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Steelscreen.com: Why IT is NOT Everywhere in B2B and the Role of the CEO in IT

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STEELSCREEN.COM: WHY IT IS NOT EVERYWHERE IN B2B AND THE ROLE OF THE CEO IN IT

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Abstract

This case is intended to serve as the basis for one or two sessions of an introductory information technology course at the MBA level or for one session in a senior executive program. The aim is to address what needs to be known by general managers in terms of technology and at the same time serve as an introduction for those that want to deepen their knowledge of business-to-business technologies. Thus, it is intended to cover basic technology principles and concepts essential for any CEO/MBA. It also covers key business concepts that are impacted by information technology such as industry convergence and B2B. The approach we suggest be taken with this case is an integrative one where both technology and business concepts are intermingled throughout the class discussion. An essential ingredient of this approach is to provide a business rationale for why technology matters, using this case in the first session before drilling-down into the more specific technology details of XML and metadata in a possible second session. We have worked on other cases to extend this approach to a full-scale introductory MBA/senior executive class. There are two unique features of this approach. First, it is neither technology centric nor business centric. Instead, it links executive decisions with solid information technology fundamentals. Second, our approach is concise, not requiring more than 200 pages of core case material for a full 25 session course. We believe this is an important feature because an MBA audience generally does not go into a CIO career path and will therefore not be able to afford the amount of time a longer approach would require.

Keywords: B2B, e-business, executive leadership and IT

Introduction

It was early September 2000, and Arve Utseth was thinking back to May the same year, when he had decided to leave a safe and promising career in a large multinational car manufacturer to pursue opportunities in the "new economy." Back then, he had been tempted precisely by a more dynamic and rapidly changing business environment, but he had not expected things to be quite as volatile as they turned out to be.

Before he made his decision to accept the position as Steelscreen's country manager for Spain in the spring of 2000, he had researched the sector carefully, and found Steelscreen to be very well placed to pioneer business-to-business services for the metals industry in Europe.

The summer had been dedicated to setting up the local office. Now that the dull nation-wide holiday month of August was over, he had finally been able to spend time meeting clients and industry players. In the meantime, the industry had seen an avalanche of e-commerce initiatives. Not only had more than 50 new competitors (see Appendix A for a selection of competitors) emerged on the world scene, but also the industry players (steel and aluminum manufacturers, and large distributors) had taken key decisions on how to approach the e-commerce issue.

The September 21 issue of *Metal Bulletin* (a leading publication of the global metals industry) confirmed the industry's focus and attention on e-commerce, and in that issue alone there were nine advertisements of electronic marketplaces for the metals industry. Also, *Metal Bulletin* invited subscribers to complete a questionnaire, with the aim of mapping progress on e-commerce activities in the industry.

Arve now found that he was addressing a market that had matured to quite some degree from where it was in May, and also that newly generated industry expectations and trends affected the perceived competitiveness of Steelscreen. In late September he would attend his first European coordination meeting with his colleagues from the other European branch offices and the top management from the Stockholm headquarters. He was keen to share his thoughts with his colleagues, and get a feel for the strategic adjustments the company would have to make in the wake of recent developments. He was particularly concerned about the state of the technology. Would Steelscreen now have to invest heavily in a different technological focus to satisfy market expectations?

The European Metals Industry and E-Commerce

Industry Structure

The European carbon steel, stainless steel, and aluminum sectors turned over products in the order of €150 billion a year. Metal product sales and procurement were highly time consuming and laborious in terms of human interaction and, therefore, the benefits of e-business for the metals community appeared very significant. In spite of this, trading procedures in steel and other metal products were still very traditional, relying to a large extent on telephone and fax communication.

The steel and aluminum sectors were highly concentrated and mature, with large industrial conglomerates dominating the European markets as a result of a long series of mergers and acquisitions among the stronger players. In the aluminum industry, there were less than a dozen large European players, whereas in steel and stainless steel, the number of significant players was about double.

As an example, in a 1999 ranking based on crude steel production figures, *Metal Bulletin* (Appendix B) estimated the top European steel makers to be

USINOR	France	22.15 million tons
CORUS	Anglo/Dutch	21.29 million tons
ARBED Group	Luxembourg	21.00 million tons
LNM Group	United Kingdom	19.90 million tons
Thyssen Krupp	Germany	16.50 million tons
RIVA Group	Italy	14.10 million tons

Second-tier European steel makers that did not form part of these large international conglomerates were in a relatively different league in terms of capacity:

Salzgitter Stahl	Germany	4.90 million tons
Voest-Alpine	Austria	4.70 million tons
HKM	Germany	4.50 million tons
Rautaruukki	Finland	4.18 million tons
Huta Katowice	Poland	3.70 million tons
Lucchini	Italy	3.70 million tons

On the distribution side, the major steel and aluminum manufacturers usually had strong control over the physical stockholding and distribution structure, either through their own marketing organizations or partially or fully owned distribution subsidiaries. Hardly any large independent steel and aluminum distributors were left in Europe, and even they had to rely largely upon long-term supplier agreements with the principal European manufacturers.

There were manufacturers on other continents, but trade between continents faced significant barriers due to antidumping policies and import quotas in Europe, Japan, and the United States. Also, for certain products, transport costs made it difficult to compete with local manufacturers. Finally, the industry was careful to regulate itself in terms of matching capacity to demand in each continent, in order not to generate downward pressure on prices and create incentives for inter-continental trading. If a major player wanted to participate in markets on other continents, this was usually done through local direct investments. The former USSR and Eastern bloc steel and aluminum manufacturers were currently playing a bit of a rogue role in the European market. However, their lack of efficient marketing channels and need for investments in modernization of their plants would in the medium term create incentives for them to forge alliances with the dominant Western players.

The end users, from large companies such as automobile manufacturers to SMEs such as €20 million construction companies, enjoyed good service levels, the large players through personalized framework agreements and often even direct EDI connections to the manufacturers. The SMEs were served through a vast network of large and small warehouses. This network was particularly atomized in France, Germany, and Spain.

The Internet and the Steel Industry

The Internet had developed over the previous few years from being purely an information carrier to being used more and more to simplify commercial transactions. The development included entertainment services, sales of consumer goods and services such as banking, and trading in stocks and shares.

Many thought the next stage would be for the Internet to become more and more a means of simplifying trade between companies, so-called business-to-business (B2B) trading. It was predicted that B2B transactions would multiply in the following few years. A well-known U.S. market research firm, Forrester Research, had predicted that trade between companies in the United States via the Internet would grow in value from $48 billion to over $1,300 billion in 2003. Specifically for the metals industry, Andersen Consulting had projected that by 2005, 40 to 60 percent of all metal produced in the world would be sold via electronic commerce on the Internet.

Steelscreen's aim was to be completely neutral vis-à-vis the manufacturers and buyers/consumers of metals. The purpose was to offer manufacturers and distributors the opportunity to sell their products with lower operating costs than they had incurred to date. Buyers were offered a simplified negotiating process. Steelscreen would be able to support the transactions right from the choice of material to the tender and negotiation process, where the buyer, in order to find the best conditions, would communicate with only one party (Steelscreen as a communication node) rather than having to communicate on a one-to-one basis with all relevant suppliers (see Figure 1 for a schematic description of how Steelscreen saw the differences). Steelscreen thought of itself as a third generation e-commerce site (see Appendix E). In this particular example, there are four producers, eight purchasers, and three wholesalers. With Steelscreen's e-commerce solution, the 68 relationships and contacts of the traditional model would be replaced by 15, which would mean reduced costs for all of the parties involved.

Arve was convinced that the communication procedures for trade in metals would change considerably in the next few years. With the tremendous surge of new Internet-based offerings, there were great opportunities for simplifying the existing transaction processes and making them more efficient. Steelscreen was an example of how to exploit new technology in an old industry—an industry which for most of its existence had progressed and survived due to its ability to adopt technical achievements in its manufacturing processes.

Steelscreen: Company and Services

Steelscreen was founded in June 1999. Trading on the Web site started during the spring of 2000, and within a few months of launch several hundred companies in the industry had registered with the trading site. By the end of August 2000, more than 700 members had joined, and significant tonnage volumes of product had been traded and/or committed over the site.
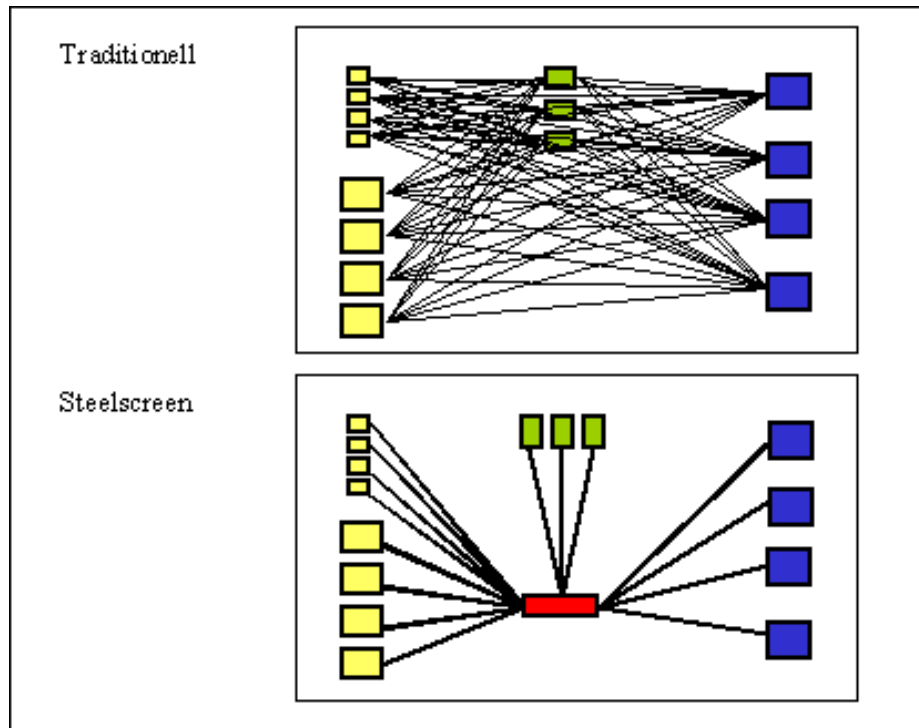

Figure 1. Difference between Traditional Trading and the Steelscreen Model

Steelscreen's goal was to become the leading marketplace for metal products in Europe, by making the purchase and sale of metals on the European metals market simpler and more efficient, through a neutral marketplace. The proposition of Steelscreen was to offer a meeting point for buyers and sellers, enabling them to communicate more efficiently with a trading tool tailored to the needs of the metals industry. At no time would Steelscreen take possession of the product or play the role of an agent or trader. Steelscreen also aimed to offer a range of related value-added services, to be provided by service partners (financial services, logistics and transport, quality and product inspection, etc.).

 Steelscreen was a European company focusing on the specific requirements of the European metals markets. The head office was in Stockholm, with local offices in London, Paris, Milan, Duisburg, and Barcelona. Steelscreen's e-marketplace was available in 10 languages: English, Swedish, French, German, Italian, Spanish, Turkish, Finnish, Polish, and Russian.

To accelerate the use of e-commerce and reduce the costs of Internet integration between metals buyers and sellers, Steelscreen had launched the world's first industry standard for on-line metal trading. The open XML standard initiative, known as MetalXML (**http://www.metal-xml.org/**), was available to all interested parties to assist in its development and had been welcomed by the metals industry and technology companies including Intel and SAP.

Steelscreen provided the metals industry with the most advanced system yet for steel and metals trading. A unique tailored standards system allowed sellers and buyers to define almost any combination of product characteristics and, in addition, its specification engine ensured material specifications were technically viable.

Other support included

- Material selection support for carbon, stainless, and aluminum products (more than 20,000 grades and product combinations)
- Request for proposal (RFP) transaction models
- Request for bid (RFB) transaction models
- Direct offers transaction models
- Tailored standards transaction model
- All major international steel standards

The revenue model for Steelscreen was based on sales commissions of 0.5 to 1 percent of transaction value. No fee was charged to the purchasing party. Value-added services, such as financial services and logistics, were seen as an important future source of revenues.

Steelscreen had signed strategic alliances with 11 suppliers of essential commercial services that were complementary to the buying and selling of steel itself:

Service	Partner
Trade Finance and Foreign Exchange	Deutsche Bank
	ABN AMRO Bank
	Skandinaviska Enskilda Banken
	Royal Bank of Scotland Group
Metal Hedging	ED&F Man International
	ABN AMRO Futures
Credit Insurance	Coface
	NCM Group
	Allgemeine Kreditversicherung
Material Inspection	Inspectorate
	SGS

Apart from advertising in the relevant industry media such as *Metal Bulletin* and other steel sector publications, the key marketing tool for recruiting new members was the personal visit. Good public relations work, and appearing in the local press, would help raise awareness, and sometimes even convince potential members to register spontaneously with the marketplace. However, experience had shown that a member who had not been visited, briefed, analyzed, and motivated never really used the marketplace for trading activity. This was also the reason why Steelscreen had opted for a decentralized organization, with regional sales support offices across Europe. The local marketing organizations spent much of their time arranging meetings and presentations with potentially interested members.

Arve, while preparing field visits, had compiled a list of the most important reasons for using Steelscreen.

- *Cheaper.* The fee that selling members paid was never more than half the commission fees charged at that time by other intermediaries.

- *Faster.* Inquiries and offers were distributed to all potential business partners immediately.

- *Simpler.* Both inquiries and offers were specified simply on the Web site.

- *More efficient.* You could reach all of the members of Steelscreen with the same inquiry.

- *Time-saving.* You avoided spending time following up contacts that did not lead to fulfilled purchases.

- *Up-to-date.* You had constant access to up-to-date market facts, trends, and analyses.

- *Comprehensive.* Steelscreen provided a steadily growing number of services linked to metals trading such as insurance, transport, tracking, financing, and much more besides.

- *Independent.* Steelscreen was independent of all players in the market, and was neutral in relation to both the buying and selling sides.

- *European.* The marketplace was adapted to European standards and available in a number of European languages.

- *Secure.* Maximum security had been a matter of course to Steelscreen in developing the trading site.

There were four types of members: selling, buying, buying and selling, and associated. Typically each member category would be made up of:

- Steel mills/manufacturers   Potential selling members
- Large consumers   Potential buying members
- Stockists   Potential buyer/seller members

Table 1 describes functionalities that each member would use.

Table 1. Types of Membership

Member Type	Uses Steelscreen for	Has access to
Selling member	Information and sale The open/public section Future value-added services	The trading section of the marketplace The Metal Barometer
Buying member	Information and purchasing The open/public section Future value-added services	The trading section of the marketplace The Metal Barometer
Buying and selling member (for example, wholesalers)	Information, purchasing, and sale The open/public section Future value-added services	The trading section of the marketplace The Metal Barometer
Associated member	Information	The open/public section The Metal Barometer

Market Feedback

Up until the second quarter of 2000, none of the major European steel mills had announced any official e-commerce strategies, and the steel making industry in general had not yet taken a conscious approach to the opportunities that the new technology offered.

However, as companies like e-Steel, MetalSite, and Steelscreen started to draw attention and awareness to the issue, more and more of the big steel mills started announcing their decisions and intentions with regard to adopting e-commerce in their marketing strategies. Most of the steel mills opted for solutions that created a traditional direct sales channel, intending to offer only their own products. However, great expectations were generated when industry heavyweights Krupp Thyssen, Corus, Usinor/Ugine, and Arbed/Aceralia announced in July that they would join forces to create a common Internet-based steel marketplace, called Steel24-7 (in allusion to its being open 24 hours a day, 7 days a week).

This in turn caused other major manufacturers to rush into similar initiatives, such as Rautaruukki, Riva Group, and Voest-Alpine, who in August announced a joint venture with Steelscreen's U.S.-based competitor, e-Steel, to create a new European electronic marketplace for steel products. Similar news stories appeared for the US and Asian markets, where major players also scrambled to position themselves in the technology race.

However, all these announcements merely indicated intentions, and their time schedules were all rather medium term. Also, Arbed, Usinor, and Corus had simultaneously announced that each was developing plans for its own, separate solution for direct sales through the Internet—more like extranet solutions. This all suggested that these large players still wanted to keep their options open. And for none of them did the options seem to include joining an independent marketplace—at least not short term.

Large Consumers/End Users

The large consumers of steel products included large industrial companies in sectors such as automotive components, domestic appliances, construction, etc. The leading companies in these categories had in the past pioneered administrative and logistical systems integration with their main suppliers through EDI-based interfaces and long-term supplier agreements.

They were generally very interested in developing purchasing relations with new and alternative suppliers using Internet-based marketplaces, as this opened up opportunities for new and alternative sourcing, and the possibility of achieving EDI-like integration with new suppliers at a much lower cost than in the past.

However, it was clear that these large consumers of steel were dependent upon the major European steel mills for the lion's share of their consumption, and the complexity of their technical requirements and delivery schedules often required special, highly sophisticated solutions that only these manufacturers could provide. Common to these large steel consumers were their strict quality requirements and rigid approval procedure for new suppliers.

All this made it difficult for members in this category to become early adopters of the marketplace, as they would not be able to do spontaneous business transactions with unknown suppliers. Again Steelscreen seemed dependent on having some of the major steel mills making their products available in the electronic marketplace.

Stockists/Distributors

Although stockists, in theory, would be characterized as buyer/seller members in that they normally would use the site both to buy stocks and to resell them to their customers, they would in most cases only be relevant as buyers.

Most of the customers of domestic Spanish steel distributors would be small to medium sized companies that still were at a very early stage in terms of adopting the Internet for their business activities. Consequently, the only short-term opportunity would lie in offering steel stockists the opportunity to use the marketplace for their own purchasing activities.

However, the majority of the large distributors would also be fully or partly owned by one or several of the major European steel mills, in which case most of their purchases would be made from their parent companies. The challenge was that the majority of the big steel mills had recently announced that they would not join any independent electronic marketplace, and that they would rather develop their own extranet and/or direct sales facilities through the Internet.

Given the dominant position of the major European steel mills in their own local markets, this could in effect put 70 to 80 percent of the European installed steel and aluminum capacity out of reach for Steelscreen and its members.

While the months of July and August had mostly been spent organizing the new local office and structuring market information, September brought a round of frenetic travel and visits. Arve was keen to get on with the job and at last get in touch with the market players. To his satisfaction, it was not difficult to arouse the industry's interest in e-commerce solutions for metal products, since the issue was already on the agenda of most companies of a certain size.

Also, the general philosophy of an Internet-based electronic marketplace, with the many advantages it could offer in terms of market reach and efficiencies in administration and logistics, was readily accepted and understood. However, there was also a very large degree of pragmatism reigning among the Spanish metal industry players. Although they generally agreed that, in the future, e-commerce would be an important tool for their sector, most were hesitant to pioneer trading over the Web.

Those that showed a willingness to sign up and trade were characterized by a proactive management that wanted to make sure they were fully up-dated on what e-commerce entailed in their sector.

The Strategic Dilemma

It seemed clear to Arve that his work was going to be more challenging than he had anticipated. Most important, how should Arve prioritize its time with customers? What customers should he target first and with what value proposition? Of course, he had expected to encounter resistance to adopting new trading tools such as an electronic marketplace. But when the benefits were clear to both buyer and seller, and there were clear opportunities to rationalize the entire transaction process, it was surprising to find the market so slow to test out the new technology (see Appendix E for Frequently Asked Questions about Steelscreen).

On analyzing the events that had taken place in the three months that had gone by since he joined Steelscreen, it seemed to Arve that large parts of the industry had not yet understood the concept of an independent and neutral marketplace. Currently, with most players wanting to adopt an intermediate option of "own controlled" direct marketing or extranet solutions, there seemed to be a very high demand for technology solutions that would enable all of these major players to execute their short term Internet and e-commerce strategies.

Many international and local software suppliers offered generic trading platforms, but all of these would require a significant amount of customization and adaptation to satisfy the specific needs of the metals industry. There was also the issue of whether the metals industry's ERP systems were in condition to take full advantage of an integrated trading solution.

In view of this technology vacuum, should Steelscreen change its business? Should the company give up the original business model of an independent market place and instead sell its advanced technology and become an e-commerce solutions provider to the metals industry?

Arve knew that no other competitor had a better or more advanced functionality than Steelscreen, and he also knew that the steel business was too specialized for generic e-enabling packages like Commerce One and Arriba to be a real alternative. If the industry giants wanted to develop their own in-house solutions, they would need significant investments in time, people, and money—not only in the development stage, but also in the operating and continuous development stage. Steelscreen's technology could clearly be very valuable, and its team's knowledge would put it in a unique position to advise the industry on e-commerce strategies.

On the other hand, what would be the consequences of such a strategy change for the company? Was Arve simply experiencing a spell of frustration as he faced the cold reality of pioneering a new philosophy in a very traditional industry? What would be needed for Steelscreen to be successful as a technology provider, and what were the risks of this new business? Was it really up to Arve to consider these issues? After all, he was only responsible for one of many markets, and should trust the company's management to have made a sound strategic analysis before embarking on this route. All these were questions with which Arve tried to come to grips as he started to organize his thoughts for the imminent meeting with the Steelscreen European management group.

Appendix A. Extract of Some Known Metals
Dot.com Initiatives

Asiasteel.com	http://www.asiasteel.com/
Autoxchange.com	http://www.autoxchange.com/
Businesshere.com	http://www.businesshere.com/
Buystainlessonline.com	http://www.buystainlessonline.com/
Chinasteelnet.com	http://www.chinasteelnet.com/
Dealsteel.com	http://dealsteel.com/
DoveBid.com	http://www.dovebid.com/
e-STEEL.com	http://www.e-steel.com/
Ferrousexchange.com	http://www.ferrousexchange.com/FeX
Europe-steel.com	http://www.e-steel.com/
Freemarkets	http://www.freemarkets.com/
Goindustry.com	http://www.goindustry.com/en/
Imark.com	http://www.imark.com/
Industrydeals.com	http://industrydeals.com/
Ispatudyog.com	http://www.ispatudyog.com/
Materialnet.com	http://www.materialnet.com/
Metalauctions.com	http://metalauctions.com/
Metalclick.com	metalclick.com
Metalexplorer.com	http://www.metalexplorer.com/
Metalmart.com	http://www.metalmart.com/
Metalsales.com	http://www.metalsales.com/
Metalshopper.com	http://www.metalshopper.com/
Metalsite.com	http://www.metalsite.com/
Metalsuppliersonline.com	http://www.metalsuppliersonline.com/
Metalworld.com	http://www.metalworld.com/
Metique.com	http://www.metique.com/
Onlinemetals.com	http://www.onlinemetals.com/
Pipemart.com	pipemart.com
Scrapexchange.com	http://www.scrapexchange.com/
Scrapsite.com	http://www.scrapsite.com/
Steeldemand.com	steeldemand.com
Steelexchangeindia.com	http://www.steelexchangeindia.com/
SteelExpress.com	http://www.steelexpress.com/
Steel-market.com	http://www.steel-market.com/
Steelmillrfq.com	http://www.steelmillrfq.com/
Steelmills.com	http://www.steelmills.com/
Steelplus.com	http://www.steelplus.com/
Steelsales.com	http://www.steelsales.com/
Steelscreen.com	http://www.steelscreen.com/
SteelSpider.com	http://www.steelspider.com/
Steeltrade.com	http://www.steeltrade.com/
Thyssen.de	http://www.thyssenkrupp.com/
Tradeexchange	http://www.tradex-consulting.com/tradeweb/bb/tradexchange.htm
Tradeout.com	http://www.tradeout.com/
Verticalnet.com	http://www.verticalnet.com/
Worldmetal.com	http://www.worldmetal.com/
World-trading.com	http://www.world-trading.com/
24/7.com	http://www.steel24-7.com/

Appendix B. E-Commerce
Trading Models

As the Internet gradually came to be adopted as an alternative channel for business transactions, several models or approaches to e-commerce had emerged. The choice of one model or the other partly depended on which party was taking the initiative to adopt Internet technology.
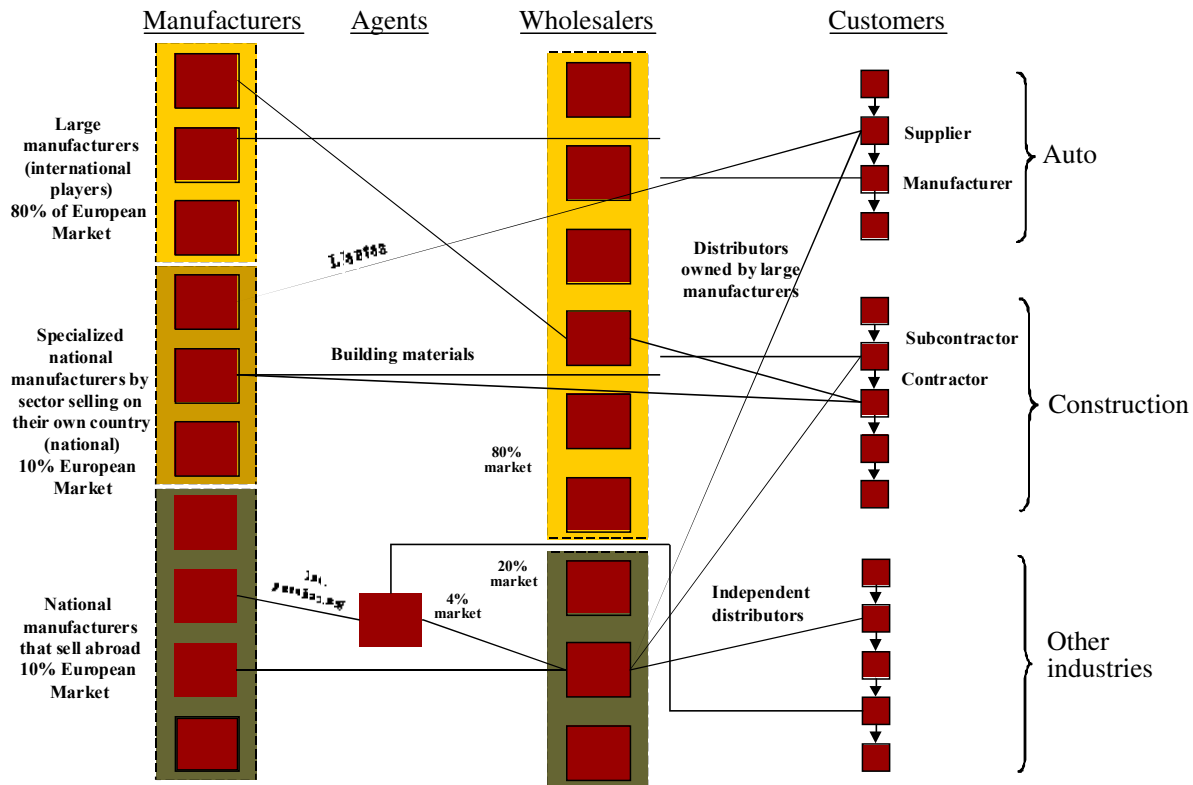

Figure B.1. Current Industry Structure (Sample European Industry Players)

First Generation E-Commerce

When a vendor offered products for sale, the purchaser had either to accept the price and terms the vendor offered or, alternatively, negotiate with the vendor. An example of this would be the auctioning process, where the actual negotiating is done by a third party, the auctioneer, while the transaction takes place between the purchaser and the vendor. Another example is a supermarket, where you put goods in a shopping basket and, without negotiating, you accept the vendor's terms. In these examples, it is the vendor who controls the transaction. The earliest electronic marketplaces (e-commerce) were designed on this principle—first generation e-commerce.

Second Generation E-Commerce

The Internet made a whole new way of trading possible. Letsbuyit.com took the exploitation of the Internet's possibilities as its starting point. It used the new technology to connect a large number of potential customers and build a strong position for negotiating volume discounts with vendors. Portals that pooled demand in order to create bargaining power were referred to as second-generation e-commerce.

Third Generation E-Commerce

The most recent e-commerce models were what were known as virtual marketplaces. In this case, the Internet was used as a means of bringing together a large number of buyers and vendors, offering them a meeting place and a negotiation tool. The key features of this transaction model were transparency and neutrality since neither the vendor nor the buyer controlled the process. This model was called third generation e-commerce.

Figure B2.2 shows examples of the different types of e-commerce, each of which of course had its advantages and disadvantages; these are summarized in Appendix 3.
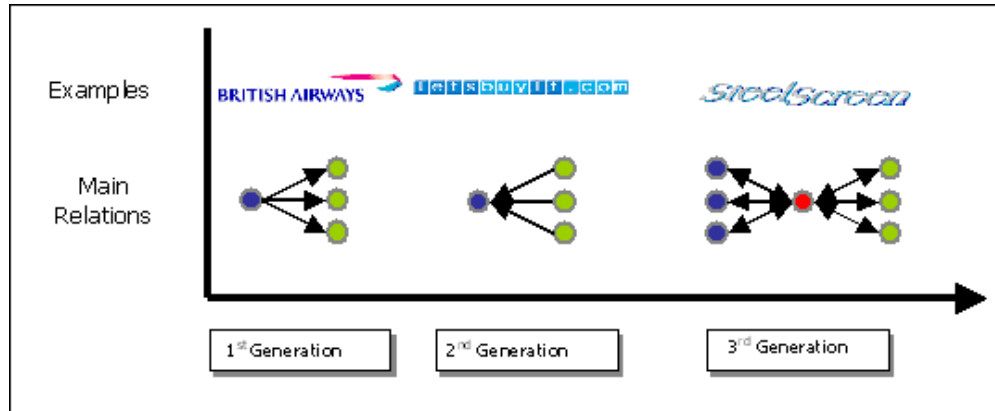

Figure 2.2. Development of E-Commerce Trading Models

Appendix C. Advantages and Disadvantages of the Different E-Commerce Models

	1st Generation	2nd Generation	3rd Generation
Advantages	• Easy for seller to adapt new technology to its existing IT system • Easy to adapt business processes to the existing organization • Both current and new products can be made available through the channel	• Puts buyers in the driver's seat in terms of pricing and terms • Often attracts many users due to its opportunistic nature	• Neutral • Room for negotiation • The needs of both buyer and seller are satisfied • Normally reaches most users • Does not require large IT investments
Disadvantages	• Difficult to reach many users • Buyer cannot easily compare conditions and prices • Expensive to run and develop	• Sellers can find it difficult to accept the model • Is only suitable for extremely standardized products	• No great disadvantages

Appendix D. Steelscreen Management Team

David Schelin, CEO. Age: 34. Background: Graduate in electrical engineering from Chalmers University of Technology. Was involved in building up Europolitan in the early 1990s. Four years in Ericsson Instrumental, as manager of Network Design Consultant Services.

Peter Anderberg, Marketing Director. Age: 35. Background: International Business Administration, Linköping. Degree from IMD, Lausanne. Ten years in Avesta Sheffield AB. Product manager, CEO of the French sales company, marketing manager for hot-rolled sheet.

Anders Candell, Chief Technology Officer. Age: 30. Background: Graduate in metallurgy, Royal Institute of Technology (KTH). Five years in Avesta Sheffield AB. Advisory metallurgist, responsible for Internet development in ASAB. Head of Hot-Rolled Sheet Business Area.

Fredrik Öhrn, Financial Director. Age: 37. Background: Graduate in geology from Uppsala University. MBA at University of Massachusetts, Amherst. Nine years in Boliden AB. CEO, metals market analyst, metals risk assessment, deputy financial manager. Two years in ABB Financial. Consultancy work, chief consultant.

In addition to the top management team at headquarters, Steelscreen had attracted a team of experienced steel industry specialists for the European sales offices, summarized above. These would in turn have a team of sales and technical support people to address their local markets.

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For address, see Swedish office

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Apart from the daily management of the company, supervision of strategic issues was also conducted by the Board of Directors and an Advisory Committee.

The Board

The Board of Directors consisted of the following: Allan Weiner, Peter Sederowsky (solicitor and management professional), David Lockwood (MD Reuters Greenhouse Fund), David Schelin, Peter Anderberg, Fredrik Öhrn, Anders Candell, and Anders Frisk.

Advisory Committee

Steelscreen linked up with a number of the most experienced European advisers in the metals industry. The group included Hans Jacob Wærn, formerly marketing manager of Avesta Sheffield, and Orvar Nyquist, formerly CEO of SSAB, the Swedish Ironmasters' Association, etc.

Investors and Owners

Principal investors included

- Reuters Greenhouse Fund
- Prime Technology Ventures
- Speed Ventures
- The four founding partners

Appendix E. Frequently Asked Questions About Steelscreen
(Source: Steelscreen.com)

1. ***Why should we use Steelscreen?***
By using the Internet Marketplace of Steelscreen it will be possible for you to reduce your selling/procurement costs while speeding up your transactions and gaining competitive advantages. The marketplace is independent of metal suppliers and consumers, thus ensuring impartiality. Steelscreen will be offered in all the main languages of Europe, focusing on European material standards and requirements.

2. ***What will happen to our market knowledge?***
    a) *Will our negotiation skills become redundant?*
    Steelscreen will not make negotiation redundant; it provides a new, more efficient marketplace. This will give all participants the possibility to focus on the important, value-adding activities. You can also actively promote your business through Steelscreen.
    b) *Our customer/supplier relationships?*
    Relationships will remain as important as ever. Customers will, for example, be able to call off previously contracted volumes using the Steelscreen network. The total value of the suppliers' products and services will become even more important using Steelscreen.

3. ***Why does Steelscreen intend to increase transparency?***
It is Steelscreen's belief that greater market transparency will be to the advantage of both sellers and buyers as the increased knowledge will reduce risk and simplify the business.

4. ***How much will it cost to use Steelscreen?***
Most of Steelscreen's services will be free of charge. Sellers of metals will be charged a sales fee (commission) that will be, at most, half of today's selling costs.

5. ***What products are suited for Steelscreen?***
Any metal product will be tradable over Steelscreen. The more standardized the product, the easier it will be to use the system.

6. ***How will we be able to convince our existing market organization that using Steelscreen is in their best interest?***
Steelscreen does not intend to be a substitute but rather a complement to existing market organizations. By using modern technology a market organization will be able to focus on true value added tasks while at the same time dramatically increasing the efficiency of the sale.

STEELSCREEN.COM: WHY IT IS NOT EVERYWHERE IN B2B AND THE ROLE OF THE CEO IN IT

—Teaching Note—

Note: All data in this case is real. A multimedia version that includes a demo of the portal and all of the marketing material that the company used is available. The multimedia version also contains a video of Arve answering five questions. In addition, there is a 4 minute video of the situation 8 months after the case: the company had received $4 million in extra funding in December (for a total of about $20 million) and went bankrupt just a few months later. There is also a 90 minute video with a taped session discussion. All of this material will be made available to those attending the conference. The long video includes a 30 minute discussion with Richard Rowe on the highlights of the case, on Rowe.Com and on the future of B2B. It is also available at **http://ocw2.mit.edu/OcwWeb/Sloan-School-of-Management/15-566Information-Technology-as-an-Integrating-Force-in-ManufacturingSpring2003/CourseHome/index.htm**.

Introduction

This case is intended to serve as the basis for one or two sessions of an introductory Information Technology course for an MBA program or for one session at a senior executive program. The aim is to address what needs to be known by general managers in terms of technology and at the same time serve as an introduction for those that want to deepen their knowledge in B2B technologies. Thus, it is intended to cover basic technology principles and concepts essential for any CEO/MBA in any information related industry. It also covers key business concepts impacted by information technology such as industry convergence and B2B. The approach we suggest be taken with this case is an integrative one where both technology and business concepts are intermingled throughout the class discussion. An essential ingredient of this approach is to provide a business rationale for why technology matters, using this case in the first session before drilling-down into the more specific technology details of XML and metadata in the second session.

The rationale behind this approach is twofold. In the first place, most MBA students do not see the need to drill-down into specific technology details. In fact, many so-called IT textbooks focus almost exclusively on the business or human side of technology. In contrast, many IT courses or books directed at executive education take the opposite view—that technology is an enabler—and focus on teaching the technology almost exclusively. This enabler point of view doe not motivate the need to understand technology basics for most general management executives. Our teaching approach motivates each set of technologies (XML and metadata in this case) covered by providing real cases with real business issues (Steelscreen in this instance) where appropriate top-level executive decisions could not be taken without understanding the basic technology concepts explained later. The second rationale behind our approach is based on the observation that there is no clear, comprehensive, basic set of principles upon which all information technologies are built. This case will provide a technology toolbox that should serve as a springboard to develop any future technology concepts needed to develop in subsequent Steelscreen-type cases throughout the course. In fact, we suggest that an IT course for management should focus on a series of different drill-down needs emerging from the analysis of specific business issues in various areas: mapping information value, designing transaction streams, layering value-added abstractions, aligning IT and the organization, designing knowledge management strategies, assessing new IT investments, and rebudgeting large IT development and implementation projects. For an introductory course, we feel these represent a sufficiently comprehensive set of business issues requiring technology drill-downs. Steelscreen is just one part of a larger effort we have been embarked on for the last two years. There are two unique features of this approach. First, our work is neither technology centric nor business centric. Instead, it links executive decisions with solid information technology fundamentals. Second, our approach is concise, not requiring more than 200 pages of core case material for a full 25 session course. We believe this is an important feature because the MBA audience base in general does not go into a CIO career path and will therefore not be able to afford the amount of time a longer approach would require.

Assignment Questions

This section contains a transcript of suggested material to be given to students with the case.

In this session, we will focus on understanding how content can add value in an established industry. We will analyze the future industry transformation of an established industry, the steel industry. The case will also allow us to see how new players can benefit from an industry in transformation.

Assignment: Read the case first and prepare answers to the following questions.

1. Who benefits more from a steel B2B offering? Why?

2. What are the strengths of Steelscreen.com? In the long run, how many steel portals will exist?

3. What are the challenges that Arve is facing? What customers should Arve target first and how?

4. Adapting the Steelscreen product to the specific needs as reported by the market could cost at least $20 million. Would you suggest investing this amount of money in product development?

5. What should Arve report back at the next management meeting in Sweden?

6. What kind of technology details, if any, should Arve know?

7. What kind of technology details, if any, should you as a manager know?

Suggested Teaching Plan (Seven Blocks, 90 Minutes Total)

Block 1 (10 minutes): We start the session by discussing the key aspects of the steel industry. We point out that it is a very mature industry with an old approach to doing things (fax, phone, etc.). We draw on the board the industry map (as shown in the case) with the manufacturers, the distributors, and the end-customers. The broad strategy of the major players can also be discussed at this point.

Block 2 (20 minutes): We then draw a marketplace with lines pointing to all the players on the board within the industry map. We discuss what a B2B service can do to serve the industry. The idea behind this discussion is to pump up the enthusiasm for B2B and IT and think long term (not just on Steelscreen). This discussion yields the following functionalities that can be nicely drawn on a two-by-two matrix: transaction, information, catalogue, and project management. In addition, there are interface functionalities, back-office functionalities, and interfaces with value-added services and ERP systems. This block should end on a positive note to set the stage for Block 3.

Block 3 (20 minutes): We go back to Steelscreen and try to sell the portal (which has mainly transaction functionalities) to the different players, letting the students venture with whom to start first. This is an emotional roller coaster for the students because they slowly realize that nobody will pay anything to use this service. The large manufacturers feel a great threat. In addition, there is a small number of them in each relevant geographic areas (less than five) and they have announced they will join forces. The large distributors are owned by the large manufacturers and feel the same. The large end-users already have EDI and don't gain much from Steelscreen. The small customers, such as construction SMEs, won't use it either for various reasons: it is a threat to the purchasing head; it is much easier to order via a cell phone; the system does not allow specification of "or" orders (i.e., orders where you do not care what steel is brought as long as it works in the construction industry) and instead it requires a very complicated process specifying the exact standard which most construction site managers do not know; once a price is given by the portal, the "reference price," it is easy for the purchasing head of the company to beat it by asking a favor of a regular supplier.

It is important to stress throughout this last discussion that Steelscreen is in a space with about 90 competitors—including 90 management teams, 90 sales teams, 90 investor teams, and 90 CEOs. It proves the point that nobody went down to the level of trying to understand the details of what was the technology's value proposition. The key message is: "If you are a CEO and

everybody fails to appreciate the role of technology in your company, you have to be able to detect this situation." It is very easy to be a CEO if everybody around you does their job right!

The rest of the class is spent on comparing RoweCom to Steelscreen. The idea is to not finish the class on a low but on a high by explaining a very successful B2B site.

Block 4 (10 minutes): We typically explain RoweCom ourselves on the board and later (in Block 6) compare it to Steelscreen to show that Steelscreen did not do anything right.

Founded in 1994, by Richard Rowe, RoweCom Inc. understood the Internet's potential to reintermediate an industry long before the B2B craze in the late 1990s. RoweCom's founding, however, was caused more from internecine strife rather than professional conflict over strategy.

Before RoweCom, Faxon (est. 1881), for over 100 years, operated as a "worldwide leader in serials management and subscription services in the library marketplace" (FaxonCom 2001).[2] The value function of the scholarly communications industry is the creation and delivery of scholarly texts to readers. Although this industry may seem relatively straightforward (write, publish, read), its value chain is actually quite intricate, augmented by numerous, specialized intermediaries with closely defined functions. Faxon was an industry intermediary whose primary value was to help libraries develop and manage information acquisition contracts with publishers of journals, magazines, and other sources (FaxonCom 2001). Perhaps the best way to understand the way in which Faxon was organized is to think about how one might set up a library subscription service in the mid-19th century, an age before phones, computers, motorized land transportation, and electronic currency exchange, i.e., money wiring. Sales representatives relied solely on expensive personal visits. The company used cumbersome manual and paper-intensive processes to deliver its services (albeit with insignificant error rates—less than 2 percent through the early 1990s). Service transactions were leisurely (six weeks in length through the early 1990s). Although Faxon readily integrated IT applications to augment its service solutions as they became available, it never radically changed the essence of its key processes.

Traditionally, Faxon established its pricing as a commission of 5 percent of each publication's yearly subscription rate. Yearly subscription prices varied from $0 to over $10,000 per publication. Not surprisingly, Faxon's revenue varied widely for activities that incurred essentially the same internal costs. However, since most contracts were bulk contracts, average revenue was significantly higher than average costs for the service. Contracts with expensive journals were offsetting the money-losing activity of those with low cost journals. In fact, Faxon—in company with two other key intermediary players—dominated over 80 percent of the market, with steady profits of upwards of $15 million in the early 1990s.

At about this point in the early 1990s, a power struggle in the family-run business developed within Faxon that resulted quasi-simultaneously in the defection of Richard Rowe and his divorce from the owner of the company. On leaving, Rowe hired essential members of Faxon's IT team (Faxon had earlier dismissed these employees). Off on his own with a hoard of important contacts, much of Faxon's IT knowledge, and years of industry experience and credibility in his pocket, Richard Rowe decided to enter cyberspace with $2 million of personal assets. Just a few months after leaving Faxon, he and his newly assembled team put together an easy-to-use Web-based automated journal subscription service. They soon connected it directly with BankOne's back office systems to automate payments. With the service up and running, they turned to another fundamental challenge: how to attract more customers and, thus, generate profits. In coming up with a solution for this problem, Rowe pulled another rabbit out of his hat, and in the process became one of the pioneers of B2B marketplace communities.

Rowe went to the Library of the Massachusetts General Hospital, where he presented management with an astounding offer. RoweCom would handle every journal subscription that cost over $10,000 in fees for a $5 flat fee. The offer was accepted. A year later, when RoweCom had fine-tuned the system and assisted library staff in becoming familiar with it, Rowe easily convinced them to increase the number of subscriptions they turned over for management. Before long, Richard Rowe had acquired a handful of similar accounts through other contacts, and found himself in a thriving business once more.

Within a few years, RoweCom had become a leader in the industry. At the turn of the millennium, the firm proclaimed a value proposition of control, cost-savings, and convenience, and, through its Web-based technology, was well able to back its claim. RoweCom's online tools allowed organizations to manage subscriptions themselves. The tools also actually reduced the cost of

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[2]Please see **http://www.faxon.com/about/back.htm**; last visited December 2001.

management and increased the ease of performing transactions. Offering access to more than 240,000 titles from over 20,000 publishers, RoweCom expanded via acquisitions, partnerships, and alliances, ultimately servicing over 20,000 organizations.

Block 5 (10 minutes): The students quickly develop a feeling that RoweCom was poised for great success. We then ask the students why RoweCom was so successful and a list is put on the board. We expand here perhaps a bit longer than necessary just to stress the drama that Steelscreen got into, together with 90 other failed endeavors. We will refer to these factors as "business drivers" and not "value drivers" for an important reason. The term value driver relates only to the value perceived by the customer. Business drivers relate to the overall operational effectiveness of the company, including cost and value drivers. Business drivers act as forces that influence the market, technology, and value axes of the business. The list follows.

Content acquisition and acceptance refers to the complexity and costs involved in standardizing and moving transaction content and relationships online. Fortunately for RoweCom, defining transactions within the scholarly communications industry was not a complex process. The information needed by a publisher to process a subscription request does not hinge on a large amount of data. Furthermore, within the industry, these information categories had already been standardized for the most part.

Transaction latency and quality refers to the delays and errors incurred during the transaction process. In the old industry model, the activation of a subscription could take up to six weeks. With the RoweCom system, the advent of instant subscription processing and activation virtually eradicated latency. The added value of this convenience gave RoweCom a large competitive margin over Faxon's time-intensive services. Furthermore, because RoweCom's IT required little or no human intervention in entering its transaction data, it was reliable enough to reduce Faxon's already enviable 1 percent subscription error rate to near zero.

Variable margins refers to the margin a company can expect per customer transaction in relationship to its costs. Based upon Faxon's traditional 5 percent commission fee, variable margins ranged between zero or arguable negative (for free journals) to upwards of $1,000 (for high-end subscription fees). Because RoweCom had no variable costs, it could improve its margins by charging a $5 flat fee per subscription serviced, regardless of the subscription price. Whether a journal was free or commanded a high price, it generated a guaranteed margin for RoweCom.

Superior value proposition. RoweCom could afford to charge a low flat fee because it enjoyed both a lower cost structure and a smaller scale of delivering transaction content over the Internet. Its reasonably priced fees afforded great cost-savings benefits to customers. In addition, utilizing transaction latency and variable margins business drivers, RoweCom was able to offer superior value proposition quality (i.e., excellent value for the investment) to its customers in the scholarly communications industry. Faxon and RoweCom both offered the same basic service; they acted as intermediaries to help libraries and other knowledge-intensive organizations acquire and manage editorial materials. The major difference between the two was that Faxon offered this service at high price and with a long transaction lag-time, while RoweCom could provide it both at a lower price and with very little transaction latency. When Richard Rowe started offering the service with expensive journals, the cost-difference was $1,000 for Faxon versus $5 for RoweCom. With such a cost structure, some clients could save as much as $50,000. If you were a librarian, which service would you choose?

Fixed system development costs and variable costs. Fixed costs refer to a company's investment in the one-time creation of permanent equipment for delivering service or product. RoweCom was able to develop a Web-based subscription service at relatively low costs (less than $2 million) given the standards already prevailing in the industry. Once built and in place, the RoweCom system would be able to scale at low costs as the number of system users grew. Thus, no significant variable costs were incurred.

Client acquisition process broadly describes the methods used by a start-up or established company to develop its customer base. Once again, due to his previous position within Faxon, Rowe was able to use his industry contacts and credibility. As we have seen, he won the prized Massachusetts General Hospital account by offering a subscription to a small set of expensive journals—essentially making the Library an offer it couldn't refuse. For future sales efforts, RoweCom could migrate from presence-based door-to-door, face-to-face sales, and begin to acquire clients via telephone and Web communications. After all, RoweCom's service did not need to be explained in person. It could be accessed by computer and Internet connection from anywhere.

Start-up process. The final key to RoweCom's success that we want to stress here is its start-up process, the methods he used to invigorate the fledgling business and give it impetus. Richard Rowe knew that if he were successful at leveraging his industry contacts and credibility to acquire RoweCom's first clients, he could rely on the Web-based subscription service to sell itself. All

of these business driver factors combined to enable RoweCom to overcome market entry barriers and, eventually, disrupt Faxon's intermediary B2B position in the scholarly communications industry. In fact, they formed the basis for the IPO road show presentation that Richard Rowe used resulting in raising over $60 million on an oversubscribed IPO day. RoweCom eventually bought Faxon.

Table 1. RoweCom's Key Business Drivers

Business Drivers	Faxon (Physical)	RoweCom (Virtual)
Content acquisition and acceptance	Content standardized in physical form	Easily standardized and transferable content
Transaction latency and error rates	High delays Error rates (1-5%)	Low delays No error rates
Variable margins	Weak margins	Strong margins
Superior value proposition	Solid value	Superior value
Fixed system development and no variable costs	Legacy systems	Minimal development costs
Client acquisition process	Historical client base and sales channels	Strategic contacts and credibility
Start-up process	Incumbent	Overcomes entry barriers Build critical mass

Block 6 (5 minutes): A comparison between RoweCom's key B2B business drivers with Steelscreen helps understand why steel players were hesitating before Steelscreen's proposition as offered by Arve. In fact, the company's proposed collaboration approach was not a viable option to take within the European steel industry. The transaction content model that Steelscreen proposed, a model that had succeeded brilliantly in the relatively noncomplex scholarly communications industry, could not deliver similar convenience to a European steel industry burdened with myriad transaction and relationship complexities (see Table 2). Let's now look at the above business drivers as they related to Steelscreen. If the list has been put up on the blackboard, the students clearly identify that there is no single business value driver that it got right while RoweCom got all of them right!

Table 2. RoweCom vs. Steelscreen Comparative Analysis

Value Drivers	RoweCom	Steelscreen
Content acquisition and acceptance	Easily standardized and transferable content	Non-standardized Difficult to obtain Large database
Transaction latency and error rates	Low delays No error rates	RFQ process High costs Unfamiliar process
Variable margins	Strong margins	Free content Unclear margins
Superior value proposition	Superior value	No clear immediate value
Fixed system development costs and no variable costs	Minimal development costs	High development costs
Client acquisition process	Strategic contacts and credibility	No big industry player commitments
Start-up process	Overcomes entry barriers Build critical mass	No proven start-up model

As a start-up, Steelscreen confronted several thorny issues. However, it is important to stress the link between the lack of technology fit to the customer needs and the failure of these 70 companies together. It is a fit that CIOs did not see. It requires an understanding of both the technology limitations and the business issues at hand, an understanding that CEOs should have developed. Here are some of the reasons why IT failed to deliver value.

- It would be required to develop the ability to intermediate transactions in several different languages and across multiple standards (each country had several to prevent imports). There where literally trillions of possible options.

- The standardization efforts made it very hard to specify "or" requests; i.e., it was very difficult to specify something like "send me any rod that will work on my construction site."

- There were no standard protocols to link with ERP systems. The big players were involved in their ERP Y2K compliant systems and had no reason to rush into e-commerce.

- Facing major complexities in content acquisition and acceptance, Steelscreen responded by implementing the "RFQ" transaction process in addition to its Metal-XML initiative. RFQ—request for proposal—dictates a set of rigid communication steps for use in the transaction process. Initially intended to standardize, thus shorten, the length of a transaction, the unfamiliar RFQ process ended up creating higher transaction costs than expected. RFQ, like e-mail, is asynchronous. You can respond when you want but latency increases with delay. In short, the cumbersome RFQ process could not match the efficiency of "calling for confirmation"—the incumbent industry synchronous approach. It simply lengthened transaction latency in new ways, creating more problems than it solved.

Block 7 (5 minutes): The business value drivers can then be compared to other IT enabled initiatives like eBay, Yahoo!, and Amazon and a few more business value drivers can be added. This helps put in context the relevance of such business value drivers.

Block 8 (10 minutes): In early 2001, we identified roughly 90 players who entered the B2B steel market hoping to capture some piece of the industry's transaction activity. Amazingly, most of these players made the same false collaboration assumptions as Steelscreen. A whole industry was created that virtually had no revenue ever. Over 5,000 people were involved and several hundred million dollars where burned. This brings us back to the central point we wanted to stress with this case: the role of the CEO in business issues that require technology understanding. Why did this happen? Three discussions are possible at this point to end the case discussion. First, what particular technologies should the CEO understand to compete in this particular case? This is a good motivation for a subsequent session on ERPs, XML technologies, and database integration. Second, why should CEOs know about technology? Third, how should the CEO keep up-to-date with technology advances?

What should be made clear in this case is the relationship between the lack of understanding of technology and the failure of CEOs, investors and general management to spot a costly mistake. If one has a genius as a CIO, perhaps one can ignore technology for a while. It is quite easy to be a manager if your team is always right. However, as technology becomes more pervasive, every genius will eventually make a mistake. Shouldn't the role of the CEO be to spot such a mistake, like the deadly one Steelscreen made, and to subsequently help the organization prevent the consequences?

Conclusion

The theme of this year's ICIS conference is IT everywhere. Perhaps this case helps to provide a bit of realism into the many IT management challenges that society still faces before IT is indeed everywhere (at least in B2B) and, in particular, help CEOs elucidate their own role in IT (again, at least in B2B).