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Diving into “merger waves”– An analysis of inter-firm linkages in acquisitions

by

Peter Dahlin¹

Jönköping International
Business School
Sweden

Aino Halinen

Turku School of Economics
Department of Marketing
Finland

Virpi Havila

Uppsala University
Department of Business Studies
Sweden

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Abstract

This paper takes its starting point in the literature dealing with “merger waves”. A merger wave basically denotes a period of time when an abnormal amount of mergers and acquisitions takes place. Such merger waves are usually described as occurring in cyclical patterns, and a number of them have been described over the last centuries. Merger waves are mostly studied as a macro level phenomenon, as an aggregate of mergers and acquisitions occurring over time within an industry or in the general business environment.

A merger or an acquisition inevitably changes the type of linkages between the involved companies since two companies are consolidated to one or get the same owner. Furthermore, earlier studies show that a merger or an acquisition may change the involved companies’ relationships to customers and suppliers, as well as to competitors and partners. However, what is lacking in the literature is a deeper understanding of how merger waves emerge (and evolve) through structural linkages between firms. Mergers and acquisitions are strategic decisions made at the micro-level, i.e. in companies, that potentially accumulate into merger waves and thereby become manifested at the macro-level. It is interesting to ask what happens in between these levels, in networks of inter-firm relationships, which ultimately mediate the emergence of merger waves. Therefore, in this paper we will examine acquiring companies’ inter-firm linkages in order to shed light on the meso-level of merger waves.

¹ Corresponding author: Peter Dahlin, Jönköping International Business School, Department of Entrepreneurship, Marketing & Management, PO Box 1026, SE-551 11 Jönköping, Sweden. Email: peter.dahlin@jibs.hj.se

A number of questions drive our analysis. Who gets involved in acquisitions besides the acquirer and the target? Is the merger wave just a result of the strategic actions of a few active acquirers, so called “sharks”, or are the waves truly an industry-wide phenomenon? And to whom do merger waves matter? Do they involve only a few active companies or should every firm in the business be concerned? Is it possible to connect several acquisitions through inter-firm linkages over time, and in this way describe the emergence of a merger wave? In these analyses, different perspectives come to use, and ultimately the question should be asked whether it is at all relevant to talk about merger waves.

The empirical material consists of data on 723 acquisitions that were made between 1994 and 2003 in Sweden. The acquiring companies are either IT-companies or companies acquiring IT-companies. Thus, the setting represents a turbulent era, which often is referred to as the “IT-boom”, “IT-crash” or “IT-bubble” with many start-ups, but also with many mergers and acquisitions. By analysing acquisitions, it is possible to identify active and less active acquirers over the time period. Also, by studying inter-firm linkages, not only to the target, but also some customers of the acquirer and the target, we are able to “decompose” the merger wave and show that strategic actions, such as acquisitions, may have wider consequences to the business through the inter-firm linkages forming business networks.

1 Introduction

Mergers and acquisitions occur daily all over the world and in all types of industries. As a consequence, they have received a substantial interest in business research as well as in business press. Research goes back at least to include mergers and acquisitions during the latter half of the nineteenth century in both America (e.g. Conant, 1901; Nelson, 1959) and Sweden (e.g. Ljunggren, 1912). The fact that mergers and acquisitions have attracted the attention of scholars for more than one hundred years has resulted in an extensive body of literature and studies performed in different ways and with different focuses. However, Bower (2001) is of the opinion that “we know surprisingly little about mergers and acquisition, despite the buckets of ink spilled on the topic” (p.93). Also, Andrade et al. (2001, p. 1004) express a need for more and different type of research: “We hope that over the next decade merger research will move beyond the basic issue of measuring and assigning gains and losses to tackle the more fundamental question of how mergers actually create or destroy value.”

Over time, a number of periods with an abnormal amount of mergers have been identified and studied. These periods are referred to as ‘merger waves’ (Kusewitt, 1985; Mattsson, 2000; Town, 1992; Walsh & Ellwood, 1991), or ‘merger movements’ (Du Boff & Herman, 1989; Hanweck & Shull, 1999; Nelson, 1959; Smythe, 2001; Weston, 1952). Such studies are based on an aggregated view of mergers, where the co-occurrence of mergers is in focus. In some definitions, these merger waves are related and delimited to a certain industry, thereby describing, for example, a ‘bank merger wave’ (e.g., Broadus, 1998; Hanweck & Shull, 1999). Based on the identification of a merger wave, research focuses on environmental aspects, for example, political or financial trends, or the situation for an individual company in such a changing setting.

On a less aggregated level, a focus has been on intra-organizational issues, confined to one or both of the merging organizations, including motives, target selection, due diligence, and many different aspects of the actual integration (e.g., Appelbaum, Gandell, Shapiro et al., 2000; Appelbaum, Gandell, Yortis et al., 2000; Trautwein, 1990). In comparison, inter-organizational issues, where market actors are included in the reasoning, have received little attention. Some studies have, however, described how customers and suppliers can be affected by a merger (e.g. Anderson, Havila & Salmi, 2001; Havila & Salmi, 2000; 2002; Holtström, 2009; Öberg, 2008).

What is lacking in research on corporate mergers is the link between the micro level (individual companies’ merger behaviour) and the macro level (aggregated frequency trends). How companies are actually affected by ‘merger waves’ is a question that has not yet been fully answered. Therefore, in this paper we elaborate on inter-firm linkages between companies that are directly and indirectly involved in acquisitions. We believe that this can increase our understanding of different types of effects of mergers and acquisitions.

The structure of the paper is as follows. First, we give a brief overview of the literature dealing with ‘merger waves’ and mergers and acquisitions in general. Next, we focus on the business network approach. Thereafter, we discuss the method and our findings. We end our paper with concluding remarks.

2 Merger Waves vs. Merging Companies

‘Merger waves’ address the occurrence of mergers and acquisitions as an aggregate and, more specifically, they denote periods in time when an abnormal amount of mergers and acquisitions occur. It thus suggests that mergers make up a consistent phenomenon; consistent in both time and space. This supposed consistency can be viewed from an aggregated point of view, focusing on causes and characteristics of the wave, here described as a ‘macro level’ view. It can also be approached from an individual merger or company perspective, focusing on the managerial implications from being ‘in’ a merger wave, here described as a ‘micro level’ view.

Starting in the macro level, Rydén (1971) describes a powerful wave of mergers in the USA and Great Britain around the late 1880s, and also mentions a merger wave in the USA around 1900. Further, according to him one could observe one wave during late 1920s and another that was ‘still going on’ at the time of his study, i.e., in 1971. Larsson (1990) continues the ordering, and claims that the fifth major merger movement took place in the 1980s, whereas others claim the fifth wave occurred in the 1990s and continued into the twenty-first century (e.g., Berggren, 2003; Bower, 2001; Weston & Weaver, 2001). The existence of ‘merger waves’ is, however, not undisputed, which has led to some debate (e.g., Halbherr & Gärtner, 2006; Linn & Zhu, 1997). Andrade et al. (2001, p. 1004) argue that “the two most consistent empirical features of merger activity over the last century: 1) mergers occur in waves; and 2) within a wave, mergers strongly cluster by industry.”

Concerning explanation for the wave-formed occurrence of mergers, some studies indicate a connection to, for example, economic, regulatory and technological shocks (Harford, 2005) or a rise in the stock market (Rydén, 1971). Such explanations thus suggest a contextual cause of the merger waves, based on some kind of change in other environmental conditions at a macro level.

If an explanation instead is searched for in ‘micro level’ merger motives, i.e., firm-based reasons and actions, one can, for example, imagine a bandwagon effect based on occurring market opportunities or simply strategic imitation (Auster & Sirower, 2002). In their studies of connections between individual mergers and acquisitions, Öberg and Holtström (2006) describe ‘parallel M&As’, which are “mergers and acquisitions as a response to M&As among customers and/or supplier companies” (p.1268). This illustrates how mergers can be triggered by previous mergers (Haunschild, 1993), thereby causing a chain effect or “streams of acquisitions” (Kusewitt, 1985; Larsson, 1990).

Mergers and acquisitions are often seen as strategic actions, and as such, it is quite likely that some companies are more frequent in being involved in mergers and acquisitions than others. A high acquisition propensity of a limited number of companies should, however, not necessarily be considered an industry wide merger wave. Strictly focusing on the number of mergers will give a very narrow picture of the industry dynamics. Of more relevance is to consider the effects of the mergers, and base the assessment of the dynamics thereon. To consider effects on companies other than the two directly merging, an approach that emphasizes inter-firm linkages in business-to-business markets can be applied to mergers and merger waves. Such an approach is described next.

3 Business Networks – Evolving Structures of Inter-firm Linkages

Research has shown that business-to-business markets can be seen as business networks, which are structures of inter-connected business relationships (Johanson, 1989). A business relationship is a mutual, multi-faceted interaction between two companies, for example, a customer and a supplier (Håkansson, 1982). A company is likely to be involved in this type of relationship to a number of actors (Håkansson & Snehota, 1989) as most companies have more than one customer or supplier. Through adaptations and dependences within these inter-firm linkages, they come to affect each other. This connectedness is the basis for describing structures of business relationships as a business network. The business network context of a firm is a result of past business activities, and is also the point of departure for its future development. The business network in that sense offer the opportunities for the actors to act on, and managing in business networks can therefore be seen as a question of not only acting on opportunities, but also of developing opportunities (Ghauri et al., 2005).

One way of acting for a company is to acquire another company. This, in turn, can be the critical event that gives rise to various changes in the merging companies' business relationships, i.e., triggers network change (Halinen et al., 1999; Hedaa and Törnroos, 2008; Madhavan et al., 1998). For example, a merger may affect the customers of the merging companies, which, in turn, means that also customers get indirectly involved in the merger, and in some cases need to react upon it (e.g. Havila & Salmi, 2000). Thus, as a result of acquisitions, the business network may change in different ways.

Håkansson and Snehota (1995, p. 276–277) discuss “restructuring” or “structuring” of a network and Madhavan et al. (1998, p. 440) “structure-reinforcing” or “structure-loosening” patterns of change. Gadde and Håkansson (1992), in turn, make a distinction between changes that have a stabilizing effect and those which lead to a new network structure. The effects of events could be regarded accordingly as stabilizing or unstabilizing. Another common way to dichotomize changes is to divide them into either incremental or radical, where incremental change can be described as adjustments within the ongoing structure and radical change as a break or emergence of it (Halinen et al. 1999; Kamp 2005).

What then if we combine the two ways of looking at mergers? One which focuses on the aggregated number of mergers and acquisitions during a time period, and another that focuses on the effects of each acquisition and merger on other companies. How do merger waves affect companies and which companies? And ultimately: are acquisitions in a merger wave actually connected through inter-firm linkages?

4 A Study of Acquisitions involving Swedish IT-companies

This study is based on acquisitions made during a 10 year period, 1994-2003, in the Swedish IT-industry. Data on around 3200 companies, 830 mergers and acquisitions, and around 3300 inter-firm linkages have been built up through an extensive data collection. Information from published news items was coded and systematized to form a representation of the dynamic

situation where mergers and acquisitions are seen in the context of other mergers and acquisitions, as well as connected companies over time.

Data collection is something of a challenge for studies of mergers and acquisitions. The absence of public records of this type of deal has led to various ways of identifying acquisitions. Several studies have used mass media to identify acquisitions, and this has shown to be a relatively manageable and effective way of mapping the acquisitions (Dahlin, 2007; Rydén, 1971). In this study, data on the acquisitions and the involved companies was collected and coded from news items between 1994 and 2003 in three Swedish newspapers: Computer Sweden, Svenska Dagbladet and Upsala Nya Tidning. These represent, in order, an IT-industry focused paper, a national newspaper and a regional newspaper.

To be included in the study, the acquisition must involve (at least) one Swedish IT-company. The IT-industry in Sweden, as in many other countries, experienced quite dramatic changes during this period. Many IT-companies were founded, but many also went bankrupt, and parallel to these changes were also quite a few mergers and acquisitions. Thus, the setting of the study is centered on IT-companies in Sweden during the turbulent era, which is often referred to as the “IT boom”, “IT crash” or “IT bubble”.

The data collection had a slightly wider scope than what is reported in this paper. Besides acquisitions, also bankruptcies were included, which means that the entire data set will not be used in the following analysis.

A total of 125 546 published articles in 1994-2003 were reduced to 3 625 through computerized searches, which identified those articles containing information about IT-companies and acquisitions/mergers or bankruptcies. The searches were followed by manual read through and assessment of the content of each of the 3 625 news items where the relevancy of the items for the study was verified. Thereafter the data was structured by using a custom-designed coding scheme and computer software. From the news items, data regarding acquisitions, the involved companies and their relations were recorded. Thus, the database includes information on the companies’ customers, suppliers, and ownership and partnership relations to the extent such information was found.

In this paper we focus on acquiring and acquired companies and their customers. Thus, only part of the collected data is used. The obtained database contains information about 723 acquisitions. In addition, over 3100 companies and 3400 relations are included, allowing the acquisitions and acquiring companies to be studied in a context of other, related, companies. The longitudinal aspect is included in the data through the dating of the news items. The database extends over national borders through the different types of involved foreign companies, and includes also companies in various lines of businesses.

The obtained data set is limited to the information given by media in the included news items. This means that it includes only those companies and relations that are mentioned in the news items. It can be assumed that the journalists that wrote the articles used the press releases of the acquirer and acquired as a basis and tended to write about the most “important” acquisitions that took place as well as the most “important” companies and relations involved in acquisitions.

5 Results

There are totally 723 acquisitions that were reported in news articles during 1994-2003. As the Table 1 shows, there was a peak of reported acquisitions during 1999-2002.

Table 1. Number of acquisitions during 1994-2003

	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>
No. of acquisitions per year	19	15	53	62	76	100	128	117	107	46

Of these 723 acquisitions, the acquiring company (the acquirer) is known regarding 707 acquisitions. It should also be noted that in some acquisitions, there are more than one acquirer, for example deals where two companies buy equal shares.

5.1 The Acquirers

There are totally 373 different acquirers, i.e. companies that took over another company, during 1994-2003. In Table 2, we look more closely at the acquirers' acquisition frequency: for each year, how many companies that acted as acquirers one time that year, two times, three times and four times during that very year.

During the first three years, 1994-1996, less than 50% of the acquisitions were made by 'single acquirers', i.e. companies that only made one acquisition that year. However, the numbers of known acquisitions during these early years are relatively low compared to the following years, so this might be related to the data source. During the following years (1997-2003) it is more than 50% of the acquirers who belong to the category 'single acquirer'. Thus, what the table illustrates is that it is common that a company acquires only once per year.

Table 2. The yearly frequency of acquisitions for each company during 1994-2003. (Percentages show the share of acquisitions made by single acquirers that year.)

Year	Number of acquirers per number of acquisitions made the specified year			
	1	2	3	4+
1994	8 (42%)	1	1	1
1995	5 (33%)	2	3	0
1996	25 (46%)	3	2	3
1997	45 (73%)	4	3	0
1998	45 (60%)	4	3	3
1999	60 (60%)	7	3	4
2000	76 (59%)	10	4	4
2001	62 (53%)	8	2	6
2002	59 (55%)	4	1	4
2003	31 (69%)	7	0	0

Next, we focus on both 1) the total number of acquisitions made during 1994-2003, and 2) the number of years when each company has been doing acquisitions. In this way we look for the most frequent acquirers.

5.2 The Frequent Acquirers and their Targets

The distribution of the 373 acquirers is shown in the Table 3. There are totally 268 companies that acquired only once during the whole studied time period, whereas totally 105 companies acquired at least twice per year during the time period (see the three rightmost columns in Table 3).

Table 3. Number of companies per total number of acquisitions and the number of years with made acquisitions

		Total number of acquisitions made during 1994-2003			
		1	2	3	4+
Years with acquisitions	1	268	13	5	3
	2	-	31	9	14
	3	-	-	4	12
	4+	-	-	-	14

There are totally 14 companies that can be seen as frequent acquirers as they acquired at least four times per year and during at least four of the years studied. These are the following companies:

- Atle IT (7 acquisitions during 4 years)
- Bure (14 acquisitions during 5 years)
- Bure IT/Infomedia (5 acquisitions during 4 years)
- Frontec (5 acquisitions during 5 years)
- IBM (5 acquisitions during 4 years)
- Martinsson (13 acquisitions during 4 years)
- Merkantildata (7 acquisitions during 5 years)
- Proact (6 acquisitions during 5 years)
- Sigma (23 acquisitions during 6 years)
- Softronic (4 acquisitions during 4 years)
- System (7 acquisitions during 5 years)
- Tietoenator (30 acquisitions during 5 years)
- TurnIT (6 acquisitions during 4 years)
- WM-data (21 acquisitions during 8 years)

Together, these frequent acquirers made no less than 154 acquisitions during the studied years. These acquisitions involve 147 different companies, which means that some companies actually were acquired more than one time during these ten years. For example, the distributor Nordic Datadistribution was acquired by Atle IT in 1997, and then by Martinsson in 1998. The three most frequent acquirers are the company Sigma that made totally 23 acquisitions during six of the studied years, the company Tietoenator that acquired 30 companies during five years, and the company WM-data that acquired totally 21 companies during 8 of the studied years. As a contrast, it can be mentioned that among the 14 frequent acquirers, there is one company (Softronic) that only did one acquisition per year at most.

In the next table (Table 4) we present the frequent acquirers' type of business and locations of home-base. As shown in the table, all but two are Swedish companies. IBM and Merkantildata were represented through subsidiaries in Sweden, but the global giant IBM is originally from the USA and Merkantildata is from Norway. Six out of the frequent acquirers are, by us, categorized as being focused on IT-software & services. Five companies, all relatively large companies, are widely labelled "IT-various", indicating that these companies are best described as conglomerates.

Table 4. The 14 most frequent acquirers, their type of business and location of home-base

		Company home-base	
		Swedish	Non-Swedish
Type of business	IT-software & service	Frontec Proact Sigma Softronic Systeam Tietoenator	
	IT-various	Martinsson TurnIT WM-data	IBM Merkantildata
	IT-investments	Atle IT Bure IT/Infomedia	
	Non-IT	Bure	

Finally, the list includes three investment companies; two with a specific profile towards investments in IT-companies, and one being a more general investment company. The reason for including both Bure and its subsidiary BureIT/Infomedia is that we have tried to be as close to our sources as possible, and sometimes the acquiring company is referred to as Bure, and sometimes as BureIT/Infomedia. We have therefore kept the two companies separated. It is, of course, not surprising that investment companies show up on this list, as their business is based on acquiring minor or major parts of other companies. However, and especially in the cases of IT-focused investment companies, they can have a greater role than merely being owners. Being “one of BureIT’s companies” can affect both the business, reputation as well as the relationships of a company.

5.3 Customers to Frequent Acquirers and their Targets

In this section we will concentrate on the frequent acquirers, their targets and the customers to these companies that are mentioned in the news articles. The acquirers and the acquired companies will be shown in a series of figures (5.1 – 5.10), each illustrating one of the studied years. In all the pictures, the **acquiring** companies are positioned in the top of the figure, and their labels also include information about the number of acquisitions that were made by the company during that particular year. The **acquired** companies are positioned in the bottom of the pictures, aligned approximately straight below the acquiring company. The **customers** to these two companies are shown by an arrow that goes between the two companies that have the buyer-seller relationship. Here it should be noted that we are not studying the specific buyer-seller relationships, instead our focus is on the overall pattern of acquisitions and inter-firm linkages based on the information from the news articles.

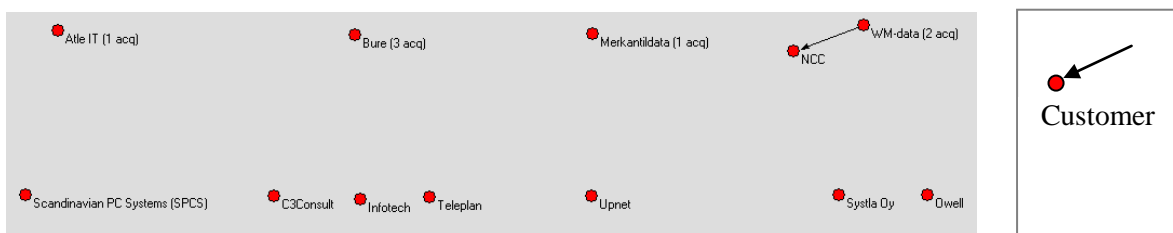
The first year we studied was **1994** (Figure 5.1). Of the total of 19 acquisitions this year, the frequent acquirers made three: Atle IT bought Frontec and Martinsson and Merkantildata bought Teamco Närdata. No customers were mentioned in the news articles.

Figure 5.1 Acquiring and acquired companies in 1994



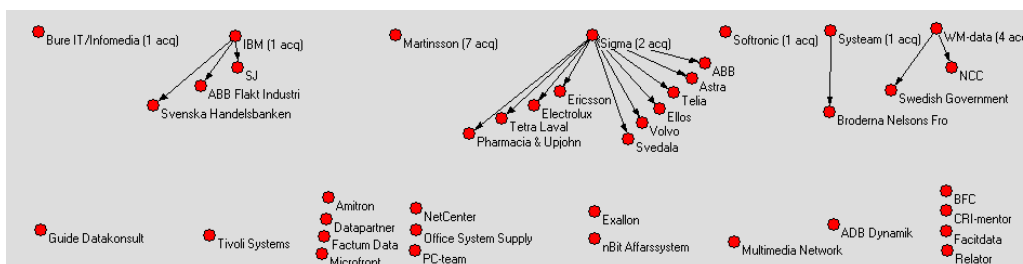
In **1995**, there were totally 15 acquisitions (Figure 5.2). Also this year the frequent acquirers were active: Atle IT bought Scandinavian PC Systems (SPCS), Bure bought C3Consult, Infotech and Teleplan, Merkantildata bought Upnet, and WM-data bought Systla Oy and Owell. Thus, the frequent acquirers made seven of the 15 acquisitions during that year. One customer to WM-data (acquiring company), NCC, was mentioned in the news articles that year.

Figure 5.2 Acquiring, acquired and customer companies in 1995



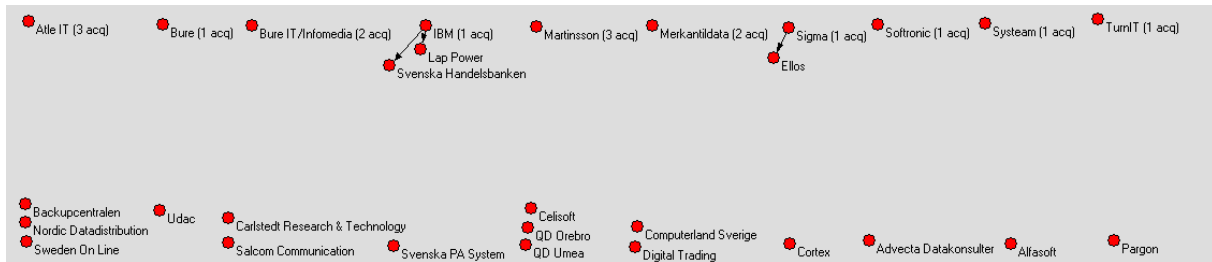
In **1996** the frequent acquirers made 17 of the total of 53 acquisitions (Figure 5.3): Bure IT/Infomedia bought Guide Datakonsult, IBM bought Tivoli Systems, Martinsson bought Amitron, Datapartner, Factum Data, Microfront, NetCenter, Office System Supply, PC-team, Sigma bought Exallon and aBit Affärssystem, Softronic bought Multimedia Network, System bought ADB Dynamik, and finally WM-data bought BFC, CRI-mentor, Facitdata and Relator. This year 16 customers to four of the acquiring companies were mentioned in the news articles. The customers that were mentioned are: IBM's customers Svenska Handelsbanken, ABB Fläkt Industri and SJ; Sigma's customers Pharmacia & Upjohn, Tetra Laval, Electrolux, Ericsson, Svedala, Volvo, Ellos, Telia, Astra and ABB; System's customer Bröderna Nelsons Frö; and WM-data's customers Swedish Government and NCC.

Figure 5.3 Acquiring, acquired and customer companies in 1996



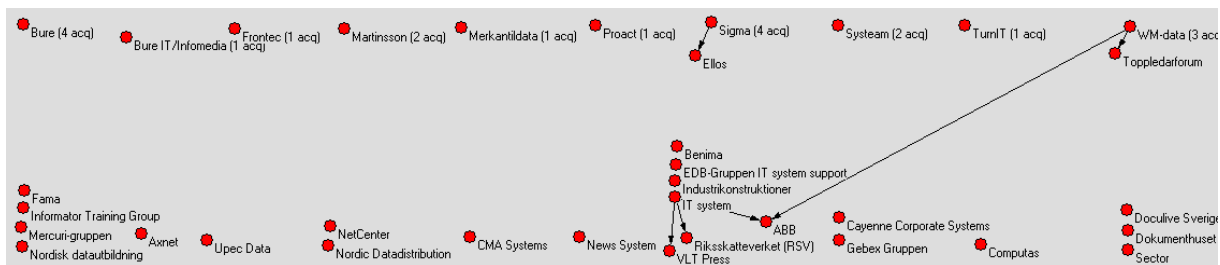
In **1997**, ten of the most frequent acquirers were active (Figure 5.4). They made 16 of the 62 acquisitions that year as described in the Figure. Two customers, Svenska Handelsbanken and Lap Power, were mentioned as customers to the acquiring company IBM, and one customer, Ellos, was mentioned as customer to the acquiring company Sigma.

Figure 5.4 Acquiring, acquired and customer companies in 1997



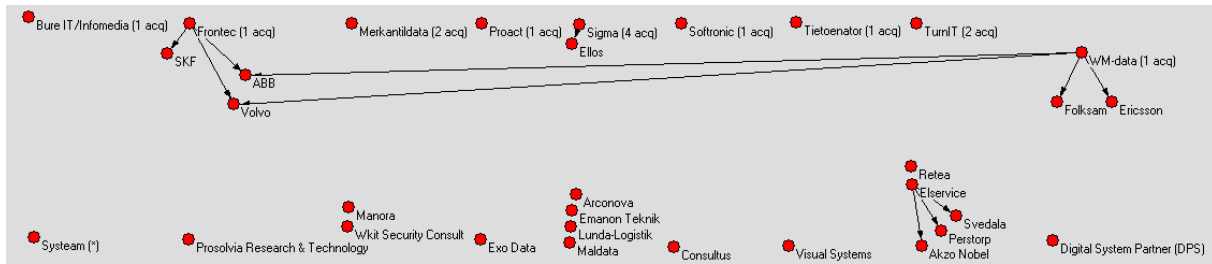
Also during **1998**, ten of the 14 frequent acquirers were active (Figure 5.5). They made 19 of the 76 identified acquisitions that year. The acquiring and the target companies are described in the Figure. Three customers to the acquiring companies were mentioned in the news articles are: Ellos (customer to Sigma) and ABB and Toppledarforum (customers to WM-data). Also three customers to the targets were mentioned: VLT Press, Riksskatteverket (RSV) and ABB that were customers to IT System. Interesting to note here is that ABB is customer to both IT system and WM-data that year.

Figure 5.5 Acquiring, acquired and customer companies in 1998



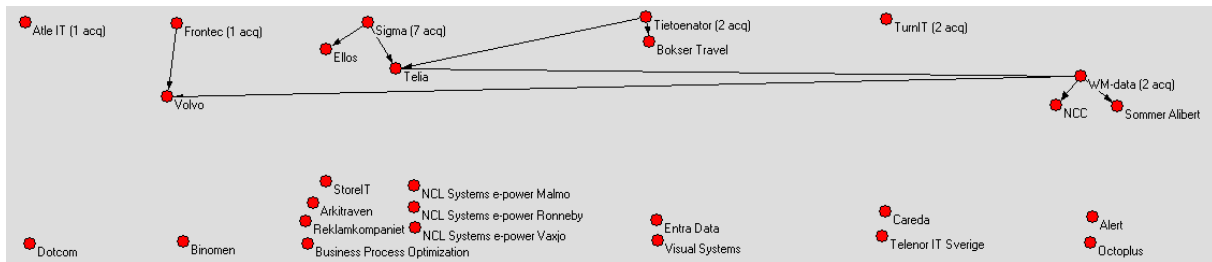
In **1999**, there were 100 acquisitions in total, and 14 of these were made by eight of the frequent acquirers (Figure 5.6): Bure IT/Infomedia bought System (i.e. one of the frequent acquirers); Frontec bought Prosolv Research & Technology; Merkantil bought Manora and Wkit Security Consult; Proact bought Exo Data; Sigma bought Arconova, Emanon Teknik, Lunda-Logistik and Måldata; Softronic bought Consultus; Tietoenator bought Visual Systems; TurnIT bought Retea and Elservice; and WM-data bought Digital System Partner. Totally seven of the acquiring companies' customers were mentioned in the news articles, these are SKF, Volvo and ABB that are customers to Frontec, and Volvo, ABB, Folksam and Ericsson that are customers to WM-data. Thus, Volvo and ABB have both Frontec and WM-data as supplier this year. The news articles also mention three customers to one of the target companies: Akzo Nobel, Perstorp and Svedala that are customers to Elservice.

Figure 5.6 Acquiring, acquired and customer companies in 1999



In **2000**, five of the frequent acquirers were active (Figure 5.7). Of the 128 acquisitions that took place that year, the frequent acquirers made 15. Nine customers to four of the acquiring companies were mentioned in the articles: Frontec's customer Volvo; Sigma's customers Ellos and Telia; Tietoenator's customers Telia and Bokser Travel; and WM-data's customers Telia, Volvo, NCC and Sommer Alibert. No customers to the targets were mentioned.

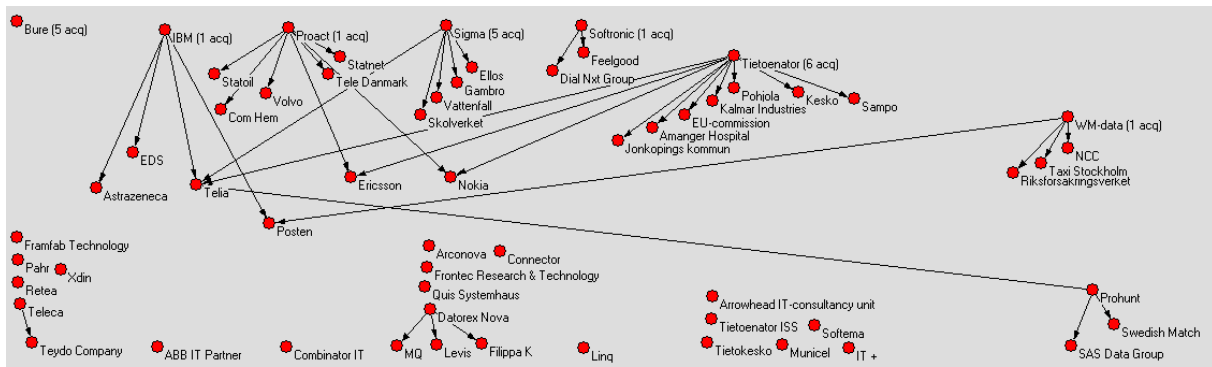
Figure 5.7 Acquiring, acquired and customer companies in 2000



In **2001**, seven of the frequent acquirers bought 20 of the total of 117 acquired companies (Figure 5.8). As many as 31 customers to the acquiring companies were mentioned in the news articles: IBM's customers Astrazeneca, EDS, Telia and Posten; Proact's customers Statoil, Com Hem, Volvo, Ericsson, Tele Danmark, Nokia and Statnet; Sigma's customers Telia, Skolverket, Vattenfall, Gambro and Ellos; Softronic's customers Dial Nxt Group and Feelgood; Tietoenator's customers Telia, Ericsson, Nokia, Jönköpings kommun, Amanger Hospital, EU-commision, Kalmar Industries, Pohjola, Kesko and Sampo; and WM-data's customers Riksförsäkringsverket, Taxi Stockholm and NCC. Also, seven of the targets' customers were mentioned: Teydo Company (Teleca's customer), MQ, Levis and Filippa K (Datorex Nova's customers), SAS Data Group and Swedish Match (Prohunt's customers).

In 2001, of the customers to the acquiring companies Telia has four different suppliers (IBM, Sigma, Tietoenator, and Prohunt), Posten has two suppliers (IBM and WM-data), Ericsson has two suppliers (Proact and Tietoenator), and Nokia has two suppliers (Proact and Tietoenator). As Figure 5.8 show, the company that WM-data bought, Prohunt, was that year supplier to Telia, according to the news articles.

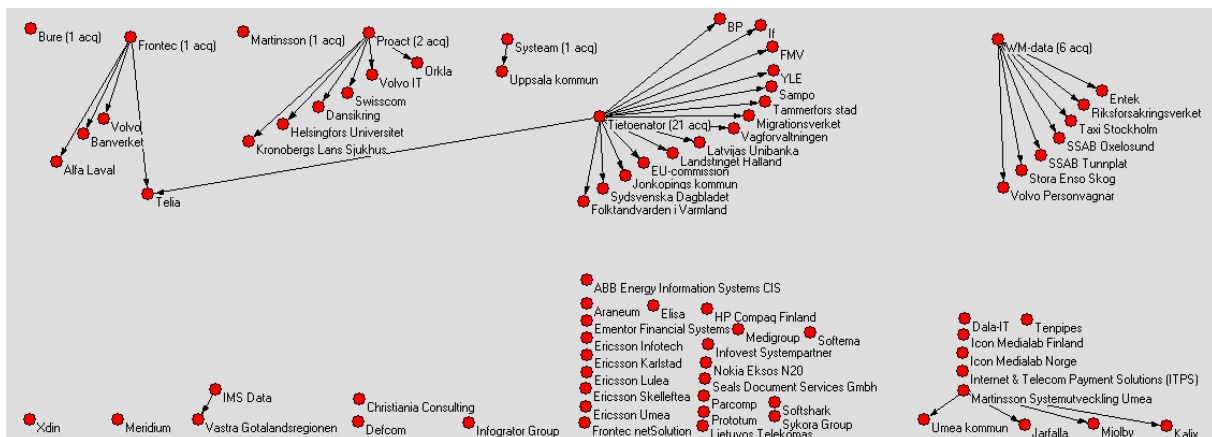
Figure 5.8 Acquiring, acquired and customer companies in 2001



In **2002** seven of the frequent acquirers bought 33 companies of the total of 107 acquired companies that year (Figure 5.9). In 2002, also 33 customers to the acquiring companies were mentioned in the news articles: Alfa Laval, Banverket, Volvo and Telia (Frontec's customers); Kronobergs Läns Sjukhus, Helsingfors Universitet, Dansikring, Swisscom, Volvo IT and Orkla (Proact's customers); Uppsala kommun (System's customer); Telia, Folktandvården, Sydsvenska Dagbladet, Jönköpings kommun, EU-commission, Landstinget Halland, Latvijas Unibanka, Vägförvaltningen, Migrationsverket, Tammerfors stad, Sampo, YLE, FMV, If and BP (Tietoenator's customers); Volvo Personvagnar, Stora Enso Skog, SSAB Tunnpå, SSAB Oxelösund, Taxi Stockholm, Riksförsäkringsverket and Entek (WM-data's customers). Also, four customers of the target company Martinsson Systemutveckling Umeå and one customer of IMS Data were mentioned.

This year one of the customers, Telia, had two suppliers among the frequent acquirers (Frontec and Tietoenator), according to the news articles.

Figure 5.9 Acquiring, acquired and customer companies in 2002

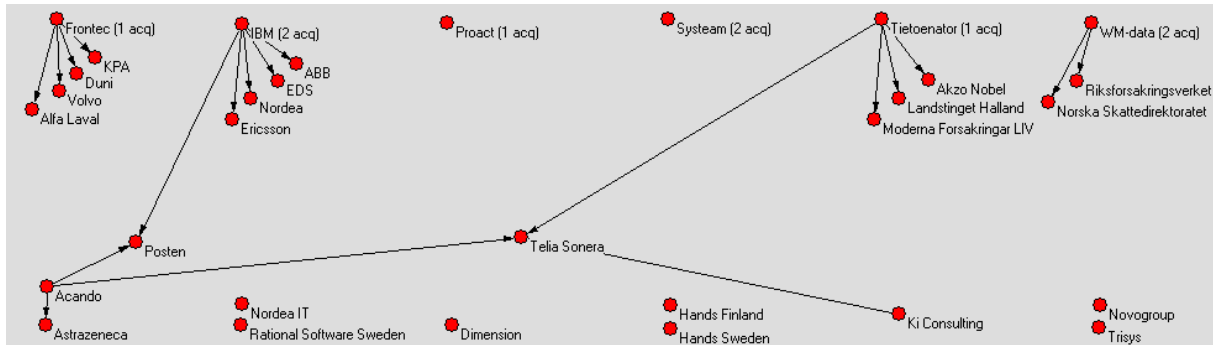


The last year included here, **2003**, there were significantly less reported acquisitions – only 46 - than during the past four years (1999-2002) when the numbers of acquisitions were more than 100 per year. This year six of the frequent acquirers were active, and acquired nine companies. Customers to four of the acquiring companies were mentioned in the news articles: Alfa Laval, Volvo, Duni and KPA (Frontec's customers); Posten, Ericsson, Nordea, EDS and ABB (IMB's customers); Telia Sonera, Moderna Försäkringar Liv, Landstinget

Halland and Akzo Nobel (Tietoenator's customers); and Norska Skattedirektoratet and Riksförsäkringsverket (WM-data's customers). Also, customers to two of the target companies were mentioned: Astrazeneca, Telia Sonera and Posten (customers to Acando); and Telia Sonera (customer to Ki Consulting).

As can be seen in the Figure 5.10, Telia Sonera had three suppliers (Acando, Tietoenator and Ki Consulting), and Posten two suppliers (Acando and IBM).

Figure 5.10 Acquiring, acquired and customer companies in 2003



Next, we will discuss the different views the findings reveal about inter-firm linkages.

5.4 Inter-firm Linkages

In this paper our focus has been on illustrating the inter-firm linkages between the acquiring /acquired companies and their customers. The analysis is based on data about frequent acquirers only and no difference is made between acquisitions that regard the whole company or those that concern only some part of it. It is important to note that the data only reveals the existence of customer linkages that are reported in the used news articles as being active at the time of the acquisition. Other types of business relationships, such as supplier or owner relationships, are not included in this analysis. Furthermore, no information of the quality of the linkage, i.e. the character of the supplier-customer relationships, is included.

The focus on the customers to the acquiring and the target companies is interesting because customers usually come from other than IT-industry, where most of the acquirers and targets were identified. Only one of the 14 frequent acquirers (Bure) was a 'non-IT company'. Thus, the studied acquisitions "link together" different industries through customer relationships.

As described earlier, during 1994-2003 723 acquisitions were reported in the news articles and 373 acquiring companies were identified in the news items. As we are here interested to understand how the effects of the acquisitions may spread further to other companies we will direct the analysis onto different types of inter-firm linkages that connects at least three different companies. To do this, we will differentiate between four views within the used data. The four views are all in the "meso-level", i.e. between the macro-level merger waves and the micro-level company specific involvement in acquisitions. We illustrate this by looking at the, what we call, frequent acquirers, namely the 14 companies that acquired at least four times in the studied period, and during at least four of the ten years. In the articles where these

acquisitions were reported, altogether 139 customers were mentioned; 117 were customers to the acquiring companies and 22 were customers to the target companies.

The different views on inter-firm linkages are the following:

- 1) *Supplier-centred view*
Most common types of inter-firm linkages are of course those between a supplier company and its customers. The frequent acquirer WM-data and its two customers Swedish Government and NCC (Figure 5.3) and the target company Prohunt and its three customers Telia, SAS Data Group and Swedish Match (Figure 5.8) provide examples of this. In these cases, the customers of the acquiring and the target company were directly linked to the parties of the acquisition.
- 2) *Customer-centred view*
Large companies often deal with several IT-suppliers. This became evident also in our study where we could find several examples of multiple supplier linkages. For example, in 1999 Volvo had two of the frequent acquirers as suppliers, namely Frontec and WM-data (see Figure 5.6). Another example is Telia that in 2000 used three of the frequent acquirers, Sigma, Tietoenator and WM-data, as its suppliers (see Figure 5.7). As can be seen from the two Figures, the frequent acquirers also had other customers which mean that several other customer companies also experienced a change in their supplier relationship.
- 3) *Network- view*
The third view is perhaps the most interesting one when the focus is on acquisitions and their potential effects on each other through customer and supplier relationships. For example, in 2001, seven of the frequent acquirers together bought 20 companies (Figure 5.8). This year 38 customers were mentioned in the news articles. Several of the customers used two or three of the frequent acquirers as their suppliers (Telia had IBM, Sigma, Tietoenator and Prohunt as a supplier; Posten had IBM and WM-data as a supplier; Ericsson has Proact and Tietoenator as supplier, and Nokia has both Proact and Tietoenator as supplier.) Thus, several of the acquiring companies' customers, and also some target companies' customers, were linked to several acquisitions that year, either directly or indirectly.
- 4) *Acquirer-centred view*
When we follow one of the frequent acquirers, Sigma, over the six years during which it acquired 23 companies, we can see that many companies, both other frequent acquirers, customers or suppliers were linked together through these acquisitions. One example is the year 1998 (Figure 5.5) when Sigma bought IT System, that was supplier to ABB, that in turn, also had WM-data as a supplier that year. WM-data acquired three companies the very same year. Also Sigma acquired three other companies that year and continued its acquisitions both in 1999 (four), in 2000 (seven), and in 2001 (five).

Especially the “network-view” and “acquirer-view” illustrate how several different industries may be linked together through the acquiring companies. For example (see Figure 5.6) Volvo

in the car manufacturing industry and Ericsson in the telecom industry were linked through the frequent acquirer WM-data. Another example of this can be seen in Figure 5.10 where, for example, biotech industry (Astrazeneca) was linked to the banking sector (Nordea).

We have shown here that it is possible that mergers and acquisitions have effects on both directly and indirectly connected companies. Of course, our study does not answer the question whether or not they had effects on the connected companies. As the product in focus is IT (software, hardware and service), it is, however, possible that things learned and experienced in one relationship may be used and even required also in other relationships. Such effects may spread further through new links created in forthcoming acquisitions.

6. Concluding discussion

In this paper we have illustrated the ‘IT boom’ and the ‘IT crash’ that took place in the end of the 1990s and during the first years of the 21st century within the Swedish IT-industry. It is a time period, when first several new IT companies were established and then some years later many of the companies went in bankruptcy or were acquired by other companies. In the study we examined 723 acquisitions during 1994-2003 and identified the acquiring and acquired companies and also the customers to these companies at the time of acquisition. The study gives evidence of an increased number of reported acquisitions in the Swedish IT-industry during 1999-2002. This can be interpreted as an indication of “a merger wave” as the number of acquisitions during these years was significantly higher than during the other years covered in the study (1994-1998 and 2003).

The aim of the study was to shed light on the effects of mergers and acquisitions by demonstrating how other companies besides the acquirer and the target get linked to and potentially affected by acquisitions. A meso level approach to merger waves was adopted, which functions in-between the aggregated macro-level, viewing merger waves through compiled numbers, and the idiographic micro-level, examining one acquisition at a time, and in isolation. Through this meso-level examination, where the idea of inter-firm linkages and networks was used, we wished to further understanding of what happens “under the surface” of merger waves.

By decomposing merger waves, the role of individual actors and inter-firm linkages between them are revealed. To the temporal examination of acquisitions, where the analysis was made year by year, we added a structural context by including 3rd parties into the analysis. This was accomplished through the consideration of customers to the acquiring or acquired companies. In this paper only the frequent acquirers were analyzed in order to reveal the potential links between acquiring and acquirer companies and their customers, and also between acquisitions. As a result of the analysis four different views on inter-firm linkages were discerned. By taking a customer’s, supplier’s, or acquirer’s view on the acquisitions, it is possible to diagnose different network effects of merger waves. By taking a network view, i.e. by combining the perspectives of customers and suppliers, also some links between acquisitions could be identified. Whether these links involve an actual effect from one acquisition to another remains unverified, because of the limitations of the data.

The study gives support for further meso-level analyses in the future. Adding business relations to the analysis sets the acquisitions in a structure and allows the study of acquisitions on a more aggregated level than discrete acquisitions, still providing more detailed description

than a completely aggregated approach. Through the meso level analysis it is possible to expand our understanding of what merger waves are composed of. The critique towards the identification of merger waves can be seen in new light with such a contextualization. Furthermore, the mechanisms of how merger waves emerge and evolve through inter-firm linkages could be revealed. For instance, the analysis clearly showed the limitations of studies that examine merger waves only as an industry level phenomenon.

Throughout this study, the importance of widening the view of mergers to also include related companies has been emphasized. Acquisitions occur in a complex web of business relationships where the performance of acquisitions may be seriously hampered by the actions of linked companies and other, linked acquisitions. By applying a business network approach to merger waves, the implications of periods with frequent mergers for the regular business activities are brought forward. As a result, the concept of merger wave is brought at the level managerial praxis where managers may perceive and analyse the links between acquisitions and important business partners, and the potential connections between acquisitions. A more detailed description of the contextual setting of acquisitions is apt to pave a way to more informed and successful strategic decisions.

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