS TRANSITION

Those manufacturing companies that are expanding their product offering to cover value-based life cycle services in the customer's facilities are facing continuous business co-evolution. However, complexity is also increasing because of the new offerings and the need to network all operations and manage distributed information and competence. It is obvious that the business model and other supporting business structures of partners in the value network are in constant transition. It is thus important to master innovation in the customer process over its life cycle.

The goal of the research has been to find available methodology pieces and fine-tune them or create new concepts with which to construct a framework for synergy management during various types of innovation in life cycle business evolution routing. When change impulses influence on business they are tackled by various types of innovations: business, market and life cycle innovation. The balance in running business is achieved by synergy management.

The problems foreseen in synergy management of customer innovations, business innovations and life cycle innovations in a complex, evolutionary business environment led to the following three research propositions:

- P1. The management architecture, consisting of a functional structure, semantic model and interface definition is architecting complexity.
- P2. Life cycle opportunities are routed through semantic infrastructure and management architecture structures during the innovation phases.
- P3. Sustainable business co-evolution is reached by synergy management through punctual hybrid innovation.

The first proposition deals with architectural structures of previous knowledge, which are essential as reference models for capturing life cycle knowledge and guiding innovation. The second proposition deals with life cycle learning and requirement management through the use of semantic infrastructure and architecture. The third proposition deals with synergy requirements in executing various types of innovation. It is possible to successfully face business, market, life cycle or business structure innovation, yet a balance has to be found between these distinct innovation sources to guarantee profitable growth in business.

The results have been explored through conceptual constructive research for six different interlinked questions:

Q1. How can the life cycle challenges of the customer process be managed in a networked environment?

Q2. What methodology and layers can be used in architecting complexity?

Q3. How can the management architecture and structures be used in innovation leadership?

Q4. How can punctual life cycle innovation be routed in a network environment?

Q5. How can semantic infrastructure be used in life cycle challenge management?

Q6. How can complexity be created and used in an adaptive nonlinear innovation process?

Large amount of theories were analyzed to construct solid basis for the framework. The propositions were validated through a large amount of industrial case studies, concept mapping and post-case study discussions according to qualitative research.

This presentation introduces as a result of the research a framework for synergy management by hybrid innovation in life cycle business transition. Concept mapping has been used to categorize the areas of concepts, analyze available concepts and adjust the suitable ones for the framework. Concept mapping has also been used to create new concepts for those areas where no suitable ones could be found for the framework and to integrate these into the framework. The created life cycle concept manages and controls business transition. The developed concept of management architecture consists of harmonized and standardized business semantics, classified functional structures and interface definition. Any product or service in the recognized class can be semantically described and communicated through interface definition. The open innovation

process requires definition of the interoperability concept with semantic infrastructure in order to achieve network dynamics to create new products, services or business models. Innovation takes place in three dimensions: business, customer, and life cycle innovation. The spiral innovation process over the three dimensions of this hybrid innovation enables a new type of business transition and evolution routing. Business co-evolution takes place at the boundaries of business models, networks and deliverables. Hybrid innovation is based on management architecture and semantic infrastructure and is enabled through the continuous relationship with the customer and customer process which supports life cycle learning and the capture of knowledge. The new framework for synergy management with the integrated concepts and toolset allows the emergence of competitive advantage and sustainability of industrial corporations and value networks.

Keywords: Co-Evolution, Business Transition, Value Model, Open Innovation, Common Semantic Infrastructure, Management Architecture, Synergy Management, Hybrid Innovation

Paresh Rathod & Anssi Mattila

Lessons-learnt in multicultural distance learning: A pilot bringing together learners and educators

Distance learning is one of the exciting and progressive learning methods since last few decades. It is not the latest learning method; at least in national context but international distance learning programs bring new things to the surface. The study emphasizes that education can be global but some factors and conditions have to be met or at least a culturally sensitive approach is required from the providing institution. In e-learning face to face contact is often kept at minimum level and instructors can be quite different what comes to the cultural background and human emotions, and not forgetting issues related to using foreign language. The authors are participating in an international distance learning pilot, which has given interesting experiences as well as some valuable lessons to learn. Authors are also taking part in the evaluation process of the continuity of the program. Our findings support previous studies on the subject, e.g. need for local adaptation (not only cultural) and local partners among others are of great importance.

The Use of RFID Technologies to Attain Situational Awareness in Medical Care - The Karelia Brigade Case

Radio Frequency Identification (RFID) is a technology that enables automatic identification and data transfer using radio frequencies. This technology has a key advantage in that a microchip can be attached to any object, animal or even a person, with a unique identification number and other information that can be read by wireless devices. RFIDs are not just "electronic tags" or "electronic barcodes" when linked to databases and communications networks, such as the Internet, They provide a very efficient way of delivering new services and applications, in potentially any environment.

In the health care setting, the use of RFID technology has been virtually non-existent, despite of some pilot projects. It is often used to track goods, usually expensive medical devices, but not people, especially patients.

For the Finnish Defence Forces' (FDF), especially in exceptional circumstances, situational awareness is the basis for planning future activities. Real-time information of medical resources, casualties being evacuated and their movements are an integral part of the operational situation. Casualties and patients from active combat units in medical supply chains are taken away from the unit, hence lowering the unit's capability and binding medical and logistical resources. Information of these can be crucial in the feasibility assessment of planned military operations.

The FDF's Centre for Military Medicine tested the use of RFID technology in 2006, during a nationwide military exercise, for mock patient identification, determination of triage class and situational awareness for the management of medical units in the field. The study was a success; by using a simple system it was possible to carry out real-time patient monitoring and medical care, managing the use of resources according to the urgency of the patient and estimated loads placed on field medical facilities. Commanders of medical units expe-

rienced significant improvements with the new system. Since then, similar findings have also been obtained in other settings, for example, civilian major incident exercises.

In the autumn of 2009 in Vekaranjärvi, with the Karelia Brigade, the next more extensive study began. At the end of 2009, with the help of RFID technology, real-time monitoring of operational medical capability in a readiness brigade-sized population was achieved. Each of the garrison's 2300 conscripts had a personal identifier, which was used to monitor the patient's movement along the medical supply chain; starting from their original unit or the field medical care chain, through to returning healthy to their original unit. Although the technology allows for the identification of each conscript and enables embedding of data directly to the patient information system, the creation of a separate register of personal data for research purposes was not justified. No individual's personal details can be identified and monitoring takes place only at a unit level. Despite this, information to the medical care providers as well as brigade and unit level command was available immediately. The key information being the number of casualties, and conversely, the strength of operational units - all giving basis for operational planning.

In addition to patient monitoring, the technology has enabled registering of symptoms and events: allowing symptomatic monitoring of patients in real time. For example, during the early autumn flu epidemic it would have been possible to detect the early signs even before the first patient had physically arrived at the medical facility. Combinations of signs and symptoms can, when observed in real-time, speed up the identification of epidemics by identifying idiosyncratic reactions. This could occur especially in unusual situations such as the contamination of food or water, or even the possible use of CBRN weapons. By combining information of symptoms of ill-health (for example in situations where CBRN agents are encountered) with sample identification, responses to the threat can occur earlier, minimizing damage or loss of life. While research is still ongoing at the time of writing, use of RFID technology has achieved significant changes towards truly real-time situational awareness.

Keywords: Radio Frequency Identification (RFID), situational awareness, signs and symptoms, conscripts

Michael Guiry & David Vequist

Identifying the Perceptions and Characteristics of Potential Medical Tourists for South Korea: A Preliminary Investigation

Purpose: The purposes of this work-in-progress research project are to identify the characteristics of potential American medical tourists who would be willing to travel to South Korea for medical care and to learn about their perceptions of South Korea as a medical tourism destination.

Rationale and Significance: One of the up and coming countries, providing healthcare options to the world, is the country of South Korea. The country is already very popular with wealthy citizens in Southeast Asia who are in the market for high-quality health care at a low cost. South Korea has set the ambitious goal of having at least 100,000 foreign patients annually by 2012 (Vequist & Valdez, 2008). Since one of the potential markets for the South Korean medical tourism industry is patients from the United States, it is important to identify the characteristics of potential American medical tourists to help the South Korean government, hospitals, clinics, and other medical tourism industry participants develop more effective segmentation, positioning, and international marketing strategies to attract more American medical tourists.

Methodology: Data were collected via an online survey of a convenience sample of potential medical tourists residing in the U.S. To administer the survey, U.S. medical tourism facilitators were asked to send the survey link to potential medical travelers who had contacted them in the past. Therefore, this population is assumed to be made up of Americans who were interested in medical tourism and had made an effort to find out more. To encourage participation, each respondent, who completed the survey, was paid \$10. Three thousand potential medical tourists were contacted by the medical tourism facilitators. The response rate was 51.2 percent, leading to a final sample size of 1537 respondents. The demographic characteristics of the sample are: 65% female; aver-

age = 36; 42% married and 35% never married; 34% college graduate, 27% some college, and 19% graduate degree; and average household income = \$113,565.

The questionnaire contained a number of scales from the marketing literature, i.e., Babakus & Mangold's (1992) modified SERVQUAL scale (15 items; $\alpha = .98$), Ekinci & Hosany's (2006) modified Brand Personality scale (27 items; $\alpha = .96$), Lages & Fernandes' (2005) SERPVAL scale (12 items; $\alpha = .95$), and Kahle's (1983) List-of-Values (LOV) scale (9 items; $\alpha = .93$). Additional items measured reasons for not seeking medical treatment in respondents' home country, desired medical treatment, preferred sources of medical tourism information, preferred tourist and leisure activities, and demographic characteristics.

Findings and Conclusions: Preliminary data analysis showed no significant differences in the demographic characteristics of survey respondents willing to travel to South Korea for medical care and respondents not willing to go to South Korea for medical treatment. Chi-square tests, using a .05 level of significance, showed that compared to those not willing to go to South Korea for medical care, a significantly higher percentage of respondents who would be willing to go to South Korea for medical care would do so for the following reasons high cost of treatment in the U.S., long waiting period in the U.S., want better medical care, want higher quality treatment, or want the most advanced technology.

Independent samples t-tests, using a .05 level of significance, revealed significant differences between the two groups of respondents when comparing their responses to the Brand Personality, SERVQUAL, SERPVAL, and LOV scale items. Respondents who indicated that they would go to South Korea for medical treatment perceive South Korea to have a stronger medical tourism brand personality (more authentic, competent, and rugged), have more positive perceptions of the service quality of international healthcare providers and facilities, believe that using medical tourism services will lead to more positive value-based outcomes (more peaceful life, more social recognition, and more social integration), and put more importance on having particular values (e.g., excitement and warm relationships with others) in their daily life than respondents who indicated that they would not go to South Korea for medical care.

These initial research results suggest opportunities for the South Korean government, hospitals, clinics, and other medical tourism providers to develop segmentation, positioning, and international marketing strategies to target American medical tourists.

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Shawn P. Daly

Medical Tourism Service Delivery: Developing Networks in a New Industry

Medical travel is multi-billion dollar global industry. Taking the case of the United States alone, over a million people travelled abroad last year for healthcare (Vequist 2010). Yet, it is a new industry, with the bulk of its growth coming in the past few years. As such, medical tourism has gone almost unnoticed by marketing practitioners and academics. The few available studies are about consumer behavior, customer service, and demographics. A recent and very extensive search for articles concerning networks or inter-firm relationships in medical tourism does not yield any success. Thus, there is quite a need for knowledge and understanding in this field.

When people seeking health care procedures outside their country begin their search for where to go, they often seek the advice and guidance of medical travel facilitators (classic middlemen connected to healthcare providers around the world). Given their central role in connecting consumers to providers, the facilitators are pivotal in understanding the formation of these nascent networks in medical services.

Studying medical tourism networks and facilitators provides pertinent information in two ways: as a case study concerning a major and growing industry and as a backdrop for understanding the formation of B2B networks. By examining the literature of networks, marketing channels, and relationship marketing, initial conceptualizations were created. Then, because of their central role in medical tourism networks, structured interviews were taken with approximately 20 CEOs of major medical tourism facilitators in early 2010. The purpose of these interviews was to investigate the structures, processes, driving factors of this industry's long-term relationships and network formation. Thus, this research sheds light on the important characteristics of medical tourism networks for the very first time.

Networks capital analytic lens: moving towards the concept of the value drivers - Empirical study of BRIC hi-tech companies.

The networks capital is generated outside and partially within the company by the wide range of the corporate interactions and cooperation with external stakeholders of business networks. Obviously, the networks management can increase the corporate value significantly, but unbalanced inner-isolated managerial decisions cannot. As of day, it is not an easy matter to assign the key analytical substance of the business networks structure and the networks capital features as the value drivers of the company. The range of applied and empirical papers of the networks intuitive phenomenon and the possibility of the development of those new unique value drivers especially networks based, preliminary force out researchers to find the common concept of the analysis. The networks value drivers are to be unique and thus to be sustainable under up-to-date rival competition and even under the conditions of the distressed world economy. Recently the original notion of networks capital is of genuine interest of various scientists of different academic fields: finance, management, sociology, psychology, anthropology, mathematics, etc.

According to this widespread academic heritage, it is possible to distinguish networks capital as the part of the intellectual capital of the company. The main distinctive feature is that the networks capital is accumulated mostly by the interactions of the company with the external business environment. The main issue in this case is that the company is quite limited in leveraging the business environment and is stint in resources to manage the external counterparts' interactions in contrast to internal corporate processes. Results of both analytical and empirical investigation of the networks capital groundwork according to the specifics of the value creation approach are reviewed in this paper.

The basic goal of the empirical research is to analyze the networks capital over hi-tech companies in comparison from BRIC (Brasil, Russia, India, China) and developed countries (Japan, USA, EU). According to the panel data analysis 2004-2008 years of joint ventures (alliances), the authors observe that there are three significant factors which tend to influence the value of the company: R&D expense, the portfolio of business units which are diversified and are formed over the previous periods, the difference over the types of innovativeness, under the condition that the joint ventures were officially formed. Networks capital intensifies the effective cooperation, knowledge, competences and information flows sharing decrease the transaction costs, and results in the majority of many other positive effects. However, unbalanced networks investments can lead towards losses and obstacles to achieve the strategic goals. In this case, it is worth to mention the features of the value creation process. The authors according to the results of the empirical study observe that the joint ventures of the alliance with different structures of R&D expenses tend to destroy the total value of the alliance, especially due to the high transaction costs of cooperation. It should be noted that the goal of the strategic management is to create value for its stakeholders inclusive all the external counterparts, but with no doubt mainly for its shareholders - the counterparts of the inner networks of the company.

JEL: L14, L24, G34, D85

Keywords: networks, alliances, intellectual capital, value, value based management, stakeholders, value drivers, cluster, master cluster, paradigm of intellectual enterprise, synergy, synergetic advantages, corporate value system, sustainable competitive advantage, key competences, networks capital, innovative networks

Brand stabilizer bottom-line: empirical research of large Russian companies

The world financial crisis emphasized the problem of the brand valuation, booming brand expectations were ruined by the world economic transformations. The brand valuation critics predominantly from academics and business actors cover both classical financial and modern approaches towards valuation. Financial crisis made the liquidity and stable cash flows as the main current goal to achieve of major companies of developed and emerging markets. The obvious contradiction between current values and fundamental drivers, which are unique in the process of value creation form the research ground. For example, the acquisition of brand “Skype” was so promising for its buyer “Ebay”, however a lot was omitted due to the obvious limitations of the solely financial approach to the brand valuation, later after the acquisition the overall management results were very far away from desired goals. It should be noted that still, those business actors who tend to survive and stand the economic crisis continued to run the value of their brands on the basis of its internal fundamental drivers such as marketing and client capital, organizational capital (innovations and technology), qualified personnel and human capital.

Thus, the main research discussion covers the question whether it is necessary to consider the fundamental value drivers, which are different from financials and to use the complicated analytical tools, whether the value of the brand is the fundamental or temporal corporate value driver. Concerning the emerging Russian corporate sector, researchers usually deal with the limited capital market and limited amount of financial tools, the strong domination of the state influence and with the domination of companies of raw materials industries. However, large companies have an opportunity to use best-practice tools of value-based management, build-up customization and, thus, build-up capitalization. The fact of «quotation» of the large Russian company to some extent signalizes the dis-

tinctive features of the corporate architecture and intangibles governance within the company, brand governance outside the company.

The framework of the empirical research is based on the stakeholders theory and the intellectual capital concept. The panel data analysis was conducted over the large Russian companies from the industries with the dynamic growth (such as telecommunication industry: Rostelecom, Vypelcom, FMCG - Baltika, etc.), the period of panel data research is 2004-2007, crisis 2008 and 2009 years were observed as cross-sections separately. The results received show that value of the brand can be considered as the fundamental driver -stabilizer of the corporate value under the condition of the balanced operating and balanced intellectual capital development (brand bottom-line); however over booming 2004-2007 the value of the brand tends to be the temporal and behavioral signaling driver of the corporate booming value growth.

JEL: L14, L24, G34, D85

Keywords: Emerging markets, economic crisis, value based management, intangibles, valuation, brand, branding, marketing, knowledge economy, intellectual capital client capital, human capital, signaling, value growth driver, value stabilizer driver.

Hasret Balcioglu

Appraisal of Majan College in the Sultanate of Oman

The education has been given special concern in Oman. Oman has realized the importance of education in all its levels for the development of the country. It encouraged the private sector to establish higher education institutions and gave them all the support in order to have active role in this development.

To assess the financial position and performance of the private colleges in Oman, Majan College was taken as a sample of these colleges. The financial ratios were used to analyze its financial statements. They indicate that it is a successful and profitable college. Moreover, they proved its success as public shareholding company.

The quality of higher education provided by Majan College is an important fact as it attracts the students and the investors. The college contributes to Oman's economy through the income tax, the employment of Omanis, and providing the country with well-educated workforce who can build strong economy.

Private higher education tends to be long-term investment. The financial analysis and cash flow analysis demonstrate that there is a dramatic improvement in Majan College's financial position and performance. This means that the college does not face any liquidity or solvency risks. It can satisfy its obligations in the short- and long-term. In addition, its return on investment sources like assets and shareholders' equity improved considerably over the years. Until 2000, the college was not generating profits because education sector is unlike any other sectors; it needs to equip the college with the newest learning facilities to be in the same level of the international colleges. While after 2000, the profit increased gradually to reach high levels in the recent years. Also, the college has free cash flow, which is excess cash, that signals its ability to pay debt, pay dividends, and/ or can be used for the growth of business.

The market measures indicate that there is an increase in the investors' willingness to buy the college's shares. This means that its shares are attractive to them and the college has a good reputation and strong equity market for its

shares. Moreover, it distributed 100% cash dividends to its shareholders, which will be reflected positively on the investors' reactions and will encourage them to own shares in Majan College.

The contribution of Majan College to Oman's economy can be in different ways. Although it has an exemption from paying income tax on educational activities, it still pays income tax on the other activities like investment activities. So, the country can benefit from this income tax even if it is small amount. In addition, the college helps the country in Omanization plan and reducing unemployment rate. Also, it provides the country with well-educated workforce who will contribute effectively in building strong Omani economy. Moreover, the employment of Majan's graduates means their purchasing power will increase and this also helps in developing the Omani economy.

It can be concluded that, since Majan College is a successful and profitable college and it could survive all those years and become even more strong although the financial difficulties it faced in its beginning, so the other private colleges can also succeed if they provide high quality and managed by qualified management as Majan College, especially that the same circumstances are available for them. They are in the same country which is stabled politically and supports the private higher education institutions by fairly distributing the scholarships offered to outstanding students and students of low-income families among them and the other financial support provided to all private colleges in Oman. Also, the rules imposed regarding the quality assurance are the same for all private colleges in Oman. Moreover, since Majan College is a successful public shareholding company and its shares are attractive for investors, the other colleges can also offer their shares for public subscription and become public shareholding companies.

This research suggests putting plans for developing the education and the full concern of quality assurance. In addition, it is recommended that the private colleges have other income sources and not depend only on the income generated from students and the financial support and financed scholarships from the government. The investment in local and foreign market securities can be a way to diversify the income sources. Another way can be the investment in lands. It is a profitable investment in Oman nowadays to buy lands in good places and sell them when their prices go up. They even do not have to wait for a long time to sell them because the prices of lands arise very quickly. The last recommendation is to offer their shares for the public subscription and benefit from money generated from investors in various ways such as developing the learning re-

sources and facilities, and in any way helps in achieving the growth of the college.

Although this research has provided insightful idea about the success of Majan College as public shareholding company, it is better to conduct the analysis on another private college to examine its success as public shareholding company. But because Majan College is the only college listed in Muscat Securities Market, the research can not be done right now. Therefore, if another college became public shareholding company, it is better to do a research about it to support the findings of this study.

Ville Saarikoski

From teaching business administration to teaching e-business administration – the challenges of building the information society

Technology has always been a key driver of change. The way and the speed with which a society adopts new technology are essential to increasing productivity and the competitiveness of a society compared with other societies. The role of technology as a change agent has been thoroughly documented in literature and historical cases in particular (e.g. Morris-Suzuki 1994).

Information technology is the next and ongoing revolution and will change our society in fundamental ways. From history we know that the first step is the introduction of new products e.g. in the information society we have witnessed the emergence of computers and mobile phones. The second step is that these tools will diffuse into all industrial sectors i.e. we will see industries investing in information technology, both hardware and software. The third stage is the emergence of new processes and changes in the way companies work together. True new value is created and captured by fundamental changes in the way people and businesses work together i.e. in the new and emerging processes. With the existence of companies like Nokia, Finland has fared well with the first two steps, but is having difficulties with the third phase (Jalava, Pohjola 2007). Transition into an information society is proving to be difficult.

This paper will address the question, how can this ongoing change be taught, experimented with and explained to the students of business at a university of applied sciences.

Present students are part of the Internet native society i.e. they have grown up in a digital world and are said to be intuitive users of these new and emerging tools (Tapscott 2009). One can also argue that teachers in general are less capable in using these new Internet based applications and need to put more effort than their students in catching up with this new and emerging economy. On the other

hand one could also argue that recent finding of science can explain the ongoing change and as always with theory, can predict the direction of future change. Teachers are more experienced and capable of working with and understanding theory and students are more proficient in using these new emerging tools. This allows for an environment of mutual learning to be created in which both the teacher and student contribute in a shared constructive learning process.

Both teachers and students need to be motivated in the need for change and to have a feel of urgency in this change and a need to understand and predict the change. An introductory study into how our everyday environment has changed from “bricks to clicks” could help (Myung and Narcyz 2009). In Finland, the home country of many leading paper mill companies, the notion that “where there is paper, there is inefficiency”, can be a compelling argument. The future of paper is a concern for countries like Finland (McCarthy and Lei 2010). Many Finnish towns have been built around the existence of paper mills and these towns have recently seen high rates of factory closures and increasing unemployment rates.

A closer look into our everyday environment will provide the casual observe with many examples of change. Music stores are becoming less common and selling music has moved onto the net. Travel agencies have migrated onto the net. Even teaching is migrating from the classroom into the e-classroom.

Some trends e.g. the copyright issue are proving more challenging, because they question the legitimacy of our current structures (Hoff and Flemming 2005). New laws are needed before the forces of Schumpeterian creative destruction can act (i.e. the emergence of new garage based companies). There is a need for the infrastructure of society to change into structures of an e-economy (e.g. e-identity, e-voting, public data).

An abundance of new theory has emerged to explain and understand the information society. At the core is the new science of networks, which views the information society from a network perspective (Downey 2004). This science is rooted into mathematics and has had practical implementations by e.g. changing the business model of the mobile operators by arguing the logic of a flat rate pricing model (Rheingold and Saarikoski 2005, Saarikoski 2006). The dilemma of the commons has challenged the traditional resource based view of the firm by asking what happens when – as is the case in the Internet world – resources become in practices unlimited. This has led to the emergence of open source code and the open business model (Chesbrough 2003) and the emergence of the creative commons as a practical solution to the copyright issue. The Long Tail by Chris Andersson (2004) explains how the “future is in selling less of

more” and it explains what happens to demand when supply is no longer limited on the click (internet) stores as it was in the traditional “brick” store. These new theories together with game theory are all rooted into mathematics and give an understanding of how businesses work in complex networks.

Business is about how value is built by people in networks. From this combination of a mathematical science (network science), the developments in technology (including dramatic price reductions in computing and communicating capacities) and the way humans act and behave in networks, a whole set of new disciplines are emerging. In other words network science (the mathematics of networks) has given researchers a new lense with which to view human interaction and value creation through human interaction. For example the study of business networks (Håkansson et al 2009), the study of innovation in networks (Ahuja 2000) and knowledge networks (e.g. Reagans and McEvily 2003).

Many of the core subjects of a business administration curriculum are being affected by changes in technological development. Viral marketing for example changes some of the principles of marketing, enterprise resource planning systems change the way businesses interact with each other and allows for businesses to network together with each other in more efficient ways leading to changes in the way businesses work in a network. e-invoicing and e-accounting are changing book keeping. processes and an understanding of how computer based quality monitoring systems work are essential for operating an efficient business. E-commerce is changing trading and setting up a web shop is becoming an essential skill to learn.

One can no longer teach business administration without teaching the e-tools (e-accounting, e-commerce, viral marketing, hrm-systems, erp-systems etc) that make a business work. Teaching the tool is a good platform for understanding the practical e-business environment and an intersection point and crossing (Hargadon 1997) where both the teacher, student and the industry can meet and work with each other to create a common understanding and to create new value. The role of teacher is in creating the Learning environment – the e-laboratory – to interface between the future needs of the industry and the students.

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Anne Äyväri

Craft entrepreneurs' relationship building abilities

Introduction

It has been claimed that networking capability is one of the core competences of firms (e.g. Hill and McGowan, 1996; O'Donnell et al., 2001; Ritter, Wilkinson and Johnston, 2004; Sivadas and Dwyer, 2000) and one of the critical competences of entrepreneurs (Johannisson, 1987). The entrepreneurial networks approach actually maintains that entrepreneurship is basically all about networking: making contacts, constructing relationships, and re-activating former links between actors in the market (Johannisson, 1987; Dubini and Aldrich, 1991). Yet very few studies to date (Hill and McGowan, 1996; Human and Naudé, 2009; Niemelä, 2003; Ritter, 1999) have focused on conceptualising network competence. However, relational capabilities (e.g. Jarratt, 2004; Johnsen and Ford, 2006; Johnson and Sohi, 2003; Lorenzoni and Lipparini, 1999; Phan, Styles and Patterson, 2005) and alliance competence (Draulans, deMan and Volberda, 2003; Heimeriks and Duysters, 2007; Kale and Singh, 2007; Lambe, Spekman and Hunt, 2002; Spekman, Isabella and MacAvoy, 2000) have been analysed more thoroughly. Most of the latter studies have emphasized those capabilities needed in nurturing or maintaining relationships, and most of them have been carried out in the context of medium and large-sized firms. Therefore our present understanding on those entrepreneurial competences which are essential in establishing relationships with different kinds of actors is insufficient.

Hence, the aim of this study is identify those abilities entrepreneurs need to have in order to succeed in establishing relationships necessary for their business. After identifying the requisite skills for establishing relationships, a new theoretical framework or local theory on the relationship building competence of craft entrepreneurs is to be constructed.

The study relies on entrepreneurial networks (e.g. Aldrich and Zimmer, 1986; Johannisson, 1988; Johannisson, Ramirez-Pasillas and Karlsson, 2002; Larson

and Starr, 1993) and on industrial networks approach (e.g. Axelsson and Easton, 1992, Håkansson and Snehota, 1995; Matsson, 1985). These approaches share an understanding of markets as networks: firms are in many ways linked to each other, and therefore the views and experiences of other actors influence on entrepreneurs' decisions. Business environments or contexts are collectively enacted by actors, and a firm's identity is constructed by its relationships with other actors. Small firm networks have been studied by sociologists, too. The emergence of inter-firm networks has been claimed to require two kinds of trust (Ruuskanen, 2000): system trust (Luhmann, 1979: 22) and interpersonal trust. System trust or confidence in a system means that people act without questioning the basic reason for acting (Luhmann, 1988: 97–105). In the context of business networks it means that an entrepreneur who has confidence in networks as a system, does not question or doubt the *raison d'être* of collaborative activities. As this study focuses on the abilities needed in establishing network relationships the ideas by Luhmann (1979, 1988) have been adopted in addition to the conceptualisations in the entrepreneurial and industrial networks. The study aims to make a contribution to the entrepreneurial and industrial networks literature.

Previous studies on relational and network competence

In the field of entrepreneurship, studies on networking capability are very rare, although twenty years ago Johannisson (1987: 55) argued that the networking capability of an owner-manager becomes a critical competence in itself. The first conceptual model of an entrepreneur's personal contact network competency constellation was presented by Hill and McGowan in 1996. Their constellation comprises vision, experience, judgement, information gathering, knowledge, communication, and analytical skills (Hill and McGowan, 1996). Niemelä (2003) conceptualised the inter-firm cooperation capability in the context of networking family firms. The building blocks of her model are social networking capability, management capability and learning capability.

All in all, the extant literature on relational and network capabilities seems to be scattered and conceptually rather vague: the number of concepts used to refer to the same phenomenon is large, and the meanings of certain concepts vary from one study to another (see more elaboration Äyväri, 2006). The relational (incl. alliance competence) and network competence have previously been analysed on firm, individual and relationship level. In this study network competence refers to craft entrepreneur's willingness and capability to act in multi-actor nets. Thus, we focus on an individual's capabilities – craft firms are either micro-sized

or small firms and therefore the firm and the entrepreneur cannot be separated. Having analysed the extant literature from the standpoint of the context, craft entrepreneurs, the following three elements of relationship building competence are suggested to be relevant: co-operation-orientation (Pihkala et al., 1999; Spekman et al., 2000, Möller and Törrönen, 2003; Niemelä, 2003: 142; see also Komppula, 2000: 64) visioning capability (Hill and McGowan, 1996; Spekman et al., 2000: 83; Äyväri, 2002; cf. slightly differing understandings on visioning capability in Möller and Halinen, 1999; Möller and Svahn, 2003), and an ability to identify potential partners (Möller and Halinen, 1999; Ritter, 1999; Spekman et al., 2000; Lambe et al., 2002; Äyväri, 2002).

Methodology

The study was conducted as a multiple case study. The analysis was based on 14 cases of owner-run craft firms, hence entrepreneurs. The aim was to include various types of firms: at different stages of the company life cycle, differing customers (foreign/local, consumers/companies) and with different channel choices. The variety was intended to maximise learning (Stake, 2000), giving a more comprehensive understanding of the phenomenon under investigation. However, all of the selected cases were similar on one dimension: their business models included the idea of collaboration with other actors in manifold ways. The data consisted of theme interviews with the entrepreneurs (each was approximately 2 to 2,5 hours long, conducted on the company premises), articles and other information about the companies and the entrepreneurs, and the actors in their focal nets (web search). Moreover, six expert interviews were carried out in order to deepen the pre-understanding of the nature of craft work, craft firms, and networking in the field. All the interviews were transcribed.

The result, a new framework, was constructed following the logic of abductive reasoning (Coffey & Atkinson, 1996: 156-158; Dubois & Gadde, 2002; Shank, 2002: 119). In this study, the elements of relationship building competence were to be manifested in action, in carrying out different kind of activities when establishing relationships. Hence, firstly, all activities related to the following tasks were identified case by case: creating and seizing business opportunities, choice of partners and establishing relationships. Secondly, the interpretation of the abilities needed to perform those activities was based on the clues given by the data of the case, the theories of industrial networks and entrepreneurial networks, previous conceptualizations of relational and network competence, and the characteristics of craft knowledge and craft entrepreneurship.

Findings

According to the results of this study, craft entrepreneurs' ability to have confidence in networks as a system (see more Luhmann, 1988: 97–105: "confidence", and 1979: 22: "system trust") is a fundamental ability as it can be considered a prerequisite for networking done on one's own initiative. Without an ability to have confidence in networks craft entrepreneurs would not try to establish co-operative relations with unknown actors, or try to actively strengthen their ties to the actors with whom they have already had some contacts. Confidence in networks develops gradually, sometimes over a long period of time. It can be learnt. The gradual strengthening of system trust seems to be linked to the development of the owner-manager as an entrepreneur. When the entrepreneur is able to identify his or her own strengths as an entrepreneur, he or she becomes more able to outline new opportunities and more willing to change plans.

The importance of confidence in networks as an element in network competence is stressed by its link to the visions created by an entrepreneur. An ability to act with confidence in networks turned out to be a prerequisite for being able to vision business concepts based on cooperative relationships with other actors. Visioning ability refers to an ability to outline possibilities for future cooperation both in dyadic relationships and in multi-actor nets. The vision guides decisions made on which opportunities offered by the network should be seized and who should be contacted. Furthermore, the vision influences any cooperation needs identified by the craft entrepreneur; it affects how the entrepreneur sees the firm generally and its future needs.

The third element in network competence needed to establish relationships and focal nets, an ability to identify the needs of one's own firm and inform others about those needs is linked to the above-mentioned capabilities, confidence in networks as a system, and visioning ability. These are needed in combination with the third element so that an entrepreneur is able to see how other actors' resources could be combined with the resources of one's own firm. Case analyses indicate that positive experiences with cooperation improve the chances that new cooperation needs will be identified.

Contact-seeking ability refers to an ability and willingness to make contact with actors with whom an entrepreneur has not yet cooperated. The following abilities are included: a) initiative in making contacts; b) an ability to be "found" by international clients and agents (the entrepreneur should be able to gather information on where and when it would be possible to meet these actors and try to establish relationships); c) an ability to be "found" by domestic clients and other potential domestic partners (the entrepreneur should have up-to-date information on times

and places where one should be, and one should with conscious effort seek access to such projects or positions that offer chances to create contacts with potential partners); and d) an ability to give way to coincidence (let chance decide, be able to realise the value hidden in accidental meetings and be able to quickly seize the serendipitous opportunity for cooperation).

Existing literature suggested that an ability to identify potential partners is relevant to network competence. The results of the case analyses clearly indicated that entrepreneurs utilise their own as well as their partners' contacts to identify potential partners. Not only do they make use of the contacts of other craft entrepreneurs, retailers, clients, suppliers, business advisors, consultants, advice bureaus in the craft field, but they also use the contacts from their family members, friends, former studying and working colleagues, former teachers, and so on. Hence, an ability to utilise one's own and present partners' contacts to identify potential new partners is a relevant capability for establishing relationships both with production and marketing partners. The cases in this study indicate that a network transmits information, especially on the resource needs related to production and often it, sooner or later, produces a solution: an actor with the necessary complementing resources gets in touch, or his or her contact information is given to the craft entrepreneur. The capability to utilise business partners' experience to identify further potential partners also refers to learning about which kinds of actors would not produce beneficial relationships. Figure 1 in Appendix 1 presents the new framework on craft entrepreneurs' relationship building competence.

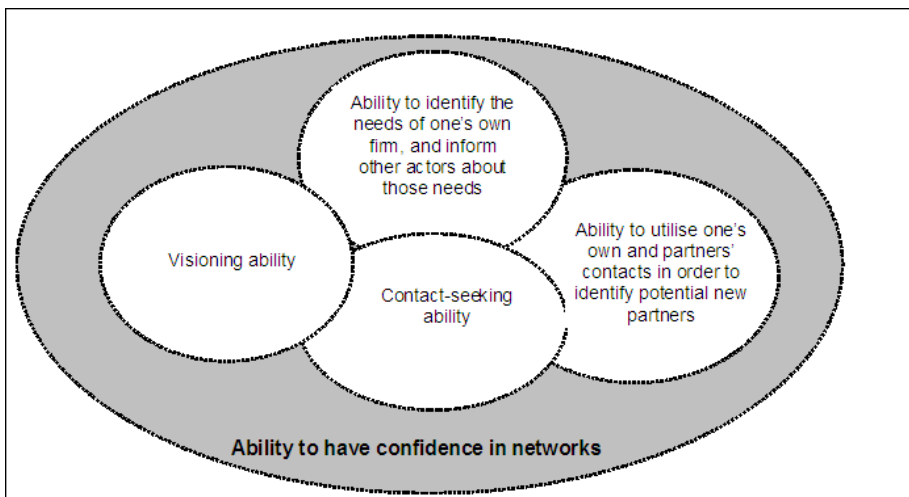


Figure 1. The relationship building competence of craft entrepreneurs: abilities needed in establishing relationships.

Managerial implications

The goal of this study was not to produce normative instructions like “do this” or “you must learn these”. However, a craft entrepreneur can use the theoretical framework that emerged from the findings for guidance when evaluating his or her own firm’s courses of action or when reflecting his or her own work.

For business advisors and institutions offering business training services, the results raise many interesting questions. Some examples could include: Is there enough time and resources allocated in the curriculum to outline alternative partnering visions and the paths to make those visions come true? Is it possible to support the networking activities of potential entrepreneurs while they are constructing their business ideas? Many business advisory organisations organize different kind of developmental projects financed at least partly by EU funds. “Enhancing networking” seems to be one of the most popular goals. The results of this study indicate that it would be useful to organize “dating arenas for craft firms” offering possibilities for meeting entrepreneurs representing the same and other craft fields and getting to know the services of those firms that offer for example complementary services. In the “dating or networking arenas” it would be possible to identify those firms with whom the focal entrepreneur would like to discuss about future cooperation. In addition these arenas or forums would enhance the occurrence of happy coincidences. On the other hand, this study seems to indicate that those projects where the participants are “forced” to cooperate in order to fulfil the implementation plan drawn by the project manager, for example, by organising a joint trade fair stand, are not necessarily successful in enhancing establishment of long-term relationships. Entrepreneurs should be given an opportunity to choose each others as partners.

Finally, we wish to emphasise that this study clearly reinforces that networking capability is a critical competence in itself (Johannisson, 1987), and more emphasis should be put on conscious efforts to strengthening it.

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E-marketing in function of achieving competitiveness in the hospitality industry

Everyday development of digital economy has had a significant role in the development of tourism and hospitality industry. Application of Internet in tourism facilitates the communication between a hospitality enterprise and a potential guest. It enables an easier check and comparison of the offer and prices, pointing out the quality and advantages of the specific quality which will encourage the guest to choose a particular destination or a hotel for his/her stay. It is important to point out simplified reservation-making. Successful development of E-Marketing will result in timely information for the hotel-managers on the latests trends on the world tourist market. It provides the possibility of improvement of the existing offer by introducing innovations, by means of which a more successful tourist product is created, which will be able to satisfy the needs of a modern working person who is searching for rest, recreation, and exploring of new tourist destinations. The development of E-Marketing will have a positive effect on the improvement of business of a hospitality enterprise and on the achievement of competitive advantage on the turbulent tourist market. It is evident that the world practice has shown advantages of using E-marketing in comparison with traditional marketing through fast communication with the guest, measurement of success, efficiency (there is no more need for printing posters, advertising on television, etc.). In Croatia, the use of these electronic media is unsatisfactory in comparison to European countries. In the paper, the authors will point out the significance of E-Marketing and its technologies in the development of tourist offer, successful marketing communication of hospitality enterprise with the tourist market, and achieving business excellence in the modern hospitality industry.

Keywords: E-marketing, Hospitality Industry, Tourist product, Competiteveness

Naziha Kasraoui, Kaïs Ben-Ahmed & Mounira Ben-Arab

Consumption behavior under the habit formation hypothesis using experimental approach data analysis

Experimental economics is introduced here as a new methodology to solve some discussions provided by many studies about habit formation problems for infinitely-lived agents whose preferences certainty exhibit in the presence of labor income. The standard approach to modeling consumption behavior is to assume that consumers are solving dynamic optimization problems. Under realistic descriptions of utility and certainty income and habit formation-- these problems are very difficult to solve. We demonstrated that the experimental economic method found here yields a better assessment of the habit formation at the behaviors of consumers. The present paper reports on the results of an experiment based on consumer behavior. This experiment is carried out with 66 agents organized in two experimental sessions. Using an experimental approach and applying nonparametric tests, results show that into the presence of labor income certainty consumption framework, participants' actual spending behavior converged effectively towards optimal consumption. Consumers persistently spend too much in early periods, they learn rapidly from their own experience to consume the same choice of meals and drinks. Nonparametric tests indicate that behavioral influences sharply affect decisions of consumers (p -value $>5\%$) in the second and the third period. Their spending is closely linked to optimal consumption (non conditional on earlier spending) and they choose the same basket of goods in the future horizon, which shows that there's a habit formation in the behaviors of consumers.

Keywords: Consumption, Habit formation, Behavior, Experimental Economic Method, Nonparametric test, Tunisia.

Learning by Developing in a multicultural team and project

The team had members from three different cultures - members came from Finland, Africa and Asia. Naturally, working in a multicultural team differs quite a lot from working in a domestic team; people had their own backgrounds and standards of activity. People were not able to use their mother tongue, which can sometimes lead to misunderstandings. We also faced problems regarding the adaptation of pivotal and peripheral norms, since the norms were not similar between people from different cultures. During the project, the pivotal norms of different team members came closer to each other, what was seen as improvement on the efficiency of work.

In the team we tried to benefit from the “Halo Effect” (Huczynski, 2007) – we tried to find similarities in our interests, which then made it easier for all to receive and give feedback to one another. For example, there were a couple of persons, who followed football enthusiastically. We also attempted to apply the Socialization Theory, where older team members are teaching the habits and methods used in the team to the “newcomers”. We also tried to take full advantage of everyone’s special abilities. For example, the African members were especially useful when considering which African countries to contact when recruiting possible participants. Or when a Finnish team member had prior experience in marketing, he was the obvious choice for handling the marketing of the project.

For the Asian member of the team the adaptation of the daily routines seemed to be quite easy, but on the other hand was a bit more difficult to communicate with. With the African members it was easier to communicate, but it took a little more time for them to adapt to the routines of the team. This is another prove of the differences between different cultures – a factor which made it very interesting and educational to be a member of this multicultural team.

Päivi Marjanen & Anna Nikkinen

Games supporting children's learning: Case Konkkaronkka

At Laurea, Finnish University of Applied Science's, students have developed board games which support children's development and learning. I will introduce as a way of supporting learning a game called Konkkaronkka. It has been developed as a support tool for social and emotional learning.

This board game has been implemented through a joint co-operation involving Social Services students and Business Management students at Laurea University of Applied Sciences. The graphic designing of the game was completed in co-operation with students from Metropolia University of Applied Sciences and Aalto University. There has been a group of students in Social Services every year who are interested in developing games for children. The important starting point of these product innovations has been children's learning. The need for games arose from the wishes of teachers who work at day care groups that collaborate with our institution. The teachers at the day care group wished for material that would support their work in mapping out and in supporting children's learning and developing.

There are a plenty of possibilities that serious game pedagogy can offer children. The aim of this presentation is to make visible what kinds of possibilities board games, especially Konkkaronkka, can offer in connection with children's learning. Additionally to give examples of the kind of research we have done in relation to finding out how games can be used to support children's learning.

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In October 2010, *“Contemporary Views on Business”* highlighted not only current research but also the business opportunities and the future perspectives on the development, management and sustainable deployment of business operations. This international Conference actively sought to promote synergies between business and academia and raised awareness on the potential benefits of research for business activities. Combi2010 was an important forum for knowledge co-creation and intellectual exchange.

Combi2010 was hosted by four Universities of Applied Sciences from the larger Metropolitan region (Laurea, HAMK, LUAS, Helsinki Metropolia). A rigorous double-blind peer review process conducted by 65 reviewers from 24 countries, led to close to 50 full-length scientific paper and abstract presentations. Furthermore, the Conference programme consisted of close to 30 invited international speaker presentations, practicums and special sessions topped with an 3-hour tutorial. As part of the Conference social programme, Combi2010 participants were offered an opportunity to visit one of the seven Unesco World Heritage sites in Finland Suomenlinna Fortress, the Finnish Science Center, and National Park. Business Site Visit took place at Vantaa Innovation Institute.

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