Strategy Alignment of Mobile Solutions in Customer-Oriented Processes

The Authors

Ragnar Schierholz Lutz Kolbe Walter Brenner

Dipl.-Wirt.-Inform.Ragnar Schierholz Dr. Lutz M. Kolbe Prof. Dr. Walter Brenner University of St. Gallen Institute of Information Management Mueller-Friedberg-Str. 8 CH-9000 St. Gallen { ragnar.schierholz | lutz.kolbe | walter.brenner }@unisg.ch 2–3]. In this paper we will follow the understanding of Lehner and Zobel and concentrate on the application of mobile technologies to support customer-oriented business processes.

The research field dealing with the interaction of businesses with their customers and the related back-end processes within the businesses, such as marketing, sales and service processes, has often been referred to as customer relationship management (CRM) or, when supported by internet technologies, e-commerce CRM (ECCRM) [RoFj02; RoFj03]. Within CRM, Gebert et al. have identified major CRM processes in the fields of marketing, sales and service [GeGe03]. They classify these processes as knowledge-intensive processes, managing knowledge for customers (e.g. knowledge about products and services), knowledge from customers (e.g. customer experience with products and services) or knowledge about customers (e.g. knowledge about customers' preferences and histories).

An empirical analysis addressing 1,000 subjects with CRM responsibility in large companies (82% with a revenue > € 100 million) and 89 respondents (9%) was conducted in the authors' research team. 8% of the respondents indicated that they already have a mobile CRM solution, further 22% are currently working on a mobile CRM solution and 30% are planning to do so [DoSa04]. Combining the concepts of CRM and mobile business allows new types of interaction between companies and customers. To leverage investments in information technology (IT), the investment has to be aligned with the business strategy [BaTr86; HiBr94; WeBr98; WeSu02; BrHi00]. Hence, companies face the question how to select the right investment to

1 Introduction

1.1 Mobilizing Customer-Oriented Business Processes

Technological advancements in mobile communications enable new ways of doing business [Feld00, 26; StGi03], often referred to as "mobile business" or "mobile commerce". While Turowski/Pousttchi do not distinguish between the two but rather use the term "mobile commerce" [TuPo03, 3], Lehner and Zobel define "mobile business" as the application of mobile technologies to improve or extend business processes and open new market segments and distinguish it from "mobile commerce". Here, the latter is rather a subordinate field of mobile business, focusing of the handling of transactions [Lehn03, 6–8; Zobe01,

Executive Summary

This article analyzes the alignment of investments in mobile technology according to corporate market strategies. A framework for corporate market strategy is adapted from current literature. The core findings are:

- Companies focusing on price should support business processes where points of creation and points of action differ for the information handled in the process.
- Companies focusing on customer intimacy should support business processes where the customer can be served in spontaneous situations, where the customer has an immediate need for support.
- Companies focusing on product quality generally find it difficult to implement mobile business processes supporting that strategy directly.
- Companies focusing on accessibility should support business processes for their communication channels to extend customers' access to their service to mobile environments.
- Companies focusing on innovativeness should support business processes with a high external visibility.

Keywords: Mobile Commerce, Mobile Business, Mobile Applications, CRM

1.2 Research Goals and Structure

In this paper we show interdependencies between the strategic premises and the processes selected for being supported by mobile technology. We explicitly do not analyze the process of defining the strategy but rather rely on existing work of strategy research. Therefore we answer the questions:

- What are the typical characteristics of business processes chosen for mobile technology support?
- What are the interdependencies between these characteristics and the companies' market strategy?

First, section two gives an overview of existing research in the field of mobile business, CRM and strategic management and identifies the gap of customer focused research the authors see. In section three we briefly describe seven cases, where companies have successfully introduced mobile solutions to support business processes in alignment with their strategic positioning towards customers. In section four we derive a set of five different strategic goals which are specifically focused on the company's interaction with the customer and apply this classification to the analyzed cases. We analyze the selection of processes for the support by mobile technology in the cases and identify the relationship between the strategic premises according to the framework of [CrMa01] and [TrWi94]. This results in typical properties which qualify processes for mobilization. Section 5 finally summarizes the findings and gives an outlook on further research to be done in this field.

1.3 Research Methodology

Our research approach follows the concept of case study research as described by [Eise89; Stak95] and [Yin02]. The cases (see section 3) have been selected from available published material, in case of the Helsana health insurance the authors have been involved in-depth through a long-term research partnership. Selection was based on

the following criteria: a) availability of information about the company's strategic orientation towards customers, b) the case deals primarily with the introduction of mobile technology (be it cellular, synchronization, or other) and c) the process(es) affected by the introduced technology is a customer-oriented business process as defined in the process model developed by the authors' research team and described in [GeGe03]. Data was collected by analysis of the published available material about the projects and the companies in general as well as by semi-structured interviews with employees involved in the projects. Only the core aspects from the previously published cases are summarized in this pa-

The data from each case was analyzed following the strategy suggested by [Yin02]. The analysis had the primary objective of understanding the process selection and the influence of the corporate strategy in this process. The findings finally have been integrated into a generalization of strategy's implications for the process selection and design.

2 Research Directions

2.1 Mobile Business

The research development in mobile business and mobile commerce can be compared to the development in electronic business and electronic commerce. It can be structured into multiple stages. The first stage begins with the technological foundation in IT and infrastructure. It is followed by simple consumer-focused application and service concepts along with business models for technology and base service providers. These applications and services are being advanced further, until they reach a maturity level appropriate for business use. Finally, the technology is applied to support business processes and entire business models for businesses other than technology and base services are developed. The shift of focus from simple applications for end-consumers to advanced applications for businesses is a condition that hints for mobile technologies to be disruptive technologies in the sense of [Chri97]: "technologies [that] underperform established products in mainstream markets [...] but [...] have other features that a few fringe (and generally new) customers value. Products based on disruptive technologies are typically cheaper, simpler, and, frequently, more convenient to use" [Chri97, xv]. Funk analyzes this issue in great detail [Funk03].

The subject of mobile business and related subjects have gained a substantial interest in the research community, which can be seen in the emergence of new journals focusing on this particular subject (e.g. the International Journal of Mobile Communications or the International Journal of Mobile Computing and Commerce), conferences explicitly dedicated to the subject (e.g. the International Conference on Mobile Business sponsored by the IEEE being held for the fourth time in 2005) or special issues of well established journals in the field of information systems (IS) (see [UrVa03; MyDo03; LiWe04]).

Current research has certainly passed the merely technology focused stage, even though advancements in technology are still a subject [e.g. TuPo03; FrRo04]. Consumer applications and services are well established and drive impressive markets [Funk03, 20]. Past and current research is further advancing this field as well [Figg01; SiWo01; Paav02; Figg02; FiSc02; Reic02; Tara03; AmFi03; MaRo04; Rann04].

Despite the accepted importance of strategy alignment of IT investments [BaTr86; Weil92; Bryn93; HiBr94; BrHi00; WeSu02; WeVi02; KoDe04] there is only little research addressing the strategic aspects of applying mobile business [Clar01; Sade02; AmRe03]. Even fewer research addresses strategic potentials of mobile business to businesses whose core competencies are outside of the technology or base service field, such as financial service providers [LoJe04].

2.2 Customer Relationship Management

The origins of CRM can be traced back to the management concept of Relationship Marketing (RM) [Levi83]. Relationship Marketing is an integrated effort to identify, build up and maintain a network with individual customers for the mutual benefit of both sides [ShCh92, 34]. RM is of largely strategic character and lacks a holistic view on business processes, although they are regarded as important [PaSh00].

Advances in IT had a significant influence on CRM, focusing mainly on the information systems layer in the past. The goal was to support the existing isolated approach of dealing with customer relationships. With the CRM philosophy aiming at creating an integrated view of the

customer across the enterprise, these systems were connected and today form the building blocks of comprehensive integrated CRM systems.

We consider CRM to view the customer relationship as an investment, which is to contribute to the bottom line of the enterprise. The design and management of customer relationships is to strengthen the competitive position of an enterprise by increasing the loyalty of customers. While this extends beyond the use of IT, IT is still an important enabler of modern CRM.

Apart from the strategy oriented concept of RM and systems oriented concepts, there are several CRM approaches with special focus on business processes [ScTh00]. However, these approaches are based on the separation of the functional areas of marketing, sales and service, which by itself does not provide a cross-functional process view.

CRM processes typically require not only transactional data, which can be automatically collected and stored in relational databases, but also a significant amount of knowledge. Also, CRM processes are typically complex and only structured to a certain extent. Hence, they can be considered knowledge-intensive processes [EpSe99]. Besides developing an integrated view of CRM processes, it is therefore critical to address the management of knowledge flows from and to the customer across all communication channels as well as to enable the use of the knowledge about the customers.

2.3 Customer Focus in Mobile **Business**

[Paav02] introduces a value chain of mobile commerce (see figure 1). It begins with network infrastructure providers, providing e.g. cellular networks, internet connectivity, etc. On the second stage mobile commerce technology (such as payment solutions, security solutions, etc.) is built on top of the network infrastructure, players on this stage are software vendors, transaction clearing centers, etc. Thirdly, content for mobile commerce is provided by business who want to sell their products and services via a mobile channel (e.g. music, ringtones, mobile banking) and the content is managed by content aggregators (such as news services, etc.). Finally an interface to the mobile commerce is provided e.g. by mobile portal providers. For each stage in the mobile commerce value chain, Paavilainen explains strategies and business models showing opportunities for market players.

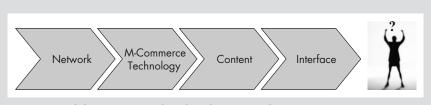


Figure 1 Mobile Commerce Value Chain [Paav02, 53]

Paavilainen's value chain does not cover the recipient of the output of the value chain, e.g. individuals using mobile services such as banking or businesses using mobile technology to improve and extend the way they are doing business. Here lies the focus of this paper.

2.4 Strategic Frameworks

A substantial amount of research has been done in the field of business strategy or strategic management. While many of the foundational works have been developed in the 1960's through the 1980's [Chan62; Anso65; Anth65; Anso69; Andr69; Chan77; Port79; Mint80; Wern84; Mint87; Port96; Port98], it has been argued how far these frameworks are still helpful in facing today's business challenges. [CuAn04] analyze this in detail and come to the conclusion that the traditional frameworks are somewhat helpful still, but need to evolve to handle today's multi-dimensional strategies. [HaMa00; RuIn99; RuZe00; RuLe04] and [CoDa00] suggest a stronger focus on the customer. [LuSe03] go along with this argumentation suggesting a contextual marketing strategy.

Crawford/Mathews break the customer strategy concepts down to an operational applicability and describe the strategic aspects of customer focus for business strategy [CrMa01]. In an empirical research addressing 5,000 American consumers, they find that consumers don't simply look for lowest prices, best products and best services, but rather have a desire for more complex values (rather than simple value). They discovered the following five attributes which customers demand and successful companies focus on [CrMa01, 23]:

- Price Customers want a transparent, fair price (not necessarily the lowest price).
- Customer Service Customers want a hassle-free fulfillment of their basic needs and want to be recognized as individuals.

■ Accessibility

Customers want simple access to the products, including clearly distinguished products and clear channels to interact with businesses.

Customer Intimacy

Customers want a unique experience in the interaction with businesses, i.e. they want personalized offers and they want to be treated as a human individual.

Product Quality

Customers want an overall good product, not necessarily the single-one best product, but the best value for their

Crawford/Mathews point out four levels to which a company can perform concerning these attributes [CrMa01, 26]. These range from level 0, where a customer avoids the company, level 1, where a customer trusts the company for everyday business, level 2, where a customer prefers the company over others to level 3, where the customer only accepts this company, even if it means e.g. waiting for a product not yet shipped.

Crawford/Mathews suggest that reaching level 3 in all attributes is unrealistic. They propose the successful strategy to be selecting one attribute to focus on to achieve level 3 (dominant position in the market), to focus a secondary attribute to reach level 2 (differentiating from competitors) and to maintain level 1 (market average) on the remaining 3 attributes [CrMa01,

In a different study analyzing multiple cases from market leaders in several branches (such as Casio, Kellogg's, FedEx) [TrWi94] identify the following three main strategic goals [TrWi94, 29]:

■ Operational Excellence

Focus on the combination of quality, price and ease of purchase, without being exceptionally innovative in products or customer service.

Product Leadership Focus on exceptional innovation in pro-

■ Customer Intimacy Focus on the intimate one-to-one relationship to the customer.

Combining the results of Crawford/Mathews and Treacy/Wiersema it becomes obvious that the aspects of "Product Quality" (Crawford/Mathews) and "Product Leadership" (Treacy/Wiersema) as well as "Customer Service" and "Customer Intimacy" are almost identical in concept. Further more, the aspect of "Price" (Crawford/Mathews) is included by "Operational Excellence" (Treacy/Wiersema). Thus the list of attributes can be consolidated to

- Price
- Customer intimacy
- Product quality
- Accessibility

Case Studies

In order to identify interdependencies between corporate market strategy (following the framework explained above) and the selection of business processes to be supported by mobile solutions, we analyzed seven cases. As mentioned in section 1.3, the cases have been published before and the analysis was mainly based on the published material. In the following each of the cases will be briefly summarized, pointing out the aspects of most relevance to our analysis. For further details about the cases, please refer to the original publications. For each of the cases, we briefly describe the company background, followed by the specific challenge that lead to the introduction of a mobile solution to support a business process. We also briefly describe the implemented solution and the characteristics of relevance for our analysis.

Helsana / Progrès – Mobile Premium Calculator

Company Background

Helsana (http://www.helsana.ch) is the largest health insurance provider in Switzerland with about € 2.5 million annual premium yield (2002). Its brand Progrès (http://www.progres.ch) represents affordable offerings for young customers. The brand strategy focuses on maximum availability and competitive prices.

Challenge

■ There's only a short time frame for contract switching, thus high marketing efforts by all competitors overload the customers' perception.

■ Customers show a high price sensitivity and low interest in the product itself thus they need a spontaneous and instant trigger.

Solution

Customers can retrieve an offer for a Progrès insurance within 1-2 seconds via SMS, allowing Helsana to

- increase the visibility of its brand against the intensive activities of competitors
- emphasize the innovative image of the Progrès brand and
- leverage the situational context once the customer is focused on the offer by other marketing activities (18,000 requested premiums resulted in 10,000 calls into the customer call center and 3,500 contract closures in 2003).

For further details about this case, see [ReSc03] and [ReSc04].

Eneco - Mobile Field Force 3.2

Company Background

Eneco (http://www.eneco.nl) is a Dutch energy supplier with about € 2 billion annual turnover (2002). The corporate strategy aims to achieve customer loyalty by supplying a high level of customer service and a reliable energy supply at affordable rates (i.e. in this case competitive price).

Challenge

- Field force agents have no access to crucial information while in the field.
- Customers' issues can't be resolved immediately due to lack of information.

Agents are provided with a PDA-based mobile application connecting them to the corporate IT via a mobile middleware module. This improves customer service

- allowing for real-time processing of billing-relevant data collected by agent,
- better coordination of and information supply for agents on-site and
- more visited customers per agent and higher on-site solution rate.

For further details about this case, see [LeFr04, 18-20].

3.3 SOS Médecins – Mobile Medical Service

Company Background

SOS Médecins (http://www.sosmédecins.ch) is an initiative of more than 50 doctors in the Geneva region, providing medical treatment at home, in emergencies and otherwise. SOS Médecins' strategy focuses on best possible medical service (i.e. in this

case product quality) and maximum availability.

Challenge

- Doctors have no direct access to the patient's records, thus need time-consuming calls to the central office instead of treating patients.
- The scheduling of doctors' routes proves inefficient due to lack of location information.
- The travel routes of doctors prove inefficient due to lack of navigational sup-

Solution

By providing doctors with a PDA-/GPRSbased solution, secured via VPN technology, SOS Médecins provides doctors with most current patient records and navigation support as well as optimized the scheduling efficiency and thus achieved to

- increase the time each doctor can effectively treat a patient,
- decrease the delay between the patient's call and the doctor's arrival and
- improve medical treatment itself. For further details about this case, see [LeFr04, 54-56].

Gossard G4Me – 3.4 Mobile Marketing

Company Background

Gossard (http://www.gossard.co.uk) is a manufacturer of lingerie products. Gossard's strategy focuses on a strong, intimate bond to customers in the market for string thongs by shifting the brand image towards the self-image of their primary target group: young, modern women and on a premium, luxury product.

Challenge

- To position the Gossard brand in a market for products with a strong personal bond requires an in-depth knowledge about customers.
- This conflicts with the goal of a non-invasive, opt-in and privacy-preserving marketing campaign.

Solution

By launching marketing campaigns and providing give-aways such as coupons to respondents via SMS Gossard could build up a database with high-quality and detailed information about customers in their target group. Thus, Gossard has succeeded

- gaining an in-depth understanding about their customers' desires
- building a means to address customers for personal products on a very personal channel/medium such as a cellular phone and

■ boosting the affectivity of traditional marketing campaigns such as TV spots with an interactive element, reaching an eight months sales target in just eight weeks.

For further details about this case, see [LeFr04, 72-73].

Verizon – Mobile Sales Force 3.5

Company Background

Verizon (http://www.verizonwireless.com) is the largest wireless telecommunication provider in the U.S., serving about 39 million customers generating an annual revenue of \$22.5 billion (2003). Verizon's strategy aims at show its ability to innovate while providing the best service in consulting their business customers according to their particular, individual needs.

Challenge

- In an innovative field like mobile business, Verizon needs to demonstrate ability to deliver innovative solutions.
- To maintain the solutions' innovativeness Verizon needs to reduce time-tomarket for its products and services as much as possible.

Verizon equipped its own sales force with mobile corporate data access, e.g. to its CRM application, and thereby

- improved customer service and consulting due to better and more pro-active information availability for sales agents
- improved its visibility as an innovator by demonstrating wireless solution know-how on-site.

For further details about this case, see [LeFr04, 36-37].

3.6 Novartis – Location-Based Information for Customers

Company Background

Novartis (http://www.novartis.ch, http:// www.novartis.co.uk) is a Swiss pharmaceutical manufacturer with \$24.8 billion annual turnover and \$5 billion annual profit (2003). Novartis' Consumer Health business unit positions itself as an innovative company having a positive impact on people's lives (i.e. customer intimacy), making available the right information at the right time (i.e. accessibility).

Challenge

- Novartis wants its brand to be seen as a partner helping lower the burden of allergies in everyday life.
- The "Aller-eze" product should be seen as the main product in the anti-allergy

(especially hay fever) market, i.e. customers' creating the association between the two intuitively.

Solution

To introduce the new anti-allergic product "Aller-eze" Novartis' British affiliate launched a mobile marketing initiative. By offering a subscription service providing patients with timely, location-specific allergy warnings and hints for patients, Novartis succeeded in

- "Aller-eze" being perceived as a partner providing daily support, easing the pain of allergy patients
- emphasizing the innovative image of Novartis as a whole.

For further details about this case, see [LeFr04, 74-75].

3.7 Lotto NL – Mobile Gamina

Company Background

Lotto NL (www.lotto.nl) is a publicly owned lottery service in the Netherlands. Its strategy is to cover the entire market with a mix of service channels, providing anywhere-anytime access to lottery services.

■ A high market saturation in traditional channels requires an exploitation of new market segments/channels to allow for revenue growth.

Solution

By allowing customers to take part in lottery games via SMS Lotto NL

- lowers customers' efforts to take part in lottery games and thus engages more customers and
- leverages and enhances the traditional marketing activities such as TV spots by providing instant access to its services.

For further details about this case, see [LeFr04, 34-35].

4 Strategy's Implications for **Process Selection and Design**

Looking at the cases of Verizon, Helsana/ Progrès and Gossard, we identified an attribute to include in addition to the ones listed in the framework as introduced in section 2.4. These cases show that especially new technologies (such as currently mobile technology) can be a means for business to demonstrate innovative capabilities. In current literature, we also found approaches, suggesting innovativeness to be an important strategic attribute of market strategy [MiRo03; KiMa99]. Thus, we added the attribute of innovativeness which can be supported by the application of mobile business technologies. This results in the following common strategic focus attributes/goals which make up the strategic framework used for our analy-

■ Price

Offering low, transparent and fair price compared to the market.

- Customer intimacy
 - Offering hassle-free service on a personal level, establishing a one-to-one relationship with customers.
- Product quality
 - Offering the best product features in the market.
- Accessibility
 - Offering simple, anytime-anywhereanyhow access to products.
- Innovativeness
 - Being perceived as an innovator or early-adopter of new, innovative technologies.

Table 1 summarizes the prioritization of these attributes across the analyzed cases; applying the classification from Crawford/ Mathews of primary focus, secondary fo-

Table 1 Overview of strategic focus in the analyzed cases					
	Price	Intimacy	Product	Accessibility	Innovation
Progrès	•	0	0	•	•
Eneco	•	•	0	0	0
SOS Médcins	0	0	•	•	0
Gossard G4Me	0	•	•	0	•
Verizon	0	•	0	0	•
Novartis	0	•	0	0	0
LottoNL	0	•	0	•	0

Obviously, the focus on two attributes constitutes the strategic framework which determines on which business processes and product features a company should focus its resources on. The following common aspects of the selection of processes, depending on the strategic orientation, can be observed.

4.1 Strategic Focus on Price

A strategy focused on competitive and transparent price can be supported, when business processes are mobilized in which information is passed on and the point of creation (PoC) and the point of action (PoA) of the information differ. E.g. Eneco could raise operational efficiency, and thus lower operational costs, of their field force, by supporting them with mobile devices, which were connected and integrated with Eneco's billing system and other information systems which provide them with information to help in solving customer incidents on-site.

4.2 Strategic Focus on Customer Intimacy

A strategy focused on customer intimacy and the best customer experience can be supported when business processes are mobilized which support the customer in spontaneous situations. Here she experiences that the company is there to help and provides knowledge for the customer when she needs it. Also, the generation of personalized knowledge about the customer can be well supported by mobile solutions, since the devices used in such solutions, such as cellular phones, usually have a strong personal touch. E.g. Novartis could support its customers with crucial information, personalized to the location and allergic profile of each individual customer.

4.3 Strategic Focus on Product Quality

The analyzed cases indicate, that a strategy focused on quality of product is hard to support unless the product is either closely related to mobile technology or is a knowledge-intensive service product. E.g. Verizon could support the product quality and how this quality is perceived by customers by showing its products and services onsite via its own sales agents. The knowledge aspect played an important role in the case of SOS Médecins, where the product of

medical service has been greatly enhanced by providing the doctor with complete and current knowledge about the visited patient.

4.4 Strategic Focus on Accessibility

A strategy focused on accessibility is probably the most obvious one to be supported by mobile technology, even though again the support of physical products seems to be hard. A strategy focusing on accessibility should leverage mobile technology's potential to extend the communication channels the customer can use to obtain a service from a business to location- and time-independent media such as cellular phones. E.g. Lotto NL could extend its reach to occasional gamblers, who were not taking part in the lottery because of the burden of having to obtain a lottery ticket from a store or from an internet-connected PC. By offering the purchase of lottery tickets via cellular phones, customers can now purchase lottery tickets anytime (i.e. independent from office hours of points of sale), anywhere (i.e. independent of where the next point of sale is located at) and anyhow (i.e. it's the customer's choice via which channel to purchase).

4.5 Strategic Focus on Innovativeness

A strategy focusing on the demonstration of innovativeness of a company can be supported by mobile business at least nowadays, when mobile technology has not yet become a commodity. To support an innovative image of a company the processes obviously have to be externally visible, to have an impact on the company's image. E.g. Verizon chose the sales agents because they have immediate customer contact and thus can best show Verizon's ability to put innovative products into operational use. Also, addressing young customer market segments can be well supported with innovative marketing based on technologies considered "cool" by these customers as the cases Helsana/Progrès and Gossard illustrate.

■ 5 Conclusion and Further Research

The analysis presented in this paper shows, how the alignment of mobile business technology with corporate strategy can be achieved, with special respect to business processes in customer interaction. We have identified five different strategic focuses and explain which criteria the processes should fulfill to provide the best support to the corporate strategy when being mobilized, thus promise to realize their full potential (i.e. the best ROI of the related IT investments).

Since the analysis so far is based on seven cases, which are not representative for a general target audience, the framework should be further validated by further case studies and quantitative empirical research. Other aspects which should be addressed by further research include a detailed method for process selection, business process redesign and technology selection to provide businesses with a structured method how to achieve best effects with the application of mobile business technology.

References

[AmFi03] Amberg, Michael, Figge, Stefan, Wehrmann, Jens: A Cooperation Model for Personalised and Situation Dependent Services in Mobile Networks. In: Olivé, A., Yoshikawa, M., Yu, E. S. (Hrsg.): Advanced Conceptual Modeling Techniques. Springer, Berlin 2003.

[AmRe03] Amberg, Michael, Remus, Ulrich: Multi-Channel Commerce: Hybridstrategien und Controlling. In: Uhr, W., Esswein, W., Schoop, E. (Hrsg.): Wirtschaftsinformatik 2003/Band II. Physica-Verlag, Heidelberg 2003, S. 795–817.

[Andr69] *Andrews, Kenneth:* Toward professionalism in business management. In: Harvard Business Review, 47 (1969) 2, S. 49–60.

[Anso65] Ansoff, I.: Corporate strategy: An analytical approach to business policy for growth and expansion. McGraw-Hill, New York 1965.

[Anso69] Ansoff, I. (Ed.): Business strategy. Harmondsworth, UK 1969.

[Anth65] Anthony, R. N.: Planning and Control Systems. Harvard University Press, Boston 1965.

[BaTr86] Bakos, J. Yannis, Treacy, Michael E.: Information Technology and Corporate Strategy: A Research Perspective. In: MIS Quarterly, 10 Issue (1986) 2, S. 106–120.

[Bryn93] Brynjolfsson, Erik: The Productivity Paradox of Information Technology: Review and Assessment. In: Communication of the ACM, 12 (1993) 36, S. 66–77.

[BrHi00] Brynjolfsson, Erik, Hitt, Lorin M.: Beyond Computation: Information Technology, Organizational Transformation and Business Performance. In: Journal of Economic Perspectives, 14 (2000) 4, S. 23–48.

[Chan62] Chandler, A.: Strategy and structure. Harvard University Press, Boston 1962.

[Chan77] *Chandler, A.:* The visible hand. Harvard University Press, Boston 1977.

[Chri97] Christensen, Clayton M.: The innovator's Dilemma – When new technologies cause great

- firms to fail. Harvard Business School press, Boston/Massachusetts 1997.
- [Clar01] *Clarke Iii, Irvine:* Emerging value propositions for M-commerce. In: Journal of Business Strategies, 18 (2001) 2, S. 133–148.
- [CoDa00] Colgate, Mark R., Danaher, Peter J.: Implementing a Customer Relationship Strategy: The Asymmetric Impact of Poor Versus Excellent Execution. In: Journal of the Academy of Marketing Science, 28 (2000) 3, S. 375–387.
- [CrMa01] Crawford, Richard, Mathews, Ryan: The myth of excellence: why great companies never try to be the best at everything. Crown Business, New York 2001.
- [CuAn04] Cummings, Steven, Angwin, Duncan: The future shape of strategy: Lemmings or chimeras? In: Academy of Management Executive, 18 (2004) 2, S. 21–36.
- [DoSa04] Dous, Malte, Salomann, Harald, Kolbe, Lutz, Brenner, Walter: Customer Relationship Management Survey – Status Quo and Future Challenges. Working Paper, Institute of Information Management, University of St. Gallen, 2004.
- [Eise89] Eisenhardt, Kathleen M.: Building Theories from Case Study Research. In: Academy of Management Review, 14 (1989) 4, S. 532–550.
- [EpSe99] Eppler, Martin, Seifried, Patrick, Röpnack, Axel: Improving Knowledge Intensive Processes through an Enterprise Knowledge Medium. Proceedings of the 1999 ACM SIGCPR conference on Computer Personnel Research, 8.4.99, ACM Press: New Orleans, 1999, S. 222–230.
- [Feld00] *Feldman, Stuart:* Mobile Commerce for the Masses. In: IEEE Internet Computing, 4 (2000) 6, S. 74–75.
- [Figg01] Figge, Stefan: Situation Dependent M-Commerce Applications. COTIM-2001 Proceedings From E-Commerce to M-Commerce, Rhode Island, 3.5.01, Situation Dependent M-Commerce Applications, 2001.
- [Figg02] Figge, Stefan: Die Open Mobile Architecture Systemungebung für mobile Dienste der nächsten Generation. In: Wirtschaftsinformatik, 44 (2002) 4, S. 375–378.
- [FiSc02] Figge, Stefan, Schrott, Gregor, Muntermann, Jan, Rannenberg, Kai: EARNING M-ONEY A Situation based Approach for Mobile Business Models. Proceedings of the 11th European Conference on Information Systems, Neapel, 16.6.03, EARNING M-ONEY A Situation based Approach for Mobile Business Models, 2002.
- [FrR004] Fritsch, Lothar, Rossnagel, Heiko: SIM-based Mobile Electronic Signatures: Enabling M-Business with Certification on Demand. In: Card Forum International, 8 (2004) 1, S. 38–40.
- [Funk03] Funk, Jeffrey L.: Mobile Disruption: The Technologies and Applications Driving the Mobile Internet. John Wiley & Sons, Hoboken 2003.
- [GeGe03] Gebert, Henning, Geib, Malte, Kolbe, Lutz M., Brenner, Walter: Knowledge-enabled Customer Relationship Management. In: Journal of Knowledge Management, 7 (2003) 5, S. 107– 123.
- [HaMa00] Hartline, Michael D., Maxham, James G., Mckee, Daryl O.: Corridors of influence in the dissemination of customer-oriented strategy to customer contact service employees. In: Journal of Marketing, 64 (2000) 2, S. 35–50.

- [HiBr94] Hitt, Lorin, Brynjolfsson, Erik: Creating Value and Destroying Profits? Three Measures of Information Technology's Contribution. Proceedings of Research Report CCSWP183, Dezember 1994, MIT Center of Coordination Science Sloan School of Management: Creating Value and Destroying Profits? Three Measures of Information Technology's Contribution, 1994
- [KiMa99] Kim, W. Chan, Mauborgne, Renee: Creating New Market Space. In: Harvard Business Review, 77 (1999) 1, S. 83–93.
- [KoDe04] *Kohli, Rajiv, Devaraj, Sarv:* Realizing the business benefits of information technology investments: An organizational process. In: MIS-QE, 3 (2004) 2, S. 53–68.
- [Lenn03] Lehner, Franz: Mobile und drahtlose Informationssysteme: Technologien, Anwendungen, Märkte. Springer, Berlin 2003.
- [LeFr04] Lerner, Thomas, Frank, Volker: Best Practices Mobile Business. BusinessVillage.de, 2004.
- [Levi83] Levitt, Theodore: After the sale is over... Author(s): Source: ; Sep/Oct83, Vol. 61 Issue 5, p87, 7p. In: Harvard Business Review, 61 (1983) 5. S. 87–94.
- [LiWe04] *Liang, Ting-Peng, Wei, Chih-Ping:* Introduction to the Special Issue: Mobile Commerce Applications. In: International Journal of Electronic Commerce, 8 (2004) 3, S. 7–17.
- [LoJe04] Looney, Clayton A., Jessup, Leonard M., Valacich, Joseph S.: Emerging business models for mobile brokerage services. In: Communications of the ACM, 47 (2004) 6, S. 71–77.
- [LuSe03] *Luo, Xueming, Seyedian, Mojtaba:* Contextual Marketing and Customer-Orientation Strategy for E-Commerce: An Empirical Analysis. In: International Journal of Electronic Commerce, 8 (2003) 2, S. 95–118.
- [MaRo04] Mallat, Niina, Rossi, Matti, Tuunainen, Virpi Kristiina: Mobile banking services. In: Communications of the ACM, 47 (2004) 5, S. 42–46
- [MiRo03] Micheal, Kamel, Rochford, Linda, Wotruba, Thomas R.: How New Product Introductions Affect Sales Management Strategy: The Impact of Type of "Newness" of the New Product. In: Journal of Product Innovation Management, 20 (2003) 4, S. 270–283.
- [Mint80] *Mintzberg, H.:* Structure in 5's: A Synthesis of the Research on Organization Design. In: Management Science, 26 (1980) 3, S. 322–341.
- [Mint87] Mintzberg, Henry: The Strategy Concept II: Another Look At Why Organizations Need Strategies. In: California Management Review, 30 (1987) 3, S. 11–24.
- [MyDo03] Mylonopoulos, Nikolaos A., Doukidis, Georgios I.: Special Issue: Mobile Business: Technological Pluralism, Social Assimilation, and Growth. In: Internation Journal of Electronic Commerce, 8 (2003) 1, S. 5–22.
- [Paav02] Paavilainen, Jouni: Mobile Business Strategies: Understanding the Technologies and Opportunities. Addison-Wesley, London 2002.
- [PaSh00] Parvatiyar, Atul, Sheth, Jagdish N.: The Domain and Conceptual Foundations of Relationship Marketing. In: Sheth, J. N., Parvatiyar, A. (Hrsg.): Handbook of Relationship Marketing. Sage Publications, Thousand Oaks 2000, S. 3–38.

HMD - Praxis der Wirtschaftsinformatik

Die Zeitschrift für Ihr IT-Know-how



Mit der HMD bleiben Sie in Informationstechnologie und -management auf dem Laufenden. Sechs Hefte pro Jahr, jeweils mit einem aktuellen Schwerpunktthema, das mit viel Praxisbezug und dem notwendigen theoretischen Hintergrundwissen dargestellt wird und das insbesondere umsetzbare Lösungen aufzeigt.

Die aktuellen Schwerpunktthemen:

- Business Engineering (Heft 241, 02/2005)
- Virtuelle Organisationen (Heft 242, 04/2005)
- Supply Chain Management (Heft 243, 06/2005)
- Mobile Anwendungen (Heft 244, 08/2005)
- Outsourcing (Heft 245, 10/2005)
- Competitive Intelligence (Heft 246, 12/2005)

HMD im Abo:

Sie erhalten 6 Hefte pro Jahr für 118,00 € (zzgl. Versandkosten) und unser dpunkt-Shirt als Geschenk.

Einzelverkaufspreis: 23,50 € (zzgl. Versandkosten)

> Bestellungen richten Sie bitte an:



Ringstraße 19 B D-69115 Heidelberg fon: 0 62 21 / 14 83 40 fax: 0 62 21 / 14 83 99 e-mail: hallo@dpunkt.de www.dpunkt.de

- [Port79] *Porter, Michael E.:* How Competitive Forces Shape Strategy. Harvard Business School Press, Boston 1979.
- [Port96] Porter, Michael E.: What Is Strategy? In: Harvard Business Review, 74 (1996) 6, S. 61–78.
- [Port98] Porter, Michael E.: Competitive Advantage: Creating and Sustaining Superior Performance. Free Press, New York 1998.
- [Rann04] *Rannenberg, Kai:* Identity management in mobile cellular networks and related applications. In: Information Security Technical Report, 9 (2004) 1, S. 77–85.
- [ReSc04] Reichold, Annette, Schierholz, Ragnar, Kolbe, Lutz, Brenner, Walter: Mobile-Commerce bei der Helsana: Mobile Prämienerstellung. In: Wilde, K., Hippner, H. (Hrsg.): Management von CRM-Projekten. Gabler, 2004.
- [ReSc03] Reichold, Annette, Schierholz, Ragnar, Kolbe, Lutz M., Brenner, Walter: M-Commerce at Helsana Health Insurance: Mobile Premium Calculator. Proceedings of the DEXA '03 – Workshop Mobile Commerce Technologies and Applications, Prag, 1.9.03, IEEE Computer Society: Los Alamitos, California, 2003, S. 877– 881.
- [Reic02] Reichwald, Ralf: Mobile Kommunikation: Wertschöpfung, Technologien, neue Dienste. Gabler, Wiesbaden 2002.
- [RoFj02] Romano, Nicholas C., Fjermestad, Jerry: Electronic Commerce Customer Relationship Management: An Assessment of Research. In: International Journal Of Electronic Commerce, 6 (2002) 2, S. 61–113.
- [RoFj03] Romano, Nicholas C., Fjermestad, Jerry: Electronic Commerce Customer Relationship Management: A Research Agenda. In: Information Technology and Management, 4 (2003) 2–3, S. 233–258.
- [RuIn99] Rust, Roland T., Inman, J. Jeffrey, Jia, Jianmin, Zahorik, Anthony: What you don't know about customer-perceived quality: the role of customer expectation distributions. In: Marketing Science, 18 (1999) 1, S. 77–92.
- [RuLe04] Rust, Roland T., Lemon, Katherine N., Zeithaml, Valarie A.: Return on Marketing: Using Customer Equity to Focus Marketing Strategy. In: Journal of Marketing, 68 (2004) 1, S. 109–127.
- [RuZe00] Rust, Roland T., Zeithaml, Valarie A., Lemon, Katherine N.: Driving Customer Equity: How Customer Lifetime Value is Reshaping Customer Strategy. The Free Press, New York 2000.
- [Sade02] Sadeh, Norman: M Commerce: Technologies, Services, and Business Models. John Wiley & Sons, New York 2002.
- [ScTh00] Schulze, Jens, Thiesse, Frédéric, Bach, Volker, Österle, Hubert: Knowledge Enabled Customer Relationship Management. In: Österle, H., Fleisch, E., Alt, R. (Hrsg.): Business Networking: Shaping Enterprise Relationships on the Internet. Springer, Berlin et al. 2000, S. 143–160.
- [ShCh92] Shani, David, Chalasani, Sujana: Exploiting niches using relationship marketing. In: The Journal of Consumer Marketing, 9 (1992) 3, S. 33–42.
- [SiWo01] Silberer, Günter, Wohlfahrt, Jens, Wilhelm, Thorsten (Ed.): Mobile Commerce. Grundlagen, Geschäftsmodelle, Erfolgsfaktoren. Wiesbaden 2001.

- [StGi03] Stafford, Thomas F., Gilleson, Mark L.: Mobile commerce: what it is and what it could be. In: Communications of the ACM, 46 (2003) 12, S. 33–34.
- [Stak95] Stake, Robert E.: The Art of Case Study Research. Sage Publications, London 1995.
- [Tara03] *Tarasewich, Peter:* Designing Mobile Commerce Applications. In: Communications of the ACM, 46 (2003) 12, S. 57–60.
- [TrWi94] Treacy, M., Wiersema, F.: The Discipline Of Market Leaders. Addison-Wesley, Reading et al 1994
- [TuPo03] Turowski, Klaus, Pousttchi, Key: Mobile Commerce. Springer, Berlin 2003.
- [UrVa03] Urbaczewski, Andrew, Valacich, Joseph S., Jessup, Leonard M.: Mobile Commerce – Opportunities and Challenges. In: Communications of the ACM, 46 (2003) 12, S. 31–32.
- [Weil92] Weill, Peter: The Relationship Between Investment in Information Technology and Firm Performance: A Study of the Valve Manufacturing Sector. In: Information Systems Research, 3 (1992) 4, S. 307–333.

- [WeBr98] Weill, Peter, Broadbent, Marianne: Leveraging the New Infrastructure – How Market Leaders Capitalize on Information Technology. Harvard Business School Press, Boston 1998.
- [WeSu02] Weill, Peter, Subramani, Mani, Broadbent, Marianne: Building IT Infrastructure for Strategic Agility. In: MIT Sloan Management Review, 44 (2002) 1, S. 57–65.
- [WeVi02] Weill, Peter, Vitale, Michael: What IT Infrastructure Capabilities Are Needed to Implement e-Business Models. In: MIS Quarterly Executive, 1 (2002) 1, S. 17–34.
- [Wern84] Wernerfelt, Birger: A Resource Based View of the Firm. In: Strategic Management Journal, 5 (1984) 2, S. 171–180.
- [Yin02] Yin, Robert K.: Case Study Research. Design and Methods. Sage Publications, London 2002.
- [Zobe01] Zobel, Jörg: Mobile Business und M-Commerce – Die Märkte der Zukunft erobern. Hanser, München 2001.

Abstract

Strategy Alignment of Mobile Solutions in Customer-Oriented Processes

In this paper we analyze how companies define their strategy, especially how they interact with and appear to the customer. Based on a framework of five goals in customer oriented strategy, we classify seven cases. Analyzing the strategic premises and the processes chosen to be supported by mobile solutions, we show interdependencies between the strategic premises and the selected processes, resulting in typical properties which qualify processes for mobilization.

Keywords: Mobile Commerce, Mobile Business, Mobile Applications, IT, Strategy