INFORMATION TECHNOLOGY UTILIZATION FOR INDUSTRIAL MARKETING ACTIVITIES: THE IT-MARKETING GAP

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Abstract

This study investigates how industrial companies' IT infrastructure match their applied marketing approach. The supporting theoretical framework is based upon the contemporary marketing practice (CMP) model that depicts companies as spanning from transactional to more relational and networked. This is supported by theories on the logic of IT systems and how users in industrial companies adopt them. The study is based upon two longitudinal subsequent case studies of a multinational company's business with influential customers. The analysis shows that the utilized IT systems mainly follow efficiency logic that is useful for individual business transactions. However, the form of complex industrial business that industrial companies carries out are often relationship based and sometimes even incorporating the adjacent business network. Thus, there is a IT-marketing gap given that contemporary IT does not match the need the marketing practice of a modern industrial company.

Keywords: *Contemporary marketing practice, information technology, transaction marketing, business relationship, business network*

Paper: *Competitive*

INTRODUCTION

Industrial companies have since long strived for getting a common view of their business activities as well as of their customers and suppliers (Anjard, 1995). However, this is not always a easy task given that most companies live with a mix of old legacy IT systems in parallel with state of the art enterprise resource planning (ERP) and customer relationship management (CRM) systems. Gardiner *et al.* (2002) argue for that company-wide IT systems can speed up marketing cycles and strengthen customer service, something that can be beneficial for the relationship oriented and networking company (Achrol and Kotler, 1999). Furthermore, integrated IT systems support internal coordination of marketing and purchasing activities that are beneficial for the customer-focused company (Sheth *et al.*, 2009, Fournier and Avery, 2011, Trainor *et al.*, 2011). However, the most technical complex and organizationally integrated IT systems are seldom fully implemented. Companies are instead selecting the internal focused software first prior to inter-organizational solutions as CRM or e-commerce systems (Shehab *et al.*, 2004, Davenport *et al.*, 2004, Trainor *et al.*, 2011). Researchers have also argued that marketers haven't embraced the potential of information technology (IT) and that the actual use, and thereby effects of IT, are rather low (Brady *et al.*, 2008, Brookes *et al.*, 2004). Furthermore,

the implementation of common IT systems often meet resistance due to imposed controlling dimensions that requires that all users, no matter function, must adhere to the stipulated routines (Fowler *et al.*, 2004, Lamb and Kling, 2003, Walsham, 1993). To fully support a industrial company's business, the used IT systems needs to have a certain degree of integration (i.e. information is easily shared and data is also added trough multiple and cross-functional touch-points) as well as be aligned with the company's marketing strategy (Jayachandran et al., 2005, Rapp et al., 2010, Stein and Smith, 2009, Wei and Wang, 2011).

Studies of marketing have led to a number of marketing schools of thought (Shaw and Jones, 2005, Sheth *et al.*, 1988) and late marketing approaches include the concept of relationship, services, and networks (Lagrosen and Svensson, 2006, Vargo and Lusch, 2004, Sheth and Parvatiyar, 1995, Håkansson and Johanson, 1992). Basically, there has been a drift from transaction oriented marketing schools of thought to more relational and networked approaches (Lindgreen *et al.*, 2004). Caviello *et al.* (1997) addressed the need for a better description and classification of contemporary marketing practices and ended up with a contemporary marketing practice framework that they later evaluated through a survey answered by 308 companies. Their results showed that "contemporary marketing practices are dominated by the practice of transaction and interaction marketing, and database and network marketing are implemented to a lesser degree." (Coviello *et al.*, 2002, page 43). Their study also concluded that consumer and goods companies had a more transactional approach than business-to-business companies but there was consumer companies that had a relational marketing practice as well as business-to-business companies that where transactional, i.e. it was not a clear cut.

There are arguments for a greater involvement of marketers when it comes to the adoption and utilization of company information and communication technologies (Brady *et al.*, 2008). Thus, we aim to contribute by study how IT systems fit industrial marketing practices. How are the used IT systems matching the company's marketing practice? How well are industrial companies' IT systems aligned with the need of a modern industrial company's marketing practice? *Thus, our overall aim is to explore how the IT systems are used and whether the use is in line with the company's marketing practice.* Two subsequent case studies of the current use of IT systems of a multinational companies' use of IT systems in their business with customers and suppliers was carried out to get a better understanding of IT in an industrial setting. The basic idea behind integrated IT systems is to align the company with the needs of customers and suppliers. More so, it supports both sensemaking and organizational learning (Krush et al., 2013, Stein and Smith, 2009). The downside is that IT systems may impersonalize the business relationship (Stein and Smith, 2009, Ryssel et al., 2004). Thus, there seems to be a trade-off between a high use of integrated IT systems and relationship specific benefits.

This paper presents findings from the case studies continues with a literature review where IT systems, marketing practices, and the case study approach is discussed before presenting the study's results and conclusions.

MARKETING ACTIVITIES AND IT SYSTEMS USE

To get an understanding of how companies use different IT systems for their marketing activities this chapter starts with a discussion on how company's adopt IT systems as well as a outline of the nature of different IT systems. This is followed by a section discussing the contemporary marketing practice framework (CMP) whereas each marketing approach is related to how a IT system would need to be structured to support that marketing practice.

Industrial IT systems – adoption cycles, functionalities and organizational challenges

Industrial companies have an abundance of IT systems that can facilitate their everyday business activities. Ryssel *et al.* (2004) outlined company IT systems based upon if they where internally or externally used (internal IT or shared IT) as well as based upon if their use was mainly used for information, communication or decision support. However, most firms are working actively to get an integrated IT system to avoid multiple data entries, data redundancy as well as for safety reasons. Thus, companies strive for shared and integrated applications rather than local ones (Ross *et al.*, 2006). When dividing the internal IT (Ryssel *et al.*, 2004) in internal local IT and internal integrated as well as adding some recent IT systems the classification by Ryssel *et al.* (2004) ends up as shown in figure 1 below.
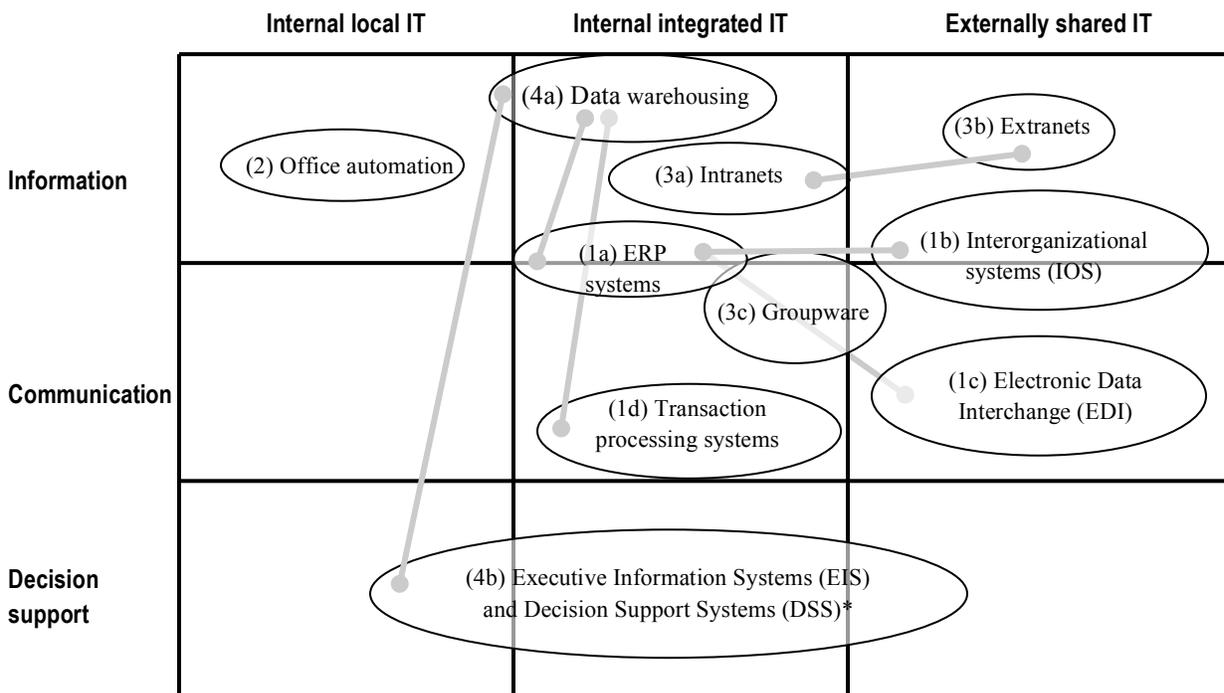

Figure 1 – IT system use and functionality (Based upon Ryssel et al., 2004, page 198)

The most influential IT system for companies, after the Internet, has been the (1a) ERP system (Shanks *et al.*, 2003). ERP systems integrate most business transactions in a virtual common database which means that there will only be one point of entry as well as support for a common

view of the business (Sumner, 2005). ERP systems are internal integrated IT that results in a common accessible information and their process orientation also means that they can function as a communication media within and between departments. However, studies have shown that companies seldom implement the full functionality (Davenport *et al.*, 2004) and subsequent studies have shown that the ERP system often is complemented with more or less integrated added systems whereas some can function as (1b) interorganizational systems (IOS). An example of such IOS can be a e-CRM system that offers a web-shop functionality or other web-based access from external partners (Pan and Lee, 2003). Traditionally, industrial companies have also made use of (1c) EDI connections to important suppliers – something that today comes integrated with the ERP package. Finally, some companies make use of transaction processing system (TPS) that has a specific task, e.g. keeping track on warehouse inventory, deal with electronic payments and so forth. These IT systems can also, to a large extent, be integrated with the company's ERP system.

Another influential IT system is what broadly can be classified as (2) office automation. A typical example of such IT system is the MS Office package (MS Word, MS Excel and so forth). These IT systems are mainly designed for a single user even if the documents can be shared, both internally and externally. However, the absence of integration means that there easily can be several versions of a document in circulation that means that there is a risk that a user gets old and invalid information. Thus, IT systems as office automation are valuable for the individual user but it comes with a risk for the organization.

Whereas the ERP system primary can be seen as a IT system for efficiency there are other IT systems that can be used of effectiveness and knowledge sharing (Newell *et al.*, 2003). Such example is the (3a) Intranet that can store documents and share information. An (3b) extranet has the same functionality; it is just that the information offered will be based upon the need of an external partner. Some companies do also have (3c) groupware as e.g. Lotus Notes or Microsoft SharePoint. These are even more complex IT systems that support both information sharing and online communication through e.g. chat or video conferencing.

The last form of IT system are (4a) data warehouses, (4b) executive information systems (EIS) and decision support systems (DSS). Data warehouses are used to collect and store business data in a manner so it is useful for data analyzes. The value of such data is traditionally heavily dependent on the initial setup of the data warehouse, i.e. there is only possible to do data analyses on stored data and this decision making is done on historical data. Thus, data that has not been stored will be missed in future analyzes. However, the boarder between transactional IT systems as ERP systems and decision support systems are probably being blurred forthcoming. The world's largest ERP vendor SAP are for example offering a memory database named Hana that allows for real-time decision analyzes. This means that tomorrow's ERP system might cover and thereby replace several of the mentioned IT systems.

The IT systems presented by Ryssel *et al.* (2004) covers a large part of the used IT systems even if industrial companies have even more applications (as e.g. CAD/CAM systems). The adopted

IT systems takes time to master and shorter periods of radical change is followed by longer stable periods once a technology is installed and the basic features learned (Lorenzon, Kawalek, & Ramdani, 2009; Tyre & Orlikowski, 1994). Thus, the resources needed, the organizational change caused, and the technical expertise needed for each IT system gives a situation where only parts of a IT system are implemented or used and hence only partial benefits can be expected. Different IT systems will also have varying impacts on the company. Coviello *et al.* (2001) presented IT's role as inertia role, application role or change role following the description by Orlikowski (2000). Thus, IT can have a reinforcing, enhancing or transforming role. The time does also influence the levels of IT system use. Markus *et al.* (2003) discusses a IT system's life cycle phases as; the project phase, shakedown phase, and onward and upward phase. The project phase may not revile much use whilst the onward and upward phase is characterized by extensive use (if the technology has been accepted by the users). However, early studies indicated that even since long implemented IT systems can be the cause of workarounds due to reluctant users (Walsham, 2001). Such situation reduces the effects of the IT system. This study uses Coviello *et al.* (1997; 2001) description of IT as having a inertia (limited) role or an application role (i.e. which shall mean a stronger impact on business practice) – see table 1.

Contemporary marketing practices

The former theoretical rendering shows that company IT is no static entity – it is rather a partly fragmented and dynamic entity that spans from individual use to group-wise or even external use. The following section will outline how contemporary marketing practices can be described and then reconnect these marketing perspectives with potential IT system effects. Coviello *et al.* (1997) presented the contemporary marketing practice (CMP) framework that offers an understanding of companies' marketing practices. The framework spans from basic transactional marketing to relational approaches and the upcoming sections describe the different marketing practice approaches as well as discuss what role IT systems can take for each type of marketing practice (see table 1 for a summary). The four different practical marketing approaches (transaction marketing, database marketing, interaction marketing and network marketing) shall not be seen as totally divided – a company can have marketing practices that touch upon all four types. Each of the four marketing types will be briefly discussed.

The first marketing practice is labeled *transaction marketing* and it is a approach that builds on the managerial school of marketing that some see as synonym with the marketing mix. The marketing mix and its 4P have had a dominant position as the main marketing toolbox and this has also affected marketing practice. The American Marketing Association (AMA) definition 1985 did even stress that marketing was "the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchange". The marketing mix offers a understandable framework for making marketing strategies but the focus is the economic transaction and the influence of time is absent (Brodie *et al.*, 2007, Coviello *et*

al., 2001, Coviello *et al.*, 1997). Thus, such marketing practice is using price, product and promotion mechanisms to sell to a mass market. This does also means that the customer is considered a rather homogenous group and that the time factor has a limited role. Given that a transaction marketing approach is focused on attracting a customer the use of IT systems will be focused on facilitate that transaction as for example ERP systems and transaction processing systems. There might be a used of data warehouses and decision support systems but such analyzes are probably limited to studying customer segments and measuring which product and service that sells the most and that gives the best revenue.

Table 1 - Marketing classified by exchange dimensions and potential IT utilization (Based upon Coviello et al., 1997, Coviello et al., 2002, Coviello et al., 2001, Brookes et al., 2004)

	Transactional approach	*Relational approach*		
	Transaction Marketing	**Database marketing**	**Interaction marketing**	**Network marketing**
Caviello et al.'s Description	Managing the marketing mix to attract and satisfy customers	Using technology-based tools to target and retain customers	Developing interpersonal relationships to create cooperative interaction between buyers and sellers for mutual benefit	Developing intercompany relationships to allow for coordination of activities among multiple parties for mutual benefit, resource exchange, and so forth.
Purpose of exchange	Economic transaction	Information and economic transaction	Interactive relationship between a buyer and a seller	Connected relationships between companies
Nature of communication	Company to mass market	Company to targeted segments or individuals	Individuals with individuals (cross organizations)	Companies with companies (involving individuals)
Duration of exchange	Discrete (yet perhaps over time)	Discrete and over time	Continuous (ongoing and mutually adaptive, may be short or long term)	Continuous (stable yet dynamic, may be short or long term)
Managerial intent	Customer attraction (to satisfy the customer at a profit)	Customer retention (to satisfy the customer, increase profit, and attain other objectives such as increased loyalty, decreased customer risk, and so forth)	Interaction (to establish, develop, and facilitate a cooperative relationship for mutual benefit)	Coordination (interaction among sellers, buyers, and other parties across multiple companies for mutual benefit, resource exchange, market access, and so forth)
Managerial focus	Product or brand	Product/brand and customers (in a targeted market)	Relationships between individuals	Connected relationships between companies
Managerial investment	Internal marketing assets (focusing on product/service, price, distribution, promotion capabilities)	Internal marketing assets (emphasizing communication, information, and technology capabilities)	External market assets (focusing on establishing and developing a relationship with another individual)	External market assets (focusing on developing the company's position in a network of companies)
*IT utilization**	*Inertia and application role are similar*: to keep track on the buy/sell transactions (i.e. handling ordering and sales data).	*Inertia role*: database (keeping track of sales, segments, and so forth). *Application role*: data mining (i.e. analyzing and learning from consolidated business data).	*Inertia role*: interactive catalogue site, two-way emails. *Application role*: technical chat rooms for individuals.	*Inertia role*: simple document exchange through intranet/extranet. *Application role*: Sophisticated information exchange between groups

*Coviello *et al.* (2001) states that IT can't take a change role in these four marketing practices and it has also not been investigated in this study. They have also added a fifth marketing practice – e-marketing – but that approach has not been included given that it was not part of the initial and tested framework and it also had no bearing in the empirical material.

The second type of practical marketing approach is *database marketing*. This marketing approach makes use of IT systems to both attract customers in a similar manner as the previous

marketing approach. However, the use of database functionalities that can keep track on individual customers as well as have triggers for different marketing actions (Blattberg *et al.*, 2008) companies following a database marketing practice is also working actively for customer retention (Coviello *et al.*, 2002, Coviello *et al.*, 1997) which can be done by working actively with the brand and customer loyalty. The IT systems that functions well for this approach stores information about customer preferences and companies with decision support systems can make advances analyzes on customer segments, profitable products and so forth. Parts of what Coviello *et al.* (1997) describes as database marketing follow the traditional relationship marketing tradition (Christopher *et al.*, 1991). Even if the database marketing is categorized as a relational approach it is a rather artificial one. Mattsson (1997, page 458) scrutinize the relationship marketing phenomena and summarizes that relationship marketing "is aided by modern information technology that makes it possible to individualize communication with customers in a 'mass market'. In that sense relationship marketing is just an application of marketing management thinking".

The third practical marketing approach is *interaction marketing* that puts for interpersonal contact. The logic of the interaction model (Håkansson, 1982) has inspired this marketing approach. Interaction marketing puts the interpersonal interaction in focus and exchanges are the short-time entity of the interaction model. Over time there will be different exchanges between the selling and buying company which forms an interaction pattern that through time will involve multiple competencies whereas some are more personal and other on arm-lengths distance (Bagozzi, 1974, Enis, 1973). The interaction that takes place allows the partners to learn about and from each other. This process means that the partners develop different degrees of trust and commitment, i.e. they can rely on that the partner fulfill their obligations and not act opportunistic (Morgan and Hunt, 1994). The seller and buyer must believe that the other partner will act as expected and not take other actions (Anderson and Narus, 1990) and past performance becomes a factor that affects the current situation (Tuominen, 1999, Dwyer *et al.*, 1987). The business interaction can thereby be seen as a mean for reducing uncertainties and as a mean to reduce transaction costs. However, the investments in such business relationships does also means that there are switching costs given that the partners may be locked to each other through the jointly created procedures and technologies they have developed. The business relationship investments that the partners do are not all idiosyncratic (Anderson and Weitz, 1992) – some of them can also be used in other business relationships. Thus, each business relationship can be seen as an investment in time, resources and obligations and they limit which other business relationships the companies can enter in parallel with that they are vehicles for knowledge and resources.

The last relational approach is *network marketing* that focuses companies business with companies (Coviello *et al.*, 1997, Coviello *et al.*, 2002, Brookes *et al.*, 2004). A focal company's business relationships are forming the company's adjacent business network and they may also have some knowledge on their connected business network, i.e. their customers' customers and suppliers' suppliers. Concepts like connected relationships and network position (Johanson and

Mattsson, 1992) becomes interesting with a network marketing approach. The most basic systems for such approach are intranets and extranets but one can also suspect more advanced roles as sophisticated communication systems that allows groups to interact (Brodie *et al.*, 2007).

The presented contemporary marketing practice (CMP) framework has, together with the theoretical renderings of IT systems, been used for a study of a multinational company's business with customers and suppliers. The case setting is outlined below.

MULTIPLE CASE STUDY APPROACH

Most industrial companies lives in a situation where they use several IT systems simultaneously, whereas some are fully or partly integrated and others are local (individual) applications used by a single user or a part of a department (Ross *et al.*, 2003). A case study approach allows the researcher to get an insight in a contemporary phenomena (Yin, 2009) and it was considered a suitable approach to get a updated view on how IT systems are used for a companies marketing activities. Thus, this paper's empirical illustration is based upon two subsequent studies of Automation Company's marketing activities and their use of IT systems. The research approach followed a abductive approach (Dubois, 1998) where the theoretical concepts spurred data collection and where data findings supported the theoretical framework. During the study the respondents described the IT systems that they de facto used, how they used it and for what business activities. Central information was about the IT systems, the everyday business activities, exchanges with customers and suppliers, behaviors in the business relationship with others, and so forth. Most interviews was recorded (if the respondent agreed) and later transcribed. Respondents spanned from managers with insight in the company strategy and IT architecture to operative staff from different functions (with a focus on marketing and sales respectively the procurement functions). Interviews were also conducted at customers, suppliers, and some IT vendors and IT consultants. The empirical material is made up of 63 interviews at Automation Company (all names are anonymous), 17 interviews at eight different customers and 18 interviews at seven different suppliers. The companies were selected with the support of a Automation Company manager who described the selected customers and suppliers as representative.

Complementary empirical data sources was archival material as IT strategies and IT architecture blueprints, process descriptions, and non-participatory observations of the IT systems as well as of offices and manufacturing plants – following the logic of data triangulation. The data collection that took place from 2003 to 2012 was also ended with member checking where respondents could clarify misunderstandings or offer even more relevant empirical data.

RESULTS AND DISCUSSION

Automation Company has more than 100.000 employees and acts on more than 100 markets globally. Automation Company was in the process of migrating from a legacy system to a SAP when the study started. The SAP systems was sent up to deal with thousand of manufacturing related transactions at each plant, whereas the inter-organizational functionality differed depending on how each business areas' sales process was organized. However, the SAP system's use was limited in the different interactions that took place and several other, less integrated, IT system were used. The following sections presents and discusses the results based upon this study's framework.

Transaction focused IT systems

Automation Company SAP system was used for creating product selection spreadsheets in MS Excel when the study started. There was three different product selection forms spanning from more standardized basic products (that was sold one by one or in packages of few) to a fully customized ones where orders often spanned hundreds of customized products. The product selection spreadsheets was based upon the logical rules that was set in the SAP system and some combinations of product peripherals ruled out others. The robot specification list was exported to spreadsheets and offered to some customers but none of the three interviewed customers used these lists. They did instead use their own software for designing and simulating the future robot installation. Automation Company's marketers and salesmen used these spreadsheets on a daily basis but some mentioned that the use of the spreadsheets come with a risk – you need to keep track on if you have the latest version so that a forthcoming order can be dealt with by the plant's SAP system. Thus the spreadsheets – that can be categorized as office automation (Ryssel *et al.*, 2004) is a local information bearer and that makes it less useful for cross functional communication.

The SAP system had a functionality that would allow the sellers to make a quotation direct in the ERP system but that was not doable according to the respondents. The marketing and sales organization was acting rather free form any integrated IT system and they seemed to like it that way.

> *[Those who run the production thinks:] 'We would like better stability and better prognoses; then we should manage it better. It would be easier. We would like to have the orders earlier; then we would have time to 'line up' the suppliers and ourselves. And it should be untouched – it should not change.' And this is the medicine against the complaint we have today and it was also the medicine 15 years ago when I began. Nothing has changed! And to achieve this [stability] you have to change the customer's behavior. And that is something we never manage. That's a behavior that will prevail. We must, instead, create work processes and tools that make us good on acting, and take care, of the changes from outside.*

> *Senior Salesman at Automation Company*

What seemed more important from the marketers point of view was the groupware from Lotus Notes:

Then we have Lotus Notes. That is maybe our most important system. It is used for all email communication, internal, bookings, databases [...] All delivery information is found in the database 'delivery situation'. And we have, even if SAP R/3 is used for all the order bookings, an order database where all the orders from [the sales offices] land. [...] So you can go into the database and see the specifications, what they have sent in, and all the communication in that errand.

Marketing Project Manager

Thus, the marketers needed a integrated IT system that would allow them to communicate effectively but central business information was not shared (see figure 1) – they where scattered around different marketing and sales offices in MS Excel spreadsheets. The explanation for this was the complex interaction that took place between Automation Company and their customers. The gave an example where a Automotive Customer required hundreds of customer specific products for a new plant. That required Automation Company to engage staff from many functions – especially R&D – given that the Automotive Customer always showed up with many engineers. Such sale was considered a project – i.e. there was a deliberate organizing to meet the customer demand. The marketing actions could here best be described as following a interaction or even network marketing practice (Coviello *et al.*, 1997) but the IT systems used was at best described as having a inertia role (Brodie *et al.*, 2007), i.e. simple document exchanges supported by the Lotus Notes groupware. Most respondents at Automation company described a situation where the acted towards a customer as a group, i.e. their marketing practice was following the logic of interaction or network marketing, but the SAP system was only used for orders – i.e. it kept track of the buy/sell transactions (Ibid.) – a situation that meant that the marketers and their colleagues made use of other, less integrated, IT systems.

IT systems with database marketing functionality

The study also gave examples of when customers influenced the use and adaptation of integrated IT systems. One customer described that us was a time when employees from Automation company did not know that a colleague had visited them before – i.e. they did not know that a business activity already was initiated. Thus, the customer wished that Automation company should be more organized regarding their attendance at customers. This drove Automation Company to develop a IT system where they log every customer visit. Thus, if a service team goes to a customer or if a key account manager visits the customer it will be logged. The development of this shared and integrated IT system made it possible for Automation Company to coordinate and keep track of their presence at the customer and thereby synced between different Automation company employees. Thus, it keeps track of who's doing what (a database marketing inertia role).

Automation Company's interaction marketing practice and IT systems

The majority of respondent renderings followed the interaction marketing practice (Coviello *et al.*, 1997, Coviello *et al.*, 2002) – it was a specific customer that stood in center of attention. This was in the first part of the study badly aligned with the used IT system (the MS Excel Spreadsheet is one example). However, the later part of the study revieled the use of a rather complex decision support system (see figure 1) called QlickView. This IT system was "discovered" by marketers that started to use it for analyzing their business with customers without the IT Department's knowledge. Thus, it offered partial integration on department level and offered a improved insight in customer behaviors and segments. Brodie *et al.* (2007) describe such systems as following a application role within database marketing but the Automation Company employees used it to better asses their individual business relationships as well, i.e. as a application role within interaction marketing. Over time there were so many QlickView users that the IT-department started to take over the management and the communication with the IT-provider. QlikView is used in some of the customer relationships in a way that Automation Company's employees gather data regarding the customer exchanges and then uses the analyzed information in the communication with the customer. For example; if the IT system QlickView shows that there is a overall high delivery quality, Automation Company's marketers use that (numerical and graphical) information in the interaction with them customer to stimulate further purchases.

Focused and ad hoc network activities

The studied focal companies and their suppliers, customers, and partners gave several examples when the ongoing exchanges within the business relationships were connected to other business relationships – i.e. it was a question of network marketing practice (Coviello *et al.*, 1997, Coviello *et al.*, 2002). One example was Automation Company relationship with a Car Company where the customer demanded some circuit components from a specific Parts Supplier. This meant that Automation Company had to use Car Company's agreement with Parts Supplier and include these components in their product delivery. It also meant that another sub-contractor's parts had to be designed and manufactured adapted to Car Company's specification. Thus, the relationship with Car Company had connected effects on several supplier relationships and the actions that took place was according to network marketing practice (Coviello *et al.*, 1997, Coviello *et al.*, 2002). However, this was to a low degree supported by the used IT systems; much of the information was kept in regular binders and a lot of the digital communication was limited to regular email. Thus, the IT use followed what Brodie *et al.* (2007) describe as a basic inertia role and much of what was sent was basic office automation files (Ryssel *et al.*, 2004).

The study also reveled networked situations where the integrated SAP system was involved but the network activities were badly supported. Automation Company did e.g. had an automated function in their ERP system that are connected to a Auto Part Supplier. This function automatically generates an order from Automation Company to Auto Part Supplier as soon as

Automation Company has gotten an order from a customer. An illustration of how this ERP function influence Automation Company's customer is when this function failed. A Automation Company Manager mentioned a situation where the SAP system not work according to the stipulated processes and there was no automatic alert about that failure. At that time it was instead a supplier that called Automation Company to ask if there was a reason why the constant stream of orders had stopped. The supplier was wondering about the absence of new orders since this had never happened since they established their relation. Automation Company got confused since they had gotten a larger order from one of their customers and needed parts form this particular supplier. It turned out that the automated function of generating an order to that specific supplier had failed and also that the SAP system did not have any alert function for such happenings. Fortunate for Automation Company this supplier had long experience of their business with a frequent and ongoing interaction so they suspected that something was wrong. If the supplier had not been proactive and called at the time they did Automation Company's delivery to the important customer would have been delayed. The manager summarized that incident by saying:

> *This could have been disastrous for this project and in the long run for the relationship with this customer*

The two examples are representative for the two subsequent case studies – most respondents outlined interpersonal and sometimes also networked business scenarios whilst the used IT systems was rather narrow and local in their use. Thus, there seems to be a gap between the marketing practice and the used IT systems.

CONCLUDING REMARKS

The aim with this study was to understand how IT systems are practically used to what degree they support a industrial company's marketing practice. The study was supported by concepts from the contemporary marketing practice (CMP) framework (Coviello *et al.*, 1997, Coviello *et al.*, 2002, Brodie *et al.*, 2007) as well as a further developed classification of IT systems (Ryssel *et al.*, 2004) to analyze and evaluate how the used IT systems supported the company's marketing practice. The study showed that the used IT systems mainly could be seen as supporting transactional exchanges, or that they where rather local in their use, whilst the businessmen's actions was in line with relational marketing and sometimes even network marketing. Thus, there was a gap in how the IT systems functioned and how the marketing function was structured and which activities the businessmen were involved in.

This result leads to a number of challenges. The study showed that the focal companies practices was relationship-oriented and that there was a number of activities that best is described as interconnected, i.e. the business activities are happening in a network of business relationships where action in one business relationship affects the others. The study also showed that the exchanges that took place were more than mere transactional exchanges. Thus, the ongoing

business can be characterized as holding adaptations, mutual oriented actions that signals trust and commitment, and so forth. These actions showed that the companies was involved in interaction marketing and sometimes even network marketing following Coviello *et al.* (Coviello *et al.*, 1997) four exchange dimensions. However, this was not well represented in the integrated IT systems that had a logic that followed the contemporary marketing practice framework's (Coviello *et al.*, 1997, Coviello *et al.*, 2002, Brodie *et al.*, 2007) less interactive categories transaction marketing or database marketing. Thus, there was a discrepancy between the marketers and purchasers activities and how the IT systems supported them. Given that the studied business relationships showed interaction that involved high level of trust and commitment one explanation to the limited use can be find in the impersonal dimensions of IT systems (see e.g. Ryssel et al., 2004).

The study also showed that the marketers had a close cooperation with other functions which Sheth *et al.* (2009) describes as necessary for the customer-centric company. IT systems partly dictate such interaction but the collected and stored data was transactional in its characteristics, i.e. marketers and purchasers are reluctant to put what might be sensitive data about a customer or a supplier into a integrated system. Thus, the integrated IT systems (as the one from SAP and QlickView) is only holding "hard" information about the sold and delivered products, received parts and their prices, and so forth. Information that might revile more delicate customer preferences or supplier strengths and weaknesses are solely collected by the salesmen and purchasers themselves and seldom shared with other functions. Whether this is a result of too complex technology (Rangan and Sengul, 2009) or a result of user resistance (Namwoon et al., 2010) needs further investigation. Thus, even if a CRM or ERP systems comes with a promise of integration its structuring and use still cases information silos even if the data is collected in a virtually integrated database.

Managerial challenges

Integrated IT systems as CRM, ERP and e-commerce solutions are basically designed for efficiency gains and their main functionality is interaction based where their logic at best capture the time dimension (i.e. stroes repetitive purchases or deliveries). However, many industrial companies are dependent on and acting in business relationships. Some companies do also have a sense of the wider business network, i.e. they are considering both customer and customers' customer (and several tiers in the supply chain). The interaction that takes place in these relationships is not only focused on the product/service versus money exchange – it is also a mean to learning about the partners. These interactions lead to mutual adaptations but they are also potential input to tomorrow's products and procedures – i.e. a source of innovativeness. Companies that only see integrated IT systems as a mean to collect transaction data misses out information that can enhance the business. Thus, the critical manager tries to estimate the nature of the own company – as a mainly transactional, relational or networked organization – and then select and tune the selected integrated IT system to such venture.

Future studies

This study complements earlier studied of IT-enabled businesses by illuminating how business practices in parallel with the built-in logic ("best practices") of ERP systems reduces the effects of the technology. One explanation can be that front-line personnel as marketers and purchasers are reluctant to use IT in their everyday business (Walsham, 2001) and other explanations can be that company-wide technologies are implemented stepwise and that back office functions are prioritized (Davenport *et al.*, 2004). Future studies needs to address the discrepancy between marketers and purchasers activities and the IT system use from a process perspective to get a better understanding of the interplay between business and IT. We nuanced IT systems' suitability for inter-organizational use by pinpointing that industrial companies' business relationships that sustain over time holds many forms of interactions whereas only a few are possible to support with IT systems. The lack of use can also be described by addressing behavioral aspects. Thus, the lack of IT system use for inter-organizational activities can thereby be described as a lack of functionality for dealing with exchanges that aren't directly connected to an order or a product delivery. But it can also be described by the behaviors that had been developed between the company staff and the customer and supplier representatives. Thus, the degree of IT system use for inter-organizational activities can thereby handled by a functionality that includes information about other exchanges than the order and delivery information but there is also a need for a deeper understanding of the working order of the company's marketers, salesmen, purchasers and their interaction with customer and supplier representatives.

REFERENCES

ACHROL, R. S. & KOTLER, P. 1999. Marketing in the Network Economy. *Journal of Marketing,* 63**,** 146-163.

ANDERSON, E. & WEITZ, B. 1992. The Use of Pledges to Build and Sustain Commitment in Distribution Channels. *Journal of Marketing Research,* 24**,** 18-34.

ANDERSON, J. C. & NARUS, J. A. 1990. A Model of Distributor Firm and Manufacturing in Working Partnerships. *Journal of Marketing,* 54**,** 42-58.

ANJARD, R. P. 1995. Computer integrated manufacturing: a dream becoming a reality. *Industrial Management & Data Systems,* 95**,** 3-4.

BAGOZZI, R. P. 1974. Marketing as an Organized Behavioral System of Exchange. *Journal of Marketing***,** 77-81.

BLATTBERG, R. C., KIM, B.-D. & NESLIN, S. A. 2008. *Database Marketing,* New York, Springer.

BRADY, M., FELLENZ, M. R. & BROOKES, R. 2008. Researching the role of information and communications technology (ICT) in contemporary marketing practices. *Journal of Business & Industrial Marketing,* 23**,** 108-114.

BRODIE, R. J., WINKLHOFER, H., COVIELLO, N. E. & JOHNSTON, W. J. 2007. Is e-marketing coming of age? an examination of the penetration of e-marketing and firm performance. *Journal of Interactive Marketing,* 21**,** 2-21.

BROOKES, R. W., BRODIE, R. J., COVIELLO, N. E. & PALMER, R. A. 2004. How Managers Percieve the Impacts of Information Technologies on Contemporary Marketing Practices: Reinforcing, Enhancing or Transforming? *Journal of Relationship Marketing,* 3**,** 7-26.

CHRISTOPHER, M., PAYNE, A. & BALLENTYNE, D. 1991. *Relationship Marketing: Bridging quality, customer service, and marketing together,* Woburn (MA), Butterworth Heinemann.

COVIELLO, N., MILLEY, R. & MARCOLIN, B. 2001. Understanding IT-enabled interactivity in contemporary marketing. *Journal of Interactive Marketing,* 15**,** 18-33.

COVIELLO, N. E., BRODIE, R. J., DANAHER, P. J. & JOHNSTON, W. J. 2002. How Firms Relate To Their Markets: An Empirical Examination of Contemporary Marketing Practices. *Journal of Marketing,* 66**,** 33-46.

COVIELLO, N. E., BRODIE, R. J. & MUNRO, H. J. 1997. Understanding Contemporary Marketing: Development of a Classification Scheme. *Journal of Marketing Management,* 13**,** 501-522.

DAVENPORT, T. H., HARRIS, J. G. & CANTRELL, S. 2004. Enterprise Systems and Ongoing Process Change. *Business Process Management Journal,* 10**,** 16-26.

DUBOIS, A. 1998. *Organising Industrial Activities Across Firm Boundaries,* London, Routledge.

DWYER, F. R., SCHURR, P. H. & OH, S. 1987. Developing Buyer-Seller Relationships. *Journal of Marketing,* 51**,** 11-27.

ENIS, B. M. 1973. Deepening the Concept of Marketing. *Journal of Marketing,* 37**,** 57-62.

FOURNIER, S. & AVERY, J. 2011. Putting the 'relationship' back into CRM. *MIT Sloan Management Review,* 52**,** 63-72.

FOWLER, S. W., LAWRENCE, T. B. & MORSE, E. A. 2004. Virtually Embedded Ties. *Journal of Management,* 30**,** 647-666.

GARDINER, S. C., HANNA, J. B. & LATOUR, M. S. 2002. ERP and the reengineering of industrial marketing processes: A prescriptive overview for the new-age marketing manager. *Industrial Marketing Management,* 31**,** 357-365.

HÅKANSSON, H. (ed.) 1982. *International Marketing and Purchasing of Industrial Goods: an Interaction Approach,* Chichester: John Wiley & Sons.

HÅKANSSON, H. & JOHANSON, J. 1992. A model of industrial networks. *In:* AXELSSON, B. & EASTON, G. (eds.) *Industrial Networks: A New View of Reality.* London: Routledge.

JAYACHANDRAN, S., SHARMA, S. & RAMAN, P. 2005. The role of relational information processes and technology use in customer relationship management. *Journal of marketing,* 69**,** 177-192.

JOHANSON, J. & MATTSSON, L.-G. 1992. Network position and strategic action: An analytical framework. *In:* AXELSSON, B. & EASTON, G. (eds.) *Industrial Networks: A New View of Reality.* London: Routledge.

KRUSH, M. T., AGNIHOTRI, R., TRAINOR, K. J. & NOWLIN, E. L. 2013. Enhancing organizational sensemaking: An examination of the interactive effects of sales capabilities and marketing dashboards. *Industrial Marketing Management,* In Press.

LAGROSEN, S. & SVENSSON, G. 2006. A seminal framework of marketing schools: revisited and updated. *journal of Management Histroy,* 12**,** 269-384.

LAMB, R. & KLING, R. 2003. Reconceptualizing Users as Social Actors in Information Systems Research. *MIS Quarterly,* 27**,** 197-235.

LINDGREEN, A., PALMER, R. & VANHAMME, J. 2004. Contemporary marketing practice: theoretical propositions and practical implications. *Marketing Intelligence & Planning,* 22**,** 673-692.

MARKUS, L. M., AXLINE, S., PETRIE, D. & TANIS, C. 2003. Learning from Experiences with ERP: Problems Encountered and Success Achieved. *In:* SHANKS, G., SEDDON, P. B. & WILLCOCKS, L. P. (eds.) *Second-Wave Enterprise Resource Planning Systems - Implementing for Effectiveness.* New York: Cambridge University Press.

MATTSSON, L.-G. 1997. "Relationship Marketing" and the "Markets-as-Networks Approach" - A comparative analysis of two evolving streams of research. *Journal of Marketing Management,* 13**,** 447-461.

MORGAN, R. M. & HUNT, S. D. 1994. The Commitment-Trust Theory of Relationship Marketing. *Journal of Marketing,* 58**,** 20-38.

NAMWOON, K., PAE, J. H., HAN, J. K. & SRIVASTAVA, R. K. 2010. Utilization of business technologies: Managing relationship-based benefits for buying and supporting firms. *Industrial Marketing Management,* 39**,** 473-484.

NEWELL, S., HUANG, J. C., GALLIERS, R. D. & PAN, S. L. 2003. Implementing enterprise resource planning and knowledge management systems in tandem: fostering efficiency and innovation complementary. *Information and Organization,* 13**,** 25-52.

ORLIKOWSKI, W. J. 2000. Using Technology and Constitution Structures: A Practice Lens for Studying Technology in Organizations. *Organization Science,* 11**,** 404-428.

PAN, S. L. & LEE, J.-N. 2003. Using e-CRM for a Unified View of the Customer. *Communications of the ACM,* 46**,** 95-100.

RANGAN, S. & SENGUL, M. 2009. Information Technology and Transnational Integration: Theory and Evidence on the Evolution of the Modern Multinational Enterprise. *Journal of International Business Studies,* 40**,** 1496-1514.

RAPP, A., TRAINOR, K. J. & AGNIHOTRI, R. 2010. Performance implications of customer linking capabilities: Examining the complementary role of customer orientation and CRM technology. *Industrial Marketing Management,* 63**,** 1229-1236.

ROSS, J. W., VITALE, M. R. & WILLCOCKS, L. P. 2003. The Continuing ERP Revolution: Sustainable Lessons, new Modes of Delivery. *In:* SHANKS, G., SEDDON, P. B. & WILLCOCKS, L. P. (eds.) *Second-Wave Enterprise Resource Planning Systems - Implementing for Effectiveness.* New York: Cambridge University Press.

ROSS, J. W., WEILL, P. & ROBERTSON, D. C. 2006. *Enterprise Architecture as Strategy: Creating a Foundation for Business Execution,* Boston (MA), Harvard Business School Press.

RYSSEL, R., RITTER, T. & GEMÜNDEN, H. G. 2004. The impact of information technology deployment on trust, commitment and value creation in business relationships. *Journal of Business & Industrial Marketing,* 19**,** 197-207.

SHANKS, G., SEDDON, P. B. & WILLCOCKS, L. P. (eds.) 2003. *Second-Wave Enterprise Resource Planning Systems: Implementing for Effectiveness,* New York: Cambridge University Press.

SHAW, E. H. & JONES, D. G. B. 2005. A history of schools of marketing thought. *Marketing Theory,* 5**,** 239-288.

SHEHAB, E. M., SHARP, M. W., SUPRAMANIAM, L. & SPEDDING, T. A. 2004. Enterprise resource planning - An integrative review. *Business Process Management Journal,* 10**,** 359-386.

SHETH, J. N., GARDNER, D. M. & GARRETT, D. E. 1988. *Marketing Theory: Evolution and Evaluation,* New York, John Wiley & Sons.

SHETH, J. N. & PARVATIYAR, A. 1995. The Evolution of Relationship Marketing. *International Business Review,* 4**,** 397-418.

SHETH, J. N., SHARMA, A. & IYER, G. R. 2009. Why integrating purchasing with marketing is both inevitable and beneficial. *Industrial Marketing Management,* 38**,** 865-871.

STEIN, A. & SMITH, M. 2009. CRM systems and organizational learning: An exploration of the relationship between CRM effectiveness and the customer orientation of the firm in industrial markets. *Industrial Marketing Management,* 38**,** 198-206.

SUMNER, M. 2005. *Enterprise Resource Planning,* Upper Saddle River (NJ), Pearson Prentice Hall.

TRAINOR, K. J., RAPP, A., BEITELSPACHER, L. S. & SCHILLEWAERT, N. 2011. Integrating information technology and marketing: An examination of the drivers and outcomes of e-Marketing capability. *Industrial Marketing Management,* 40.

TUOMINEN, P. 1999. Episodes and bonds in investor relationships. *Scandinavian Journal of Management,* 15**,** 269-288.

VARGO, S. L. & LUSCH, R. F. 2004. Evolving to a New Dominant Logic for Marketing. *Journal of Marketing,* 68**,** 1-17.

WALSHAM, G. 1993. *Interpreting Information Systems in Organizations,* Chichester, Wiley & Sons.

WALSHAM, G. 2001. *Making a World of Difference - IT in a Global Context,* Chichester, John Wiley & Sons Ltd.

WEI, Y. S. & WANG, Q. 2011. Making sense of a market information system for superior performance: The roles of organizational responsiveness and innovation strategy. *Industrial Marketing Management,* 40**,** 267-277.

YIN, R. K. 2009. *Case Study Research - Design and methods,* California, Sage Publications Inc.