

# **Dissolution in Business Networks - Swedish IT-companies and Radical Changes**

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During the late 90-ties a large number of suppliers of IT-companies were established. These IT-companies were primary suppliers of various services and products many ordinary companies, in a short time perspective, lacked both the competence and the manpower to perform. The establishment of IT-companies meant that many new enterprises entered already existing business network of long-lasting business relationships. The entering IT-companies rapidly gained strong positions due to their customers' need for IT-adaptation of their businesses.

The positive expectation about IT and its role in companies' development was though soon followed by a more negative trend. The demand for IT-services, which had created the opportunity establishing new companies, altered into a period of stagnation leading to changes in the industry. These changes meant e.g. the mergers between, or acquisitions of IT-suppliers by others to sustain profitability. Some were driven into bankruptcy or restructuring in lack of assignments. For the companies working with the IT-companies this meant experiencing two waves of change. The first wave was when new business relationships with the IT-companies were initiated. This was followed a second wave of change where many of the business relationships dissolved due to liquidation or other changes of the IT-companies' status. The last years' events related to IT-companies and their customer shows that radical changes in a business network, affecting many companies, can happen in a short span of time.

Changes are in many studies explained as an incremental process occurring over time in the existing relationships through the companies' interaction and various adaptations. Studies concerning radical changes within existing network structures are though more rare. Business networks can undergo radical changes as the result of, in our case, IT-companies going bankrupt, mergers between them or acquisitions. All these changes affect the strength of the existing business relationships in the IT-related business network, either strengthening them or in many cases starting a dissolution process leading to termination.

There are a limited number of studies focusing on how the ending of companies' business relationships with IT-companies supplying IT-related services and products affect the involved companies and the business network surrounding them. The

purpose of this paper is therefore to elaborate further on how to study this type of radical changes in business networks.

### **Background**

During the latter part of the 1990-ties a large number of IT-companies were established in Sweden. In 2002 there were 24 843 IT-related service companies in Sweden and these companies employed in total 88 106 people. The number of newly started companies in IT-related sectors amounted to 4 180 during the year of 2000. Compared to 1999 this meant an increase by 30% of the number of start-ups (ITPS S2002:009). The IT-companies provided various IT-related products and services which many ordinary companies, in a short time perspective, lacked the competence and resources to carry out. The establishing of these new IT-companies meant that a large number of new actors entered into already existing business networks of long-lasting business relationships. The new actors got, much due to the high expectations associated with IT, strong positions in relation to their customers. The reason for this lays the customers' need to handle the market and their counterparts' demand for IT-innovation and adaptation in order not to loose businesses.

The positive expectations about IT and its role for the development of companies' efficiency and competitiveness was though quite soon changed by a more sinister trend. The strong demand for IT-services plunged as the IT-boom went into stagnation and even recession and the opening for establishment of new businesses closed. Instead, many IT-companies were forced into mergers or were acquired by competitors in order to achieve profitability and survive in the market. In this situation many IT-companies supplying services or products were driven into bankruptcy or restructuring in lack of assignments. During the period from October 2000 to September 2001 the number of liquidations of IT-related service companies in Sweden was 521 (ITPS S2001:013) which must be considered to be a very high level.

For many companies, which had engaged in developing relationships with the supplying IT-companies, this meant that they in a short period of time experienced two types of change. First, for some time a situation prevailed where many

companies initiated and established new business relationships with IT-suppliers in order to adapt to the demands for new information technology. Second, this period was followed by a situation where many of these new, yet important, business relationships were terminated or radically changed as the IT-suppliers were going out of business or being merged.

During the last 20 years research in companies' business relationships with other companies has used a network approach where relationships among companies form networks. In these business networks the actions and events in one relationship affect what happens in another. The research has showed that the networks are stable as companies tend to keep their relationships for long periods of time and the presumption of many studies has also been the stability of business networks. The last years' events in the IT-sector signify the need for studies of less stable business networks experiencing periods of radical changes. Furthermore, there are few studies on how the dissolution of business relationships affects the business network and the companies in it. The purpose of this paper is therefore to elaborate on how dissolving relationships between IT-companies supplying IT-related services and products affect the business network surrounding them and how to study this type of radical changes in business networks.

### **Networks of Business Relationships**

It is today a well-established perspective that companies, over time, develop long-lasting business relationships with some of their counterparts (Ford, 1990; Grabher, 1993; Håkansson, 1982; Nohria and Eccles, 1992). A long-lasting business relationship between two specific companies is partly the result of a continuous exchange of products and services against monetary refunds and partly the other activities the exchanges brings along. The companies interact through the exchanges and the activities thereby giving the business relationship content and meaning. The companies' interaction concern not only the buying and selling of goods and services but the whole range of the companies businesses like, e.g., technological development (von Hippel, 1988; Håkansson, 1989; Lundvall, 1988) and information

exchange (Turnbull and Valla, 1986). The interaction involves not only sales and purchasing personnel but individuals on all levels of the organizations representing all functions in the companies (Cunningham and Homse, 1986). Furthermore, the companies develop this kind of long-lasting relationships not only with their customers and suppliers. Relationships are formed with all types of organization, e.g. banks, financial institutes, governmental organizations, universities or branch organizations, which have an effect on the company's operations.

In many respects ongoing business relationships can be likened with social relationships (Anderson and Narus, 1990; Dwyer, Schurr and Oh, 1987; Kelley and Thibaut, 1978). In the same way as a long-lasting relationship between two people takes time to evolve the business relationships takes time. As time goes by, the business relationships gradually evolves through the companies' interaction (Anderson and Weitz, 1992). The complex events and activities that performing business means tends to make business relationships complicated and hard to grasp for those who are not directly involved. The companies' interaction also makes the business relationship changing and dynamic. The relationship changes continuously through the activities that are carried out and through the resources that are exchanged. At the same time as the business relationship needs change to evolve it contains stability as it takes time to develop. In this lies the essence of what a business relationship is; complex, stable yet continuously changing.

Research has shown that business relationships are better understood if they are studied in a setting of other business relationships (Anderson et al., 1994; Grabher, 1993; Granovetter, 1992). The relationship between a supplier and a customer and what happens in it may be affected by the activities in the relationship between the same supplier and another of its customers. The existence of such effects between relationships signifies that they are connected to each other (Blankenburg Holm, 1996; Cook and Emerson, 1978). Through the connections between business relationships networks of business relationships are formed (Axelsson and Easton, 1991; Gadde and Mattsson, 1987; Håkansson and Johanson, 1993; Håkansson and

Snehota, 1995). The business network of connected business relationships expands beyond the perception of the single company and has in many respects neither a start nor an ending (Anderson et al., 1994).

### **Business Network Dynamics**

The overall structure of the business network is thus usually described as stable (see Hammarkvist, Håkansson and Mattsson, 1982; Håkansson and Snehota, 1995; Nohria, 1992), i.e. the actors in the network have in many cases been in contact for a long period of time. Changes occur though continuously within the existing business relationship in the network as the parties over time adapt to each other in various ways (Hammarkvist et al., 1982; Håkansson and Snehota, 1995). When studying a business network over time it can be observed, despite that the overall structure appearing stable, that new relationships are initiated while old are terminated (see Gadde and Mattsson, 1987).

The starting-point for many network researchers has also been that changes occur through an incremental and evolutionary process (see Håkansson and Snehota, 1995) while studies on radical and rapid changes in existing network structure to a large extent is missing (Halinen, Salmi and Havila, 1999). Studies on how mergers and acquisition affect the involved companies customers and suppliers (see e.g. Anderson, Havila and Salmi, 2001; Havila and Salmi, 2000; 2002) shows that an acquisition of one company by another or the merger between two (or more) companies can be the critical event that lead to radical changes in business networks. This can, e.g. be when the merging partners have common customer and a decision has to be taken regarding the future counterpart will be. This means in most cases that one of the existing business relationships have to be ended which in turn implies that the merger have caused changes affecting other companies in the business network.

Business networks can also change radically due to the liquidation of one company. As the company is liquidated an actor is obliterated from the network so are its relationships to customers and suppliers which in turn may lead to further changes

involving additional counterparts. Studies on business relationships have hitherto paid most of their attention towards the developing of a relationship while leaving the dissolution more or less aside. In the few existing studies the focus is either on the process of dissolution (e.g. Tähtinen, 2001) or the aftermath, i.e. what happens to the partners when the business relationship is terminated (t ex Havila and Wilkinson, 2002). There is thus still a lack of studies focusing how parties in the network other than the directly involved are affected by the termination of one relationship.

### **IT-suppliers and Business Networks**

The structure of the network with its constituting business relationships thus forms the surrounding for the companies also providing the base for action. It is through its business relationships the single company receives information about events and actions in the wider network structure. Both information critical for the companies' operations in a short time perspective as well as information of less relevance reaches the company through the direct and connected relationships. This implies that information can have passed a number of relationships before it reaches the company. As business relationships contain varying levels of trust (Blau, 1964; Dwyer, Shurr and Oh, 1987) and commitment (Kelly and Thibaut, 1978; Morgan and Hunt, 1994) the amount and character of the information transferred from one business relationships to the next will diverge. This means that the information received by the company is fundamentally subjective (Emerson, 1981; Håkansson and Johanson, 1993). At the same time the information exchange constitutes the company's base for continued collection of information and building of knowledge.

From this it can be concluded that the handling of information, and the nowadays associated information technology, forms an important part of the companies' activities, development and future competitiveness. The introduction and use of new information technology in the company as well as a part of its business relationships give reasons to consider both the extent and the purpose of the changes it brings along. Changes in the company's information handling processes affect several central functions of the ongoing operations, i.e. procurements, sales, pricing or

managerial control. The design and character of these functions are basically the result of the company's need for processing of information and the existing, or in a short time perspective possibly available, capacity to do so (Egelhoff, 1988).

It is in this setting that positions for new companies, delivering technical as well as operational IT-solutions, are created in the existing business networks. Irrespective whether the demand is internally or externally originating is in most cases neither the competence nor the capacity to implement them in the companies and relationships present. The lack of necessary competence and capacity thus create a strong demand for IT-suppliers, and as the IT-solutions are implemented, a dependency between the actors is rapidly growing. The increasing dependency between the IT-supplier and the customer company affects not only the directly involved companies but also the companies' other business relationships (Blankenburg Holm, 1996; Cook and Emerson, 1978). Through these connections with other business relationships not only the customer company is affected when an IT-supplier ceases to exist due to liquidation or mergers but possibly the whole surrounding business network.

### **IT-suppliers**

The recent year's development in the Swedish IT-sector is closely associated with terms like 'bubble', 'boom' and 'crash'. In everyday language as well as in written reports (cf. Finansinspektionen 2001:6; Sandberg & Augustsson 2002) were such descriptions being used which illustrate the generality of the interpretation of recent year's development. Huge expectations and lots of venture capital created many new IT-companies and the IT sector was inflated like a bubble. However, after a few years without profitability these new companies were questioned and the interest declined. The headlines that once augmented the IT-sector were now proclaiming its death and the "puncture of the IT-bubble" is described as the most spectacular change on the financial market in recent years. (Finansinspektionen 2001:6)

Assuming that the Swedish IT-sector really did go through these changes, with a substantial rise and fall, it should be a good opportunity to study radical changes in a market. The idea of the IT-sector as a bubble is largely in accordance with the development of the Swedish stock exchange (see Figure 1), but what really happened with the IT-companies?



Figure 1 The SX General Index (www.stockholmsborsen.se)

Mapping the IT sector is not that easy. To start with, one must decide which IT-companies to include in such a definition. Different reports and statistics on the IT-sector use different definitions of IT and therefore include different sets of companies which results in different figures. Since this investigation is mostly interested in the changes in the IT-sector, the absolute number of companies is of less importance. For that reason, and to make the data collection manageable, the development of the companies in the group "Computer and related activities" in the Swedish Standard Industrial Classification 1992 (SNI 92) was chosen for the study. The classification group covers for example hardware and software consultancy, data processing and databases, but not pure retailers. As an example of alternative definitions, the Swedish Institute for Growth Policy Studies (ITPS) which is a Government Agency responsible for statistics in Information and communication technology can be mentioned. In their compilation of numbers on the IT-sector, they include manufacturing companies, wholesalers and IT consultants (www.itps.se 2003-04-15). This naturally makes the IT-sector large, but also very vague.

What is interesting with IT-companies is that they are providing a resource that often is very complex in technology and knowledge (Heckman 1999). The resource that is exchanged could be a product, a service, or a combination, but is in all cases characterized by some kind of IT. The complexity and rapid development of IT could make it difficult for the users to internalize and maintain the required competence. This in combination with the important position an IT-system gets in an organization makes it probable that the IT provider is in a powerful position towards the customers.

### Development of the IT-sector

By processing data from Statistics Sweden (SCB), the number of companies belonging to the group “Computer and related activities”, as explained above, could be covered for almost a decade. Figure 2 shows a substantial increase in both the number of companies and employees. While the employees have increased by 167% between 1994 and 2002, the number of companies has increased by 180%. The expected decrease in the beginning of the 21st century has thus not occurred but instead the IT-sector is getting larger and larger. The only sign of a saturation is a 0,2% decrease in the number of employees in these IT-companies that occurred between 2001-2002. It certainly is a small change, but neither the less could it be an important break in the trend.

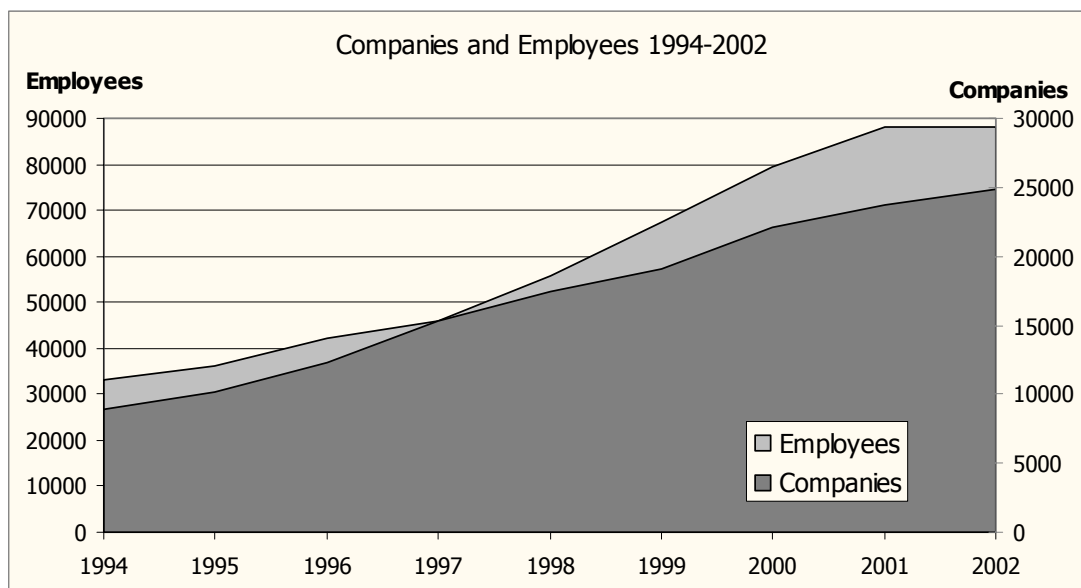


Figure 2 The number of IT-companies and their employees during 1994-2002

The net development of the IT-sector is according to Figure 2 not in line with the expectations. The assumed sharp decrease during the last years has not occurred. However, as Figure 3 shows, the number of bankruptcies among the IT-companies fulfills the expectations. Up until 1999 there is actually a steady decrease in the number of bankruptcies, but from the dip in 1999 a large increase is seen. About 160% more companies and employees were subjected to a bankruptcy in 2002 in comparison with 1999 when the 'bubble' had not yet burst. An interesting notice is that also some larger companies (>50 employees) went bankrupt in 2000-2002. Also in this figure a break in the trend could be spotted since the increase from 2001 to 2002 was not as large as from 2000 to 2001.

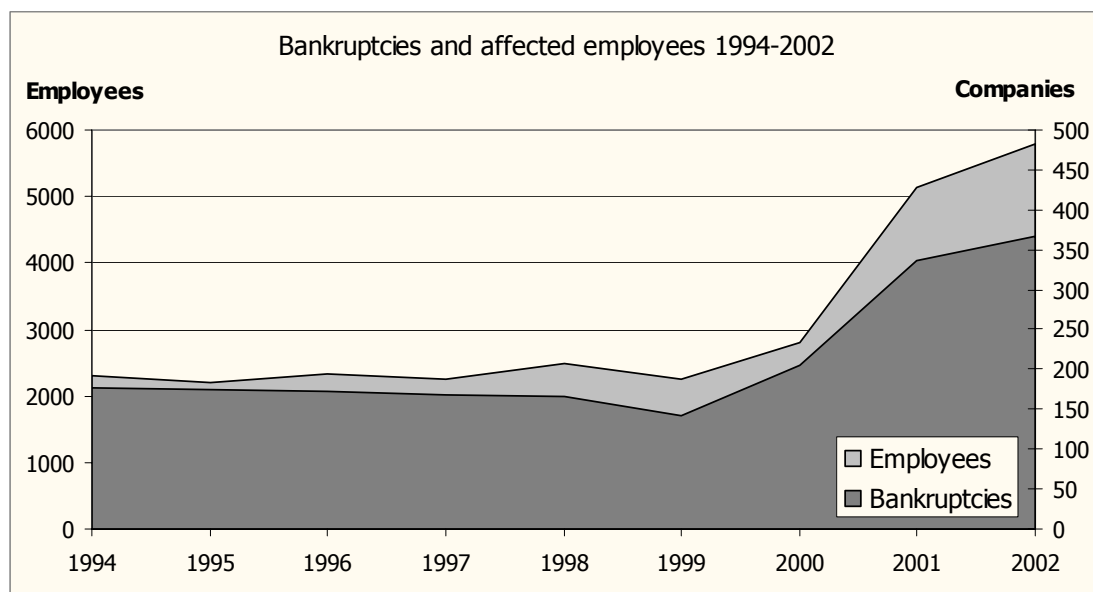


Figure 3 The number of bankruptcies and affected employees during 1994-2002

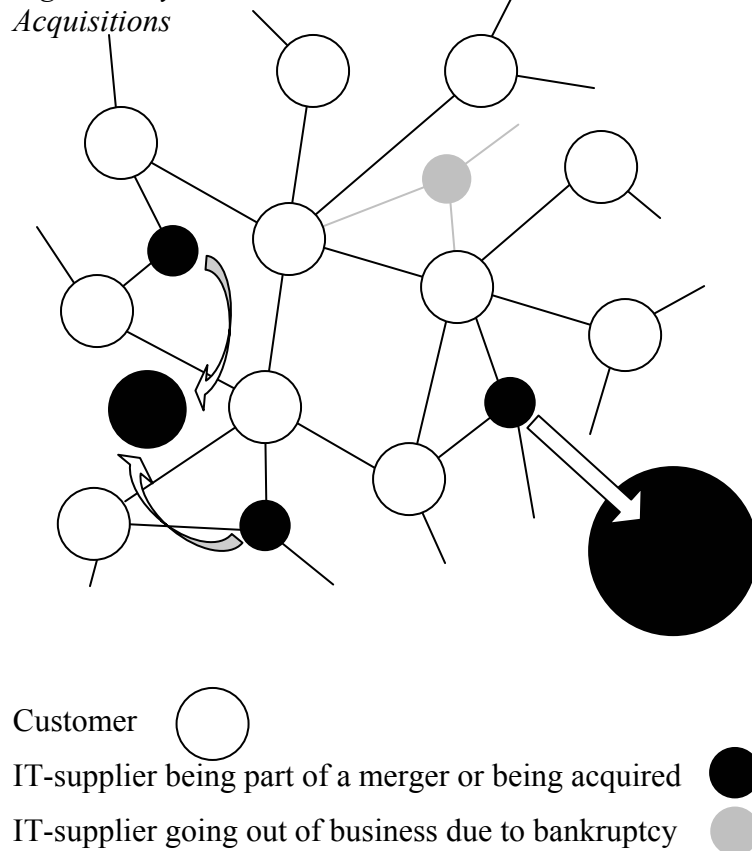
To summarize the development of the IT-sector, it can be said to be not quite as expected. However, the trend does in fact seem to be in accordance with for example the development in the US (U.S. Department of Commerce 2002). The number of companies has increased through the entire period of time but the bankruptcies have increased dramatically the last few years. It can thus be assumed that many new actors have entered business networks, but also that many relationships have been dissolved due to bankruptcy of the IT-company.

### **Studying Dissolution in Business Networks**

As mentioned above, the main attention of research on dissolution has been on the process of one business relationship's ending (see e.g. Tähtinen, 2001; Tähtinen and Halinen, 2002; Halinen and Tähtinen, 2002). These processes have often been defined as a number of stages forming in the counterparts' way towards dissolution of their relationship. There though very few studies incorporating the effects of the dissolution of two companies' business relationship on the surrounding business network, i.e. the companies' other customers, suppliers or other counterparts. These effects of the dissolution of a business relationship are most likely to vary depending on whether the dissolution process is considered to be a process of incremental or radical changes (cf. Halinen, Salmi and Havila, 1999). In the case of dissolution though incremental changes it can be assumed that the effects on the surrounding network can be quite hard to trace. Although, an in-depth case study can possible give some insights on some likely accompanying changes and adaptations in the connected business relationships. The problem is though that incrementally induced changes in the connected relationships of course also can be a part of the always ongoing change every business relationship experience through the events and activities carried out in the counterparts' interaction. In order to further understand and comprehend how and in what way dissolution of business relationships affect the connected relationships a more fruitful venue might therefore be to study situations of radical change, i.e. dissolution processes where the changes are rapid and the consequences considered being more severe and drastic.

In this project the starting point is therefore, as outlined above, the radical changes associated by dissolving relationships between IT-companies supplying IT-related services and products and their customers. Radical changes linked to dissolving relationships between IT-suppliers and customers is be assumed to be found in at least three situations; (1) the bankruptcy of an IT-supplier; (2) the acquisition of an IT-supplier by another party and; (3) the merger between two IT-suppliers (see Figure 4).

*Figur 4. Dynamics in IT-related Business Networks related to Bankruptcies, Mergers or Acquisitions*



In all three situations it can be assumed that one or more of the IT-suppliers' customers have to cope with radical changes and that these changes have an effect on the customers' customers, other suppliers or other counterparts. These changes affecting the network of connected relationships can, e.g., be in the form of IT-solutions needed to be procured from some other IT-supplier, IT-services or support having to be found elsewhere or in cases where an alternative IT-supplier can not be identified, more profound changes in the ongoing operations. Dissolution in business networks is thus in this project viewed upon as a process causing change and creating dynamics in a network due to the dissolution of a focal business relationship. It is also believed that dissolution in business networks is the result of some radical change in the state of a relationship rather than incremental changes in an ongoing business relationship.

The starting-point of this study is therefore a business relationship between an IT-supplier and a customer. As described above, this relationship is assumed to be involved in a dissolution process. This process is initiated by the awaiting or finalized liquidation of an IT-supplier, the acquiring of one IT-supplier by another party, or the ongoing or concluded merger between two IT-suppliers. The next stage of the project is therefore to further study the expansion of IT-companies in Sweden during the period from 1995 to today to form richer pictures of the bankruptcies, mergers and acquisitions. Here, the structure and character of the IT-companies' business networks will be investigated. This first study will also provide the ground for selecting relevant cases which can provide further valuable information and insights on how dissolution in business networks happen.

Studying dissolution in business networks also calls for a conceptualization of the causes, effects and results of the dissolution of a focal relationship. This conceptualization has to be well founded in the basic reasoning behind business relationships and business networks as well as in empirical evidence. The project will therefore also aim at developing a conceptual model of dissolution in business networks based on the findings in the case-studies. To assist in this conceptualization one part of the project will collect and analyze available case-material related to dissolution in order to learn from others' contribution to the research field.

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