Business relationships redesign with electronic commerce tools
An empirical investigation

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Abstract
Purpose – The purpose of this paper is to understand and provide an empirical illustration for how electronic commerce (EC) tools are used to redesign business relationships. The amount and quality of EC tools have mushroomed and the use of these to redesign and digitize relationships is still a relatively under-researched area. Most of the current research is conceptual in nature and empirical research has rarely been conducted.

Design/methodology/approach – With the help of a literature review on EC and business relationships this paper provides the means to identify some important EC tools that can be used to streamline relationships. Besides, theoretical argumentation this research sheds some additional light on how relationships can be redesigned and digitized with a case study from the steel industry.

Findings – The case study reports on usage of the internet, enterprise resource planning systems and wireless local area network-based mobile solutions to eliminate extra manual work and speed up order-to-delivery processes in a steel industry context.

Research limitations/implications – The paper provides only one case study from a specific context.

Practical implications – For managers, this paper illustrates how interfacing processes in a steel industry business relationship can be conducted in a more cost-effective manner. For academics this study highlights the need for further and consistent empirical research on the impact of EC tools on business relationships.

Originality/value – This paper casts light on business relationship redesign with EC tools and proposes further studies on this pertinent topic.

Keywords Business process re-engineering, Electronic commerce, Relationship marketing, Steelmaking

Introduction
In both popular and academic press it is often written that the number of business relationships that exist between buyers and sellers has decreased while the amount of trade contracted within those business relationships has increased (Bakos and Brynjolfsson, 1993; Matthyssens and Van den Bulte, 1994). In many cases, it is not profitable to play dozens or even hundreds of competing suppliers or customers off against each other, but working closely with just a few within business relationships is profitable for all parties. This is because as the number of possible partner’s increases, so do transaction costs (Clemons et al., 1993; Kumar and Dissel, 1996; Stump and Sriram, 1997). Hence, it is evident that existing business relationships are a vital area for research.

Besides, business relationship literature, this paper also draws on the electronic commerce (EC) discussion evolving in academic and business press (Fisher and Reibstein, 2001; Sawhney, 1999; Aldin et al., 2004; Johnson and Bharadwaj, 2005). EC is
defined in this study according to the European Commission’s (1998) definition as “any form of business transaction in which the parties interact electronically rather than by physical exchanges or direct physical contact”. Here, the purpose is to describe sequential EC tool adoption benefits within a steel industry-based business relationship and to show how EC tools such as the enterprise resource planning (ERP) system, the internet and mobile solutions (mobile EC) can be used to redesign a business relationship.

A managerially and academically interesting research void can be identified at the intersection of business relationship and EC discussions. There is a growing interest in addressing this highly inconsistent and fragmented as well as expanding body of literature (Aldin et al., 2004; Johnson and Bharadwaj, 2005; Holland and Naude 2004; Kandampully, 2003; Reid and Plank, 2000). It is acknowledged that EC literature to date has addressed market and hierarchy governance mechanisms (Alba et al., 1997; Grewal et al., 2001) rather than business relationships. Therefore, further research on business relationships and how EC impacts them is needed. Moreover, most studies currently focus on individual information technologies (IT) such as electronic data interchange (EDI) (Naude et al., 2000), internet-based EDI (Angeles, 2000), electronic marketplaces (Hartmann, 2002) extranets (Vlosky et al., 2000) and their influence on business relationships after adoption. Owing to this lack of research the author focuses on business relationship redesign through the sequential adoption of EC tools rather than concentrating on the usage of single technologies which have relatively straightforward influences on relationships.

The paper is organized as follows. First, a brief literature review of EC, EC tools and the value of EC usage in relationships are presented. As managers are mostly aware which business relationships should be redesigned with EC tools, the author provides some guidelines for effectively digitizing the identified business relationships. These steps are further illustrated and the theoretical argumentation strengthened with a case study. The paper concludes with implications and future research issues.

**Literature review**

It is a well-known fact that various IT-based tools can be harnessed in business relationships to increase the efficiency (doing things right) and effectiveness (doing right things) of existing relationships. In this study, the author focuses on the process efficiency aspect of EC tool adoption (Aldin et al., 2004; Chircu and Kauffman, 2000).

**Electronic commerce tools**

Now that we at least partly agree on what EC is and does, it is easier to describe EC enabled tools. These tools or systems are usually based on a combination of computers, software, and telecommunication networks (i.e. IT). Together, these provide the IT infrastructure for a company. There are many systems that form a company’s infrastructure and they need to be integrated within the company’s business relationships. These systems provide an additional means for communication besides social communication. Mata et al. (1995) suggest that IT-skills are the only sustainable competitive advantage due to the fact that they are hard to imitate. Thereby, it is not the amount of EC tools, but the way they are used that is more important.

EDI represents one of the simplest solutions for information transmissions. EDI messages are standardized and can be processed over private lines or the internet.
It is one of the most expensive and oldest EC tools but it is very effective for frequent, repeated information transmissions such as daily orders and overnight money settlements (Emmelhainz, 1993). Another, more information-rich communication and transaction solution is extranet, in which connections are usually carried out over the internet (Vlosky et al., 2000). In a more complex system configuration, first or second generation ERP systems can be integrated over a secure internet line with the help of enterprise application integration (EAI), web services, or specified adapters (Gardiner et al., 2002; Hodge, 2002; Motwani et al., 2002). All of the tools mentioned above can be used to redesign and digitize business relationships; the question is which activities can and should be conducted with EC tools? Retailing giants like Tesco and Wal-Mart employ radio frequency identification (RFID) systems for streamlining and speeding up warehousing activities (McCullagh, 2003; Wagner, 2004).

The value of EC tool adoption and deployment

EC tool adoption is valuable to an organization if it creates concrete benefits like increased sales or reduced costs. Costs related to EC tool adoption are mostly clear but the benefits are usually more ambiguous due to time delays and organizational learning processes.

It is quite understandable that if a company expects to benefit greatly from the adoption of an IT tool or other innovation it is more likely to adopt it (Mansfield, 1993). Companies may anticipate different benefits from EC tool adoption and besides opportunity benefits, these may vary from operational to strategic benefits (Sloane, 1994). According to Sriram et al. (2000) operational benefits are the improvement of process activities. These improvements can be conducted in six interrelated areas that are order entry, communication, information access/response speed, data accuracy, shipment tracing and paperwork reduction. Operational benefits enable strategic benefits that are grouped into five areas: inventory control reduction, increased productivity, cost efficiency, customer satisfaction and reduced manpower (Sriram et al., 2000). Opportunity benefits arise from the fact that a company with an accumulated resource and knowledge base related to new IT solutions is more likely to benefit from technology or market-related changes as it may react rapidly and position itself accordingly.

Naturally, all benefits come with sacrifices. These are the costs involved in IT adoption (Wang and Tsai, 2002). An antecedent for the deployment of EC technology like EDI or other tools are the required investments in hardware, software and personnel education and learning (Howells and Wood, 1995). If initial and consequent investments are considerably high, a slow pace of adoption is likely (Davies, 1979; Howells and Wood, 1995). Besides, set-up costs, maintenance costs must also be evaluated when making the adoption decision (Howells and Wood, 1995).

The benefits and sacrifices related to EC tool adoption within a business relationship depend on the characteristics of the business relationship and the tools employed. What type of product, service or solution is exchanged in the business relationship? Can this offering be exchanged in digital form? What kind of relationship structure is needed to uphold the activities controlling the exchange? And lastly, can the actors of these transactions be digitized? The answers to these questions provide examples of the possible characteristics of business relationships.
The use of EC tools to redesign selected business relationships

Once the appropriate buyer-seller relationship is identified, digitization is initiated. Management teams from both sides of the business relationship gather and the planning of EC tool adoption begins by mapping the information and transaction flows between the two parties. Each of the activities (i.e. processes), its owner (i.e. manager), and the channel in which it is conducted (digital vs physical) is analyzed and charted. These flows and activities are dependent on the relationship characteristics. The case example at the end of this section provides an empirical illustration of characteristics, activities, transaction and information flows, EC tools, and the adoption of EC in the relationship.

Internal IT infrastructure is employed within a company or an organization, but when it is partially opened up for external connections with business relationship parties, we talk about relationship specific IT infrastructure. This requires both sides to have matching infrastructure. Ryssel et al. (2004) suggests, that when business relationship specific systems are integrated with internal systems more benefits or value is created. Thus, the formation of this relationship specific infrastructure together with the business partner is one of the most important decisions regarding a relationship’s future, after selecting the relationship and charting the flows. Table I shows the EC tools that may act as basic building blocks in digitizing a business relationship.

Table I depicts some of the most prominent EC tools available and their purposes, and guides academics and managers to additional sources of information.

After the IT infrastructure has been acquired or formed from the existing hardware and software, digital activities are initiated. Orders, warehouse information, and invoices are most the most common activities handled digitally with the help of EC tools.

To summarize, business relationship redesign with EC tools can be divided into five distinct phases as follows: identifying and selecting appropriate business relationship(s) (Fiocca, 1982; Kraljic, 1983), mapping the transaction and information flows to be digitized, forming the required digital infrastructure (relationship specific or general), initiating digital activities and analyzing and evaluating the reasons for the success or failure of the digitization project.

The most crucial phase is selecting the right partner, i.e. one that is willing and with whom your company has a long-term relationship, because it is in those relationships that efficiency gains are sought. Moreover, close business relationships with existing trust and commitment and the willingness to adopt EC tools within the business relationship may be more successful in digitizing (Clemons et al., 1993; Ryssel et al., 2004). If we are dealing with innovative R&D type relationships then two-way interactive EC tools that have high information richness can be deployed to assist with relationship specific activities.

Research methodology

Our methodological choices are guided by the basic aim of expanding existing knowledge on business relationships and how EC tools may be used to enhance relationships. This goal requires a case study method (Yin, 1989) because in this way it is possible to receive detailed and rich information from one focal phenomenon. A case study can be applicable to situations in which researchers require deeper understanding, solid contextual sense, and provocation toward theory building (Bonoma, 1985).
<table>
<thead>
<tr>
<th>EC tool</th>
<th>Purpose</th>
<th>Source of information</th>
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<tr>
<td>EDI</td>
<td>Standard protocols are used to share information among participating companies through computer-to-computer exchange of electronic documents relating to purchasing, selling, shipping, receiving, inventory control, and financial and other activities</td>
<td>Stern and Kaufmann (1985), Emmelhainz (1993) and Archer and Yuan (2000)</td>
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<td>Electronic data interchange over secured internet</td>
<td>Similar to EDI but over a secure internet connection. Usually cheaper and has higher scalability than EDI</td>
<td>Angeles (2000) and Garcia-Dastuge and Lambert (2003)</td>
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<td>Extranet</td>
<td>An extranet is usually built to communicate and exchange information with customers, suppliers, and other important third parties. In a technical sense, an extranet is formed when an organization permits outsiders to access their internal TCP/IP networks such as their intranet. It is often less costly than previous tools. Can be used to deliver more information-rich material than EDI</td>
<td>Radosevich (1997) and Vlosky et al. (2000)</td>
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<tr>
<td>ERP1 system</td>
<td>Total automation of the procurement process, from the point where an employee places an order, through the internal approval process, and right to eventual fulfillment with the help of different software modules. May include human resource management, pay-roll activities and other financial documentation modules</td>
<td>Krapf (1999), Hodge (2002) and Motwani et al. (2002)</td>
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<td>ERP2 system</td>
<td>Similar to ERP1 but extended beyond one organization to include business relationship parties. Provides a window for managers to see inter-organizational processes. In practice it is hard to differentiate between first and second generation systems</td>
<td>Gardiner et al. (2002) and Hodge (2002)</td>
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<tr>
<td>EC tool</td>
<td>Purpose</td>
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<td>EAI</td>
<td>Used as a glue between applications which are otherwise incompatible. Achieves application integration through four layers: connectivity, transportation, translation and process automation</td>
<td>Themistocleous and Irani (2002), Whiting (2003) and Linthicum (2000)</td>
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<td>Web services</td>
<td>Can be used universally to standardize communication between applications in order to connect systems, business partners and customers cost-effectively through the world wide web. Enables easier and faster integration with trading partners. Usually less expensive than EAI but only suitable for small organizations</td>
<td>Curbera et al. (2002), Chen et al. (2003) and Whiting (2003)</td>
</tr>
<tr>
<td>ERP adapters</td>
<td>Some ERP software houses provide adapters that enable integration between their ERP system and competitors' ERP systems. Provides real-time information retrieval and updates</td>
<td>Stoer et al. (2003)</td>
</tr>
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<td>Mobile technologies (WLAN, PDA, RFID)</td>
<td>Can be used to mobilize various activities including sales force automation, order pick-ups and other information and transaction flows between business parties. Warehouse and logistic processes are made less costly and more accurate</td>
<td>Aungst and Wilson (2005) and Balasubramanian et al. (2002)</td>
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<td>Intelligent agents</td>
<td>Intelligent agents can interpret information and identify events based on some logical rule. Based on this the individuals who have access to the system can make more accurate decisions regarding, for example production, calls for bids, and logistic services. Limited access could be given to customers so that they could see, e.g. in which phase of production their order is. May be used to coordinate business information in business networks</td>
<td>Liu et al. (2000) and Papazoglou (2001)</td>
</tr>
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More specifically, the case is a business relationship that is composed of two companies interacting with each other. The dyadic relationship calls for a case study approach and therefore it is appropriate to study the phenomenon from the perspective of both parties in the relationship. The perspective of both parties on the business relationship needs to be studied to be sure of the value of findings (John and Reve, 1982). Based on thorough secondary information sources, the author selected the steel industry business relationship. Furthermore, the steel processing industry was chosen as the empirical context since computerization has had a long tradition in the industry and new technologies play a central role (Chaffey, 2004, p. 15).

Research on the usage of EC tools and solutions in a steel industry context is scarce. However, it is acknowledged that research that looks at some of the influences of IT and EC in the steel industry context (Fuller-Love and Cooper, 1994; Chan and Swatman, 2000) does exist. In any case, it can be argued that the steel industry context is worth studying, especially when companies are employing novel mobile solutions to enhance their business. In this study, the steel mill is called Alpha and the steel workshop is labeled Beta. The more specific context of the Alpha-Beta business relationship is steel processing, that is the hardening and marketing of steel plates and components.

The author conducted several in-depth interviews at multiple organizational levels within the companies. The interviews consisted of semi-structured interview questions and were tape-recorded (Arksey and Knight, 1999). They aimed at understanding the contemporary business relationship and its digitization in the steel business context. Using semi-structured interview questions enabled the interviewer to follow any interesting leads that might have expanded the scope of the research. All interviews lasted from one hour to a maximum of two and a half hours and were transcribed and analyzed. Qualitative data analysis was employed to group the material into themes and analyze it (Miles and Huberman, 1984). The author also used documents, minutes from meetings, industry reports and plant visits to triangulate the respondents’ answers in order to validate the research results (Patton, 1987; Yin, 1989). The validity and reliability of the research was increased with the use of data triangulation (Eisenhardt, 1989). In addition, this allowed the researcher to get as close to the subject as possible, which enabled an understanding of the individuals, events, and actions (Pihlanto, 1994) that formed the content, context, and processes of the business relationship under investigation. The identities of the case companies or the informants are not revealed in this study for confidentiality reasons.

An empirical investigation of business relationship redesign with EC tools
Steel mills across the globe, from China to the USA are trying to find organizational structures and customer solutions that provide a unique competitive advantage. As part of the ongoing efforts to streamline operations and find new solutions steel mills have made their internal operations as automatic and computerized as possible. In addition, some have introduced hardened solutions to their offering. Because these changes in business logic were not seen as superior enough, steel mills have started to look for a competitive advantage from outside their own competence sphere, i.e. from the steel engineering service suppliers. This paper reports on a case study of one business relationship from the steel industry that depicts the ways EC tools are employed to increase the efficiency and effectiveness of internal and interfacing processes.
Alpha is a fairly large steel mill operating in Europe and Beta is a subsidiary of Zeta, which is a Finnish steel workshop focusing on heavy steel objects and welding competencies. The relationship between Alpha and Beta is six-years old. After Beta has hardened the individual steel plates and components they are further processed by Alpha and then sold to their customers as part of their steel solutions. These solutions can vary from part of an oil rig to steel plates manufactured for military usage in mine clearance vehicles. The Alpha-Beta business relationship was based on and developed from an earlier 40 years business relationship that still exists between Alpha and Zeta. Before the establishment of Beta, there were several planning negotiations between Alpha and Zeta concerning the hardening of steel plates. In early 2000 Beta was established to serve Alpha’s needs in hardening steel qualities from 5 to 60 mm. The smallest objects that can be hardened are the size of a matchbox and the largest are two and half by six meter plates. When the business relationship was initiated most of Beta’s production was sold to Alpha but today, sales are equally divided over a strong customer base. From here on, the author focuses on the interfacing processes between Alpha and Beta and attempts to recognize the changes made in the processes that enabled both parties to work more productively.

Initiation of the business relationship

When the business relationship was started, the order-to-delivery process was all traditional, i.e. everything was conducted manually and physically. All documents that related to orders, which were made by phone or fax, were handled manually. When orders arrived, envelopes or faxes were checked by sales assistants and sellers. After the orders were processed, the order information was inputted to hardening machines. The production employee then provided verbal notification of the new order to the manufacturing manager. As many of the processes related to getting the order to production were manual and physical, delays in production and cost overruns occurred on many occasions.

The pricing process and bill processing were also inefficient. Along with this traditional practice and business logic all documents delivered to the financial department for billing purposes were paper-based and delivered by sales people or people that had extra time. Additionally, the scheduling of transportation between Alpha and Beta was ordered via phone or fax. Figure 1 shows how the order-to-delivery process was handled in the business relationship when it was initiated.

Figure 1 shows that the order-to-delivery process was extremely laborious with multiple manual phases involving many information gaps. Therefore, it took days, which often turned into weeks to deliver hardened products. Besides, these delays, mistakes in inputting information were common and production often had to be re-scheduled as production times were not met. After the problems and inefficiencies related to the order-delivery process were noted by the managers of both organizations, and as the business relationship was perceived to be valuable for both companies, the issues were addressed with a sequential development program. As a result of this program many of the difficulties were solved. Next a description of solutions used in the relationship is provided.
Efforts made to redesign the business relationship between Alpha and Beta with EC tools. After several meetings and negotiations concerning the flows and usage of EC tools the first concrete redesign step was taken: orders made by Alpha were digitized with the help of Alpha’s existing first generation enterprise resource planning (ERP1) system and the internet. Orders were issued by the subcontracting-manager with ERP while the internet-based secure connection assisted in delivering information from Alpha to Beta. However, before this was possible Beta adopted a small scale ERP1 system that enabled it to receive and process orders in digital form. This turned many of the previously manual and physical process phases into automatic and EC tool assisted ones. This adoption of novel technology and adaptation to the business relationship made by Beta signaled to Alpha that Beta was willing to help in every possible way to make the business relationship even more productive and profitable. Similarly, Alpha signaled to Beta through increasing orders that the relationship was worth continuing.

After an order arrives at Beta’s ERP system it informs production employees via e-mail of the new order. A similar e-mail is received by Beta’s production manager.

Alpha and Beta had also previously had problems with pricing. At the end of 2004, Beta adopted a new pricing module for ERP and made considerable changes to pricing policies and routines. Based on this, products that already had pre-determined prices are now digitally priced and checked automatically. When an order arrives that contains non-standardized products, the order e-mail is sent to the production manager who, depending on the order size, solely or together with the CEO defines and inputs the price information required.

The most recent addition to the business relationship is the mobile EC system. The main point is to use the mobile system to speed up inventory control, test-report transmissions and other non-routine communications. The system is based on wireless local area network (WLAN 802.11) infrastructure and employs handheld computers such as PDAs as wireless devices. The mobile solution renders paper-based and
manual strength measurement reports obsolete and transforms these into a digital form that is easier to process. Before this new system was adopted, reports were first conducted by writing the required information down on paper, inputting this information to a system, printing the report and then sending it to Alpha’s administration who filed it. Now the mobile system enables information to be input directly to a PDA which updates Beta’s ERP system and provides e-mail notification to Alpha about the new reports, which are essential for the documentation of the steel solutions delivered to customers. Furthermore, Alpha can now receive information about Beta’s hardening capacity, which is vital for generating new sales. Previously, a hardening capacity check was manual and information received by Alpha’s sales department was usually too outdated to reliably act upon and thus information needed to be re-checked. With access codes to Beta’s system, Alpha’s employees can now retrieve information from the real-time database updated by Beta’s employees and the mobile system. Figure 2 shows the order-to-delivery process after implementing the internet-based and mobile solutions.

Figure 2 shows that the order-to-delivery process has changed considerably and moved the business relationship towards a digitized business relationship with automatic and digital processes. The most obvious benefit for companies is that less inputting is needed and the number of inputting mistakes decreases; as a result time is saved for generating extra sales or planning marketing activities. Moreover, as Alpha is informed about the current hardening capacity of Beta it can schedule own steel plate production and Beta can schedule their hardening activities more accurately which means that customers of Alpha receive orders in time and there is additional capacity available due to optimization of production.

To sum up, each party in the business relationship made changes to existing procedures and routines, making information gaps smaller and even forcing them to close. This would not have been possible without the warm and trusting relationship the parties have. Most importantly, the adoption of specific EC tools and mobile technologies has
made the business relationship more effective and efficient (“doing right things” and “doing things right”). All in all investments into new technology and changes made to work practices have clearly generated extra sales and benefits for both parties.

Discussion
Based on the case study and literature review it is evident that companies involved in a number of business relationships must start to think about which business relationships or parts of relationships can be effectively handled with EC tools. Redesigning a business relationship with EC tools is a complex task that involves a lot of joint managerial and technical effort. In the case study EC tool adoption began with simple and costly routines that were then digitized with the help of EC tools. These routines included orders and all documents related to orders. In the steel industry different types of reports and their manual processing are also costly. These everyday tasks are relatively easily digitized with internet-based ordering and processing systems. By initiating EC tool adoption with relatively simple tasks, business relationship parties become familiar with new technologies and the successful adoption of EC tools positively impacts future EC adoption efforts. After the first EC step was completed in this business relationship another step was taken almost immediately to further streamline the pricing process. Furthermore, the adoption of mobile EC systems in the business relationship under study provided valuable economic gains with relatively small investments. Similar benefits are possible in other business relationships where up-to-date information is needed to close deals. This shows it is eminently important for both managers and academics to initiate measures to understand and tackle EC tool adoption within business relationships.

Conclusion and managerial implications
This paper illustrates how a business advantage can be gained by using EC tools and carefully planned redesign in business relationships. For example, efficiencies and innovations might be expanded in business relationships by employing those solutions presented in Table I. After discussing the benefits of EC adoption it was shown that adoption is dependent on the nature of the relationship. The author then highlighted the importance of knowing the context of EC tool adoption. In brief, this means that managers must be aware of what the value/product exchanged within the business relationship is, what activities are carried out and what structures within the relationship uphold these processes. A case example that illustrated issues to consider while deploying EC tools within business relationships was also provided.

To reach their current phase Alpha and Beta had to make several decisions that included the adoption of new technologies and making changes to current business logic. The most important decisions are choosing the right business relationship, mapping the activity flows and digitizing those flows whenever possible and needed. Now only physical logistic operations between these two parties are non-digital, but all information flows are digital. The EC tool adoption was sped up by the existing long-term business relationship, personal trust and organizational commitment as well as compatible internal systems. A totally EC enabled business relationship was not developed as steel making and distribution requires traditional physical activities.

To sum up, selecting a business relationship that might yield more profits if redesigned with EC tools is the first managerial task when moving towards EC enabled
business relationships. Then, managers from both sides should be actively involved in mapping the transaction and communication flows between business parties. After that, appropriate EC tools can be integrated into the business relationship. This selection depends on existing IT solutions and those that are required by the identified flows. In the best cases IT specialists are only needed for a couple of months to integrate the information systems. After the IT infrastructure has been deployed, digital processes are initiated. Old and new systems should run parallel for a couple of months to avoid unnecessary mistakes (Laudon and Traver, 2002, p. 670). Finally, the last stage of the first EC adoption cycle is to monitor existing EC-enabled activities and, if needed, to re-organize and plan for further digitization operations.

For academics, the author has provided and conceptualized the business relationship and the impacts brought by technological tools that enable digitization in a novel way. The results underscore the pertinent aspect of selecting the right EC tools as well as the mapping of critical transactional and informational flows in the business relationship. The paper provides only one case study from a specific context and this should be considered a limitation.

This paper raises two practical questions for managers and academics conducting further studies: how the right EC tools to be employed in a selected a business relationship can be identified and how and to what extent business relationships should be redesigned with EC tools. By answering these practical questions we are able to deepen and broaden our existing knowledge base for coping with business relationships. A large-scale quantitative study in the future would be advisable to test if EC tools are used in a similar way in other steel industry relationships and in other contexts as well. The author believes that more research is necessary to develop a solid framework that would crystallize the field of how EC tool adoption and deployment influence various types and different stages of business relationships.

References


Further reading

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