Change Energy Processes in Relationship Networks

- Analysing relationship change transmission by applying
the Negative Internal Critical-Incident Process Analysis Technique

Päivi Voima[1]

ABSTRACT

Since internal and external relationships are directly or indirectly connected with each other it is possible for change energy to be transmitted through them, influencing the nature of one or several relationships. This study shows that by capturing the criticality or change energy level in a critical incident process, management on every level is provided with useful tools for more effective relationship management. This study proposes a relationship management technique, which builds on the previous work on critical incidents (Edvardsson´s 1988; Edvardsson and Roos 2001, 2001a; Edvardsson and Strandvik 2000; Halinen, Salmi and Havila 1999; Havila and Salmi 2000; Holmlund and Strandvik 1999; Neuhaus 1996; Roos 1998,1999,1999a,2002; Stauss and Weinlich 1995, 1997; Voima 2000, 2001). A new processual technique called NICIPA (Negative Internal Critical Incident Process Analysis) is designed to capture change energy, and to assess how critical-incident processes influence and change not only internal but also external relationship networks. There is insufficient knowledge about the nature of relationship quality dynamics and transmitted change, through which the connectedness of internal and external relationship networks could be better understood. Non of the current techniques provide tools for measuring criticality of change energy processes, that is the critical incident processes ability to influence and change the nature of internal and external relationships. The technique is developed through an empirical study, which was carried out in a manufacturing company of industrial filtration systems. The empirical data was gathered retrospectively, through unstructured in-depth interviews. Relationship quality dynamics is revealed through collecting 81 critical incident processes, which function as windows on relationship change. The critical incident process can be seen as a process that starts with the internal customers´ awareness of some negative aspects in the relationship. The process is characterized by different emotional and intellectual aspects which regulate the intensity of the process, its spreading as well as its influence on internal as well as external relationship networks.

---

[1] Päivi Voima: Swedish School of Economics and Business Administration, Department of Marketing and Corporate Geography, *CERS,* Center for Relationship Marketing and Service Management, P.O. Box 479, 00101 Helsinki, Finland. Tel. +358-9-4313 3396, Fax. +358-9-4313 3287, e-mail: paivi.voima@shh.fi.

1. INTRODUCTION

The Critical Incident Technique (CIT) is a well-approved method of collecting and classifying stories or "critical incidents" by employing content analysis. The method has been used extensively in diverse disciplines, including education, human resource management, and work satisfaction research. During the last decade the CIT has found high attention in the context of service management research serving as a tool for measuring service quality. Empirical research and its discussion show that this method is highly successful in producing relevant and concrete information of the service quality experiences of customers. Nevertheless, the research perspective remained limited. Critical incidents were understood as events in isolated dyadic transactions or episodes. It was not taken into consideration that these events happen in a situation that has a history of its own and that critical incidents have consequences not only for the relationship between the partners involved but also for other connected relationships. But this aspect is of particular relevance if the focus is changed from isolated relationships to networks comprising both internal as well as external relationships. It is important to analyse how critical incidents influence and change the internal relationship networks and to investigate whether they may have consequences for the external relationship networks as well. CIT is expanded to be used as an instrument to analyse relationships considering the dynamism in relationships and the interdependence of internal and external relationships, reflecting that incidents are embedded in multiple relationships. A new understanding of connected internal and external relationships is necessary and a further development of the CIT with respect to data collection, coding and interpretation is required.

1.1 Critical incidents in a B-to-B context

Studies comprising critical incidents have extensively concentrated on the consumer market, and especially on service industries. This has been a natural development, while studies conducted within the IMP approach have strongly focused on aspects such as activities and resources, with a product-oriented focus on quality management. Instead of paying attention to perceptions of quality, product quality specified through technical complexity has been considered essential.
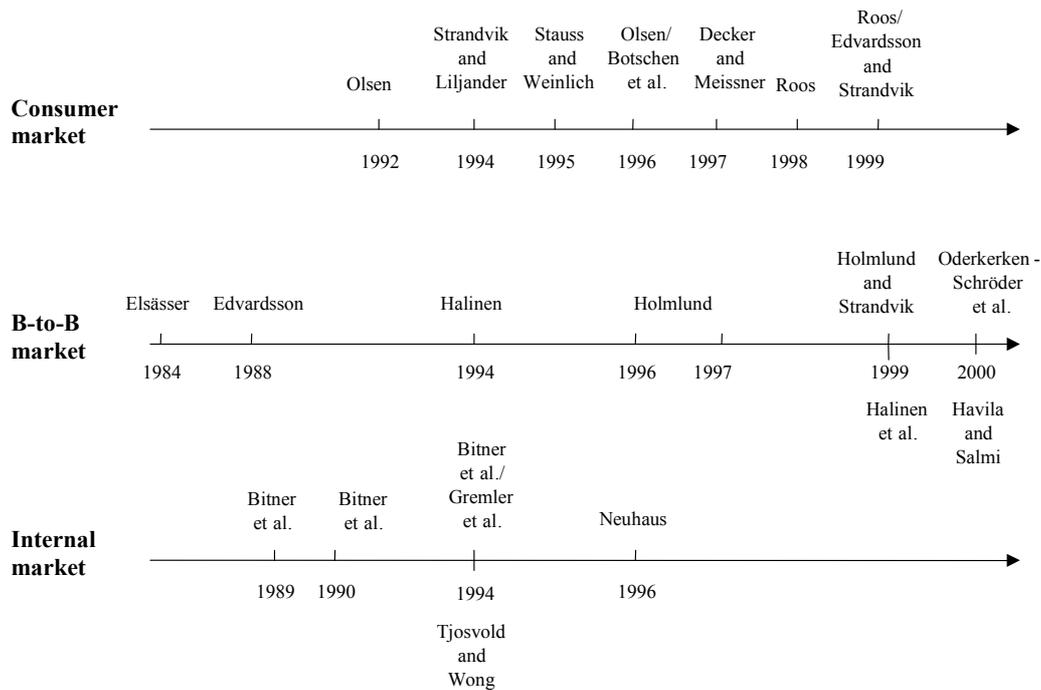
Figure 1. A cross-section of critical-incident studies

Only a limited number of studies have contributed to the critical-incident debate within the b-to-b setting. One of the first to position critical incidents in a business context was Edvardsson (1988), whose study focused on mechanical-engineering companies. His research concentrated on the process, and followed the analytic structure of cause, course and result. What is interesting in his study is that he not only analysed the causes of critical incidents, but he also focused on both parties' behaviour after the incident had occurred. A relational long-term perspective is perceptible in the effect the critical incident has not only on the business result, but also on the customer relationship. Edvardsson's study focused on only one party's perception of the critical incident, whereas Holmlund (1996; 1997) and Holmlund and Strandvik (1999a; 1999b) extended this to incorporate a dyadic approach. Although Edvardsson (1988) introduced several important aspects, which contributed to the development of a more relational view on critical incidents in a b-to-b context, the focus of his study was strongly on service quality, and especially on the selling process, and shorter-term interaction.

Perceptions have not been emphasised to any greater extent within the b-to-b setting, and only a few studies have touched on critical incidents or related concepts. One related concept worthy of note concerns critical events (see, for example, Elsässer 1984; Liljegren 1988; Halinen 1994). Critical events in a relationship context have been considered as events that influence the development of the relationship in a strengthening or weakening direction. Such events, which influence the development of the relationship, may take place in a micro or macro environment, within the organisation or outside it. However, they have not been connected to perceptions to the same extent as in service-quality research, but are based on more objective measurements that are considered to affect the relationship.

Of the studies taking a critical-incident perspective within the b-to-b setting, those conducted by Holmlund (1996;1997) are pivotal. She has positioned critical incidents in a relationship-quality context, suggesting that they play an important role in business relationships. One key finding is that firms are not very sensitive to variation in quality until the variation affects other relationships. When this happens, tolerance is decreased and sensitivity increased. The same phenomenon also arises when the variation can no longer be considered as temporarily deviating from the expected, or when the firm's general core operations are severely influenced.

Following on from the studies conducted by Holmlund (1996; 1997), Holmlund and Strandvik (1999a; 1999b) further extended the critical-incident framework in the business-market setting in their study of critical incidents in business relationships. They argue that, although initially either one or both parties in the relationship may perceive the incident critical, both parties will probably be involved through the interaction process (Holmlund and Strandvik 1999a; 1999b). Holmlund and Strandvik (1997) stressed the dyadic approach, which they depicted as a combination of the two parties' perceptions of the relationship in their configuration map. The configuration map may be used as a tool for analysing how critical incidents are perceived in dyadic business relationships.

2. METHOD AND PROCEDURE

The critical incident perspective has gradually changed from a static view to a more dynamic, comprehending a relationship approach. A cross-section of critical incident studies revealed that most of traditional CI studies may be considered to have the following features. They focus only on the interactions between the *customers and service firm employees*. A *narrow time perspective* is used and focus is laid on episodes. The *context is ignored,* when focusing on any kind of incident perceived critical by the customer rather than on incidents taking place within the context of specific relationships. The *consequences* of a critical incident have not been considered relevant, or only the immediate consequences are recognized. The collection of the critical incident stories have ignored elements like; *recency* of the incident, *why a certain incidents is remembered* etc. The analysis of the critical incidents has typically been done through content analysis by classification of incidents based on *different service-quality dimensions*. Overall, the critical incident studies have not distinguished between the critical incident phenomenon and various techniques for capturing and analyzing critical incidents.

As a result of the paradigm shift taking place in marketing, some recent studies have, however, extended the time perspective by taking a relational view on critical incidents (Stauss and Weinlich 1995; Roos 1996; Roos and Strandvik 1996; Stewart 1996, Wrange 1996; Roos 1998; Edvardsson and Strandvik 1999; Roos 1999; Edvardsson and Roos 2001). Critical incidents have been studied both in the context of consumer relationships (Strandvik and Liljander 1994; Roos 1996; Roos and Strandvik 1996; Roos 1999), as well as in the context of business relationships (Edvardsson 1988; Homlund 1996; Holmlund and Strandvik 1999a; 1999b; Havila and Salmi 2000), while the internal relationship setting and its connection to external relationship networks has been ignored.

2.1 The Negative Internal Critical-Incident Process Analysis Technique (NICIPA)

The purpose of this study is to develop a framework for identifying, capturing and analyzing the nature of negative critical incident processes in internal relationships, in order to enhance the understanding of perceived relationship quality dynamics and degree of transmitted change in relationship networks. There is insufficient knowledge about the nature of relationship quality dynamics and transmitted change, through which the connectedness of internal and external relationship networks could be better understood. As no existing technique fully met the aim of this study, a custom-made technique was developed to identify, capture and analyze critical incident processes in internal relationships and through them relationship dynamics and transmitted change. This new technique has been labeled the Negative Internal Critical-Incident Process Analysis Technique (NICIPA) (Voima 2001). A need for a new technique is also supported by the purpose of measuring relationship change in an effective way. Non of the current techniques provide tools for measuring criticality of critical incident processes, which refers to the energy level of the process, that is the critical incident processes ability to influence and change the quality of internal and external relationship networks.
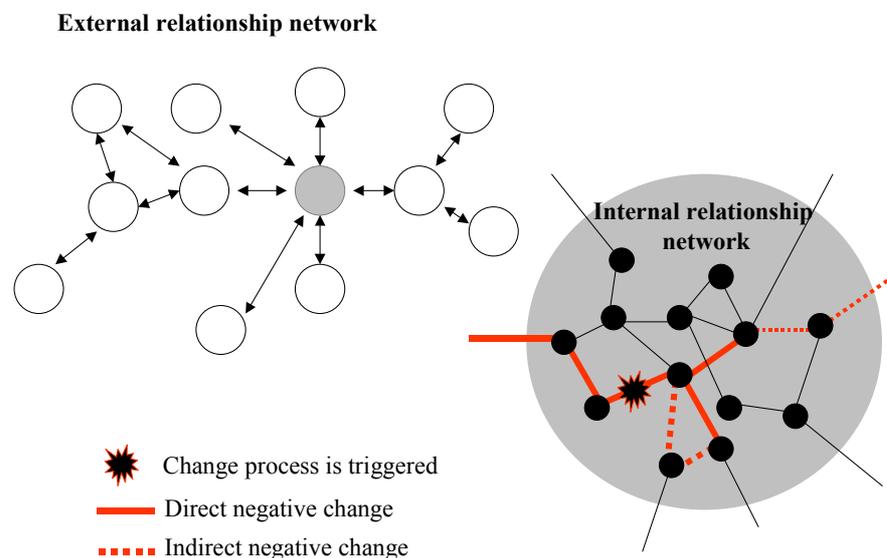

Figure 2. The logic of change energy processes in relationship networks

2.2 Data collection and analysis

The data in this study was collected within a two-month period in the beginning of the year 2000. The researcher carried out all interviews herself. The case company used in this study was a manufacturing company of industrial filtration systems, with under 30 employees. The empirical data was gathered retrospectively, through unstructured in-depth interviews. Time is a central element in this study, while the focus is on processes. The narrations about critical incident processes are therefore seen, as processual constructions where the translations and interpretations made by the organizational actors over time are present. This view is in line with Fisher´s (1987) view of stories when arguing that stories give reasons, which provide coherence and order to events occurring. A retrospective approach is therefore based on the interpretive assumption of people acting on the basis of their interpretations. The assumption is that the interviewed respondents construct reality

by interpreting the critical incident processes as they perceive the processes when they actually take place, and based on these interpretations they act. How an individual remembers a critical incident, and perceives and interprets it influences the interpretation of present and future activities.

The notion of time boundaries was also central when choosing the retrospective approach. In this specific study time is an important element when specifying what a critical incident is. A prospective approach was considered in the beginning and some interviews were made this way (Voima 2000). However, these interviews revealed that in order for the respondents to know if the incident has truly been critical, a broader time perspective was needed. The possible influence of the process on relationships are also only seen first when a broader time perspective is taken. It is therefore argued that time not only broadens the scope of perception but also deepens the whole process and the perception of it.

Altogether 21 interviews were conducted under two months time in the beginning of year 2000. In the beginning of every interview the nature of the study was explained to the informants. Because of the sensitive nature of the research phenomenon the physical surrounding for the interviews needed to be neutral and private. All interviews were carried out in a conference room, which was separated from other activities. The length of the interviews varied from 40 minutes to over 3 hours, dependent on how many critical incident stories the informants wanted to share. The transcribed interviews were then analyzed using both pre-structured and open coding to capture the essence of the critical incident process. The interview guide was designed according to insights gained from the theoretical framework together with empirical insights gained from the pilot study (Voima 2000). The interview guide is presented in Table A-1.

In line with the critical incident tradition the informants were asked to tell their critical incident processes in the form of narration, stories. In accordance with the purpose of this study this study focuses on *negative* critical incident processes. The choice to focus on negative critical incident processes derives from the assumption that negative critical incident processes are more intense compared to positive processes and are characterized by a higher level of change energy, which facilitates the understanding of quality dynamics and transmitted change. Every informant was asked the same first question, to prevent the researcher from applying her own pre-understanding of the phenomenon and its context before the informants were given the possibility to tell their stories. The informants were allowed to choose their stories without interference, being themselves the judges of what they perceived critical. The idea was that only what the informants themselves remembered and perceived critical had influenced their construction of reality. Every informant was asked to tell at least two critical incident stories, but those who expressed a will to share many stories were not hindered to do that either, which resulted in altogether 81 critical incident stories. Some of the interviewees told their critical incident stories after hey had been asked only one or two questions. Others had to be helped along with the questions in the interview guide. Dependent on how detailed and informative the critical incident stories were, some follow up questions were asked according to the interview guide. The interview guide is a central part in the developed NICIPA technique.

In the first phase of the analysis, the critical incident stories were coded according to pre specified elements which had emerged through the pilot study (Voima 2000). Through the empirical material and a deeper theoretical knowledge, these process elements were developed to what became to be called the NICIPA factors. A critical incident process was found to consist of thirteen central critical incident process factors, through which the

process could be captured and analyzed. By coding the critical incident processes according to the NICIPA process factors, it became possible to chart change in not only internal but also external relationships. The critical incident process can be seen as a process that starts with the internal customers´ awareness of some negative aspects in the relationship. The process is characterized by different emotional and intellectual aspects which regulate the intensity of the process, its spreading as well as its influence on internal as well as external relationships.

3. EMPIRICAL RESULTS

In this section the complete NICIPA technique is discussed together with the central empirical results. Altogether 81 critical incident processes were collected through 21 interviews. Factors in the critical incident processes are first outlined, presenting the NICIPA coding system. Thereafter the criticality of a critical incident process is specified by focusing on the energy level of the process. The NICIPA matrix the NICIPA energy form and the NICIPA energy grid are presented as tools for capturing and measuring the change energy level in connected relationship networks.

3.1 Change energy level in the critical incident process

The criticality of a critical incident process refers in this study to the level of relationship change energy, to the critical incident processes ability to influence and change the quality of focal, local and external relationships. A focal internal relationship refers to the internal relationship dyad, in which the critical incident process emerges in and first becomes visible, which is referred to as the critical incident core process. The local internal relationships refer to relationships positioned within the organizational boundaries, which are directly or indirectly connected to the focal relationship. The external relationships refer to customer relationships, which are directly or indirectly connected to the focal and local relationships and cross the organizational boundary.

A central point with these three types of relationships is that they are directly or indirectly connected with each other which makes it possible for change energy to be transmitted through them, influencing the quality of one or several relationships. *Transmitted change* therefore refers to change, which is transmitted to other directly or indirectly connected internal or external relationship networks. The criticality is therefore equal with the energy level of the process, which reflects the change in the quality perception of these relationships. In accordance with this logic a *critical incident process* is therefore an energy process which indicates the total change in the quality of the three connected relationships, the focal, local and external.

The criticality of the critical incident process is crystallized in the energy level of the whole critical incident process. Several different factors influence this criticality while some factors absorb energy from the process whereas other factors provide energy to the process. The NICIPA technique provides a compact tool for analyzing this energy level, providing each critical incident process a change energy or criticality index, which captures the total energy level in the process. The tool for measuring the criticality or energy level in a critical incident process is designed in the coding system forming a part of the NICIPA technique.

Table 1. The NICIPA coding system

CRITICAL INCIDENT PROCESS		
Initial State	**Content**	**Outcome**
Relationship Quality, Initial (Rq) 1. Technical dim. a) high quality b) low quality 2. Behavioural social dimension a) high quality b) low quality 3. Non-behavioural social dimension a) high quality b) low quality **Trigger (T)** 1. Technical trigger 2. Behavioural social trigger 3. Non-behavioural social trigger **Recency (Re)** 1) within the past four weeks 2) within the past half year 3) within the past year 4) within the past 3 years 5) over 3 years ago **Frequency (F)** **Hierarchy (H)** 1) Specific incident type 1. Top management a) first time 2. Middle management b) yearly 3. Lower level employees c) monthly d) weekly 2) Other incident types **Nature (N)** a) yearly 1. Technical process b) monthly 2. Social process c) weekly	**Emotion (E)** 1. Weak emotion 2. Strong emotion **Internal Incident Communication (Iic)** 0. No communication 1. Low communication (1-2) 2. High communication (3-) 1. Vertical communication (subindex)	**Influence (I)** 1. Negative -1. Positive **Relational scope of influence (R)** 1. Focal internal relationship 2. Local internal relationship/s (m/3) multiple local relationships 3. External relationship/s (m/5) multiple external relationships **Relationship quality, outcome (Rq)** 1. Technical dimension 2. Behavioural social dimension 3. Non-behavioural social dimension **Type (T)** 1. Short-term 2. Long-term **Degree (D)** 1. Weak effect 2. Strong effect

All critical incident processes are coded through the thirteen critical incident process factors. Each factor in the coding system is designed to capture a part of the process and its criticality, or energy level. By capturing the energy level in all central parts of the process, it becomes possible to capture the total relationship change energy level influencing multiple relationships. Each factor reflects and measures change in different forms. Emotions and internal incident communication reflect the intensity of the process by measuring the intensity of expressed emotions during the process as well as how widely the process spreads through communication. The outcome factors again measure the degree of influence on not only internal relationships and their quality but also external. An example of a coded critical-incident process is presented in Table 2. As it has been shown, the NICIPA coding system not only captures the key features of the critical incident process, but it may also be used to measure the actual energy level, the criticality of the process, seen from a more strategic perspective.

Table 2. A coded critical-incident process

Condensed critical-incident process

"One day I phoned a customer to ask how a filtration system I had sold them worked. I was stunned when I heard that the system still hadn´t been delivered, although it should have been several months previously. I soon learned that everything had stopped at our designer. The papers hadn´t gone through her and were still on her desk. I was so angry, because I couldn´t understand why she hadn´t done her job. Several relationships were affected because of this, and we lost a great customer. The only things they´ve bought from us since have been spare parts."

Coded critical-incident process

Initial State	Content	Outcome		
		Focal	**Local**	**External**
$Rq^{1b2a3b}T^1Re^4F^{1b2c}H^{33}N^1$	$E^2Iic^2_1$	$I^1R^1Rq^2T^1$	$I^1R^{2(a)}Rq^3D^1$	$I^1R^3Rq^1T^2$
		$I^1R^1Rq^3D^2$	$I^1R^{2(b)}Rq^3D^1$	$I^1R^3Rq^2T^2$
				$I^1R^3Rq^3D^2$

All 81 collected change processes are coded according to the NICIPA coding system. The empirical analysis leads at first to the identification of different main change processes, which are determined by the nature of the change process as well as its hierarchical position in the relationship network.

- Social vertically positioned change process
- Social horizontally positioned change process
- Technical vertically positioned change process
- Technical horizontally positioned change process

These process types form the basis of a more far-reaching analysis applying tools which the author develops in an abductive reasoning process: The NICIPA matrix, the NICIPA energy form and the NICIPA energy grid, which are next discussed separately.

3.1.1 The NICIPA Matrix

This was the first tool that was developed for analysing critical-incident processes. It showed that the five main change process types could take several different forms. Each of the 81 collected change processes was mapped into the NICIPA matrix according to the different main dimensions specified in the coding system. The critical- incident path was shaped and influenced by the initial quality of the relationship, the trigger, emotions, internal incident communication and the outcome. By applying the NICIPA matrix new insights into the character of the five critical incident process types are gained. To the remarkable results belongs the detection of the two important roles of the initial relationship quality, which determines the type of trigger and functions as a filter for the evaluation of the critical incident process.

Initial RQ		Trigger	Emotions	IIC	Outcome Focal	Outcome Local	Outcome External
Poor RQ	Technical: Low Behavioural: Low Non-b: Low	Non-b	Weak	No	Tech	Tech	Tech
				Low	Behav	Behav	Behav
			Strong	High	Non-b	Non-b	Non-b
Low RQ	Technical: Low Behavioural: High Non-b: Low	Tech	Weak	No	Tech+	Tech	Tech
				Low	Behav	Behav	Behav
			Strong	High	Non-b	Non-b	Non-b
Moderate RQ	Technical: High Behavioural: High Non-b: Low	Non-b	Weak	No	Tech	Tech	Tech
				Low	Behav	Behav	Behav
			Strong	High	Non-b	Non-b	Non-b
High RQ	Technical: High Behavioural: High Non-b: High	Non-b	Weak	No	Tech	Tech	Tech
				Low	Behav	Behav	Behav
			Strong	High	Non-b	Non-b	Non-b

Figure 3. The NICPA matrix: one of the main change energy processes

A major finding that came out of the analysis was the connection between the initial relationship quality and the trigger. The initial relationship quality was found to have two roles. It determined what type of trigger was needed in order for a critical-incident process to emerge, and it also functioned as a filter through which the emerged process was evaluated. It was found to absorb or provide the critical-incident process with energy.

Three different triggers appeared in the analysis, the technical, the behavioural social and non-behavioural social, all of which arose from the relationship quality dimensions. The non-behavioural social trigger was found to be the strongest one, and the one that often triggered critical-incident processes in either poor-quality or high-quality relationships, whereas the technical trigger dominated in low-and moderate-quality relationships.

Emotions and internal incident communication were found to reflect the energy level in the process. Emotional intensity was connected with several aspects, including the initial quality of the relationship, the trigger and the perceived outcome of the process. A central finding connected to emotional intensity was the notion of interpretation. Organisational actors were found to make an immediate and automatic evaluation of a critical incident, which through evoked emotions and internal incident communication reflected the short-term evaluation of a specific critical-incident micro-process. Long-term evaluation comprising not only focal, but also local and external relationships, was largely based on interpretations of anticipated or imagined outcomes of the critical incidents. Emotions were therefore found to be socially constructed and evoked based on organisational actors' perceptions and interpretations of critical incidents in both the short term and long term. Technically-triggered critical-incident processes were found to be more outcome-dependent and attribution-independent, whereas socially-triggered processes appeared to be more attribution-dependent and outcome-independent

Internal incident communication was connected with the energy level of the critical-incident process. Hierarchical position was found to influence the spreading of the process. Technical and social processes positioned vertically and reported by lower- level employees were intensive in terms of internal incident communication. High communication intensity was found in several horizontally-positioned technical processes, whereas social processes positioned horizontally were typically characterised by low communication intensity, as were technical processes positioned between middle management and lower-level employees. These findings indicate that representatives of middle management usually did not give the critical-incident process the energy to spread
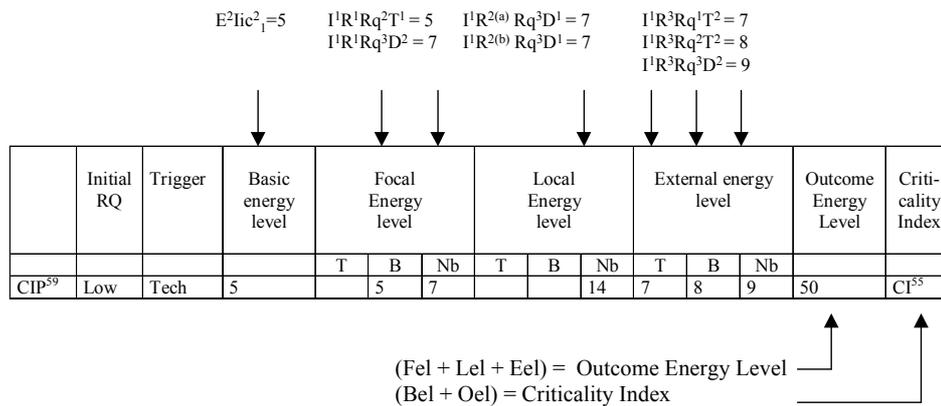
through internal incident communication, which seemed to arise from feelings of responsibility and loyalty towards the subordinates. As expected, the processes tended to spread only within the same hierarchical level. The energy level needed to be very high in order for process to spread across hierarchies, which was the case in only a few incidents.

3.1.2 NICIPA energy form

The NICIPA energy form provides a logical and easy to handle procedure to measure the degree of changes in relationships and to express it by a criticality index. The NICIPA energy form was meant to be used as a compact tool for analysing the criticality of critical-incident processes. In contrast to earlier critical incident studies, criticality was paralleled with the energy level in the critical-incident process. This insight may be considered one of the most central contributions of this study, since it recognises criticality from a relationship change perspective, comprehending not only internal but also external relationship networks. When contrasted to current critical incident studies, criticality of the critical-incident process has through the energy conceptualisation been extended to include multiple relationship change factors, which together measure the total energy level in the process, that is the criticality of the process. It should be highlighted that by recognising the initial state, the content as well as the outcome state from an energy generating perspective, the mechanism of change has been shed light on. As opposed to current critical incident conceptualisations, the energy level in the critical incident process is regulated based on the processes ability to influence different types of relationships. From a marketing perspective it is central to stress that the stronger the relationship change effect is on external relationships the more intense and critical the critical-incident process is. The level of change is therefore carefully captured grounded in the NICIPA code, revealing that the higher the energy level of the critical-incident process the more intense the relationship change process is.

The NICIPA energy form was designed to specify the energy level in all parts of the critical-incident process through the NICIPA coding system. By identifying the central process factors in the critical-incident process, it became possible to specify how the 13 different NICIPA factors influenced the energy level in the critical-incident process. As depicted in Table 3 all 81 critical change processes were analysed and coded according to the coding system. Through the Initial State the history of the relationship in which the change process was initiated was captured together with the quality of the relationship in which the change process was first triggered. The Content of the change process referred to emotional intensity of the process as well as its ability to spread within the organisation through internal incident communication. The Outcome State on the right captures through the carefully specified coding system the influence the change process has on multiple relationship networks. All influenced relationships are coded separately to calculate the total change level in the process. The coded processes were then analysed with the second tool the NICIPA energy form, in order to show the multidimensionality of the NICIPA technique. The NICIPA energy form was designed to be used as a compact tool for analyzing the criticality or energy level in critical incident processes. All 81 critical incident processes in this study were analyzed with the help of the NICIPA energy form.

Table 3: The logic behind the NICIPA energy form

$$E^2Iic^2_1 = 5 \qquad I^1R^1Rq^2T^1 = 5 \qquad I^1R^{2(a)}Rq^3D^1 = 7 \qquad I^1R^3Rq^1T^2 = 7$$
$$I^1R^1Rq^3D^2 = 7 \qquad I^1R^{2(b)}Rq^3D^1 = 7 \qquad I^1R^3Rq^2T^2 = 8$$
$$I^1R^3Rq^3D^2 = 9$$

	Initial RQ	Trigger	Basic energy level	Focal Energy level			Local Energy level			External energy level			Outcome Energy Level	Criti-cality Index
				T	B	Nb	T	B	Nb	T	B	Nb		
CIP[59]	Low	Tech	5		5	7			14	7	8	9	50	CI[55]

(Fel + Lel + Eel) = Outcome Energy Level
(Bel + Oel) = Criticality Index

The NICIPA form was designed to capture the criticality of the process, by specifying the total change energy level, which is also referred to as the criticality index. This is done by dividing the total energy level into different parts, which reflect the energy levels in different parts of the process. Basic energy comprises emotional intensity as well as internal incident communication. Focal energy is captured by measuring the influence on the focal relationship through the technical and social quality dimensions, whereas local energy comprises the influence on local relationships. External energy is calculated by summarising the influence of the critical-incident process on external relationships in terms of the technical and social dimensions. It is highlighted that change within external relationships are always indicated by a higher energy level than change in internal (focal or local) relationships. In order for change to spread to external relationships a very intense and high energy process is required, which while penetrating the organisation maintains an energy level which is high enough to generate change in external relationship. The total energy level represents all the energy in the process, which is calculated by summarising the levels of basic, focal, local and external energy. This in turn shows the criticality of the critical-incident process, expressed through the criticality index (CI).

The well-planned design of the NICIPA energy form makes it possible to analyse the different energy levels separately. If the emphasis is on the focal relationships, all the focal energy levels may be compared and analysed, thus revealing the focal criticality. If a wider outcome dimension is chosen, new insights may be gained by analysing only the local energy level in the different processes. The internal energy level can be analysed by summarising the focal and local energy levels. If the need is to analyse the processes that have an influence on external relationships, it is easy to do so by only taking the processes falling within the external energy level. The total energy level can be calculated by summarising the levels of basic, the focal, local and external energy. The NICIPA energy form offers several possibilities for analysing critical-incident processes, thus facilitating more effective management of both internal and external relationships.

Through the NICIPA energy form different energy levels in the critical incident process may easily be analyzed separately. If the focus is laid on the focal relationships, all processes´ focal energy levels may be compared and analyzed, revealing the focal criticality of the critical incident processes. If a wider scope of outcome is chosen the analysis may reveal new insights through analyzing only the local energy level in the

different processes. An internal energy level may be analyzed by summarizing the focal and local energy levels. If only those processes, which have an influence on the external relationships, want to be analyzed separately, this is easy to do by only analyzing those processes within the topic external energy level. The total energy level may be captured through summarizing the basic energy, the focal energy, the local energy as well as the external energy. Through the NICIPA energy form the conceitedness of internal and external relationships is revealed by diagnosing how relationship change spreads in these relationships.

3.1.3 The NICIPA energy grid

The final tool, the NICIPA energy grid provides the opportunity to visualize the criticality of the critical incident process graphically. The version of the NICIPA outcome energy grid is used to position the critical incident processes according to their basic energy level and their outcome energy. This allows a quick overview over the criticality of all collected critical insights and provides new and interesting insights. Grounded in the information provided by the NICIPA energy form four different types of modifications of the NICIPA energy grid may easily be developed. Although all modifications are of interest to different managerial levels, the focus in the rest of this article is laid on the NICIPA outcome energy grid, which comprehends the focal, local and external energy levels.

After calculating the total change energy level or criticality index for each of the 81 processes, the criticality index for each process was positioned to the NICIPA outcome energy grid. Of the 81 analysed processes 36 processes were of incident type A, characterized by silent concise change. In these processes the basic energy level was low which correlated with a low outcome energy level. In a majority of the processes weak emotions were expressed and no or low internal incident communication took place. The process is therefore considered to be quite silent. The level of change transmission was concise, reflected with a low outcome change energy level. In 33 processes only internal relationships were influenced whereas external relationship change was perceived to take place in only three processes.
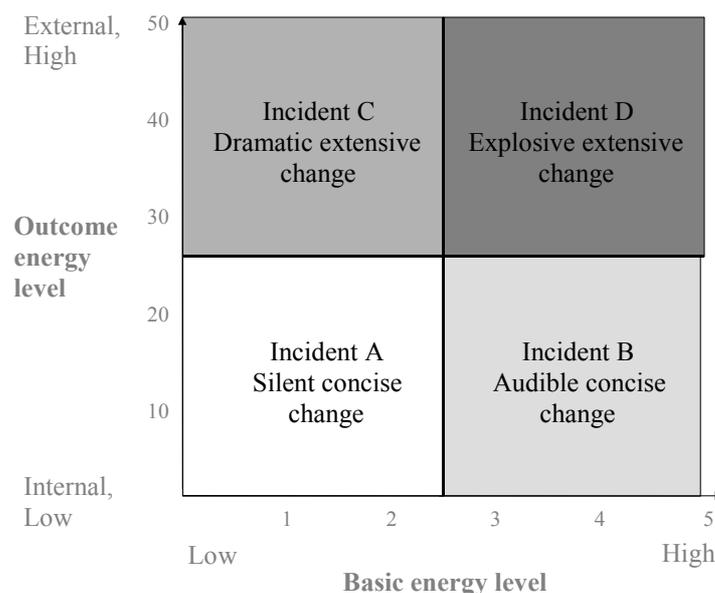

Figure 4. The NICIPA energy grid

Altogether 36 processes represented incident type B, which was characterized by audible concise change. In these processes the basic energy level varied between 3, 4 and 5, characterized by a higher level of emotions and internal incident communication. The high basic energy level did not correlate with a high outcome energy level, instead energy was filtered from the processes leaving the outcome energy level low. In most processes only internal relationships were perceived to be influenced whereas change in external relationships was perceived to take place in only six processes.

The results revealed that non of the 81 processes represented the incident type C, characterized by a low basic energy level and a high outcome energy level. On the other hand, nine critical incident processes were characterized by an extremely high relationship change energy level. These processes were of type D, representing explosive extensive change. These processes were characterized by a very high basic energy level. The interviewees often expressed strong emotions together with a high level of communication to other organizational actors. The outcome energy level was also high, and in multiple of these processes the change was transmitted through internal relationships to external. The external relationships were in five processes influenced not only on the technical level but through a behavioral change communicated by the external customer the social interaction was also negatively influenced. In all five processes the interviewees perceived one or several external relationship/s to have been influenced on a such degree that a non-behavioral dimension, characterized by aspects such as trust, commitment and respect, was influenced.

4. DISCUSSION

The contribution of this study can be seen to be threefold comprising the theoretical, methodological and empirical contribution. The theoretical contribution of this study lies in its ability to extend the relationship management approach to an internal relationship setting through a critical incident perspective. By recognizing the socially constructed nature of critical incident processes and their ability to function as windows to relationship change in multiple relationships, the connectedness of internal and external relationships has been highlighted. The scope and focus of critical incidents have been extended to a multiple relationship perspective, recognizing the accumulated amount of critical incident processes evolving and influencing focal, local and external relationships.

The methodological contribution lies in the NICIPA frameworks comprehensive and dense nature, which in contrast to a majority of the present critical incident studies comprises a technique which recognizes a processual, relationship quality focused approach. The developed technique provides a tool for identifying, capturing and analyzing the nature of negative critical incident processes in internal relationships, in order to enhance the understanding of perceived relationship quality dynamics and degree of transmitted change in the focal, local and external relationships. The nature of the critical incident process could be identified, which comprised thirteen critical incident process factors. Through a systematically designed coding system not only the nature of these processes can be analyzed, but also their level of criticality can be measured. The criticality of a critical incident process refers in this study to the level of relationship change energy, to the critical incident processes ability to influence and change the quality internal and external relationship networks. The change in the quality perception can be measured and analyzed with the help the NICIPA energy form and NICIPA energy grid.

The empirical results contribute to research on the processual nature of negative critical incidents. Critical incidents were found to function as windows to relationship change. By combining both theoretical as well as empirical insights thirteen different critical incident process factors were identified. The initial state comprised the initial quality of the relationship, the trigger, as well as other factors determining the nature of the relationship in which the critical incident emerged. The content state included emotions as well as internal incident communication, which reflected the intensity of the process. The outcome state again specified the effects of the critical incident process, by specifying which relationships had been influenced together with the level of influence. By analyzing the critical incident processes according to the coding system comprising the thirteen process factors, the critical incident process could be captured. The coding system was designed to measure the criticality of the process, which was reflected in the energy level of the process. The results showed that the different processes varied in their intensity as well as in their ability to transmit change. Some processes influenced only one relationship, whereas others spread more widely. Processes with the highest energy level were intensive enough to advance throughout the whole organization and across the organizational boundaries to external relationships. The level of energy was influenced by multiple process factors, of which the initial quality of the relationship together with the trigger was found to be especially interesting. The initial quality of the relationship had two different functions. First of all it determined which type of trigger was needed in order for a critical incident process to be initiated. Secondly, the initial quality of the relationship functioned as a filter through which the whole process was evaluated either providing the process with energy or absorbing it from the process.

4.1 Further Research Implications

The focus of a critical incident perspective has through this study been shifted from individual relationship to networks, comprising both internal and external relationships. The created NICIPA framework provides useful tools and conceptualizations to capture, code and analyze the critical incident process in a comprehensive way. Due to the internal relationships setting, compared to earlier studies critical incident processes have in this study been approached with a different scope and from a multiple relationships perspective. Although this piece of research elucidates critical incident processes in internal relationships, it simultaneously unfolds and highlights numerous issues that would be fruitful areas for further research. These issues concern the deeper understanding of the phenomenon as well as the theoretical conceptualizations and methodological design.

First of all, the developed framework requires additional investigation into its applicability within different areas. How could the NICIPA framework be applied to different types of empirical settings, companies of different sizes within different branch of business? Choosing different types of internal relationships with different types of contexts may be found fruitful in refining the NICIPA framework.

The connection between the initial state and the trigger should be further refined through further research into their nature. Could the triggering factors be further categorized within the three main categories revealing a possible connection between the depth of the trigger and the depth of the effect on the relationship? Understanding of the emotion concept needs to be refined and deepened further, both conceptually as well as empirically. How would the NICIPA framework benefit from focusing on duration instead of only intensity?

How do emotions evolve in critical incident processes? What influences change in the emotional intensity during the critical incident process, or does the intensity stay unchanged during the whole process? Can a connection be found between specific types of processes and specific emotions? Is there a connection between specific triggers and specific emotions?

The coding system presented, as part of the NICIPA technique is fairly complicated and would benefit from further research in the critical incident processes. By gaining a deeper understanding of the processes, the code may be refined making the coding system more dense and more easily manageable. This way the coding system would become applicable on a larger scale, and even a quantitative measurement tool would be possible to be developed.

The created framework would strongly benefit from a stronger focus on the connection between internal and external relationships. This study has only showed that a clear connection exists, but this connection should be explored in depth. Interesting would be to study both the internal as well as the external party's perception of critical incident processes. Furthermore, the NICIPA framework could also benefit from focusing on multiple critical incident processes in a single relationship, which would give depth to the frequency conceptualization.

To sum up, the new NICIPA framework opens up several interesting avenues for further research. All three areas of the framework, the actual phenomenon, the technique and the way of analyzing the empirical data would benefit from further research. A first attempt has been made to understand critical incident processes in internal relationships and their conceitedness to external relationships. Although earlier critical incident research has through this study been expanded to the internal relationship direction, the process of development continues.

4.2 Managerial Implications

The NICIPA framework addresses the importance of managing change in relationships, through recognizing critical incident processes as the core of this dynamism. By focusing on relationship quality, the NICIPA framework provides the management with the tool of charting change in the quality of the relationships, through three different relationship quality dimensions. The outcome state in the critical incident process directs the focus of managers to the change in the relationships, the degree of change as well as its extensiveness. By analyzing critical incident processes in accordance with the NICIPA framework, a deeper understanding of connected change may be achieved. One of the most powerful tools provided by the NICIPA framework to management is the NICIPA energy form and grid. By combining these both in a strategic way, valuable information may be gained from the nature of critical incident processes in a specific organization.

Management may diagnose four different types of relational change, 1) silent concise change, 2) audible concise change, 3) dramatic extensive change and 4) explosive extensive change. The degree and extensiveness of change varies, which gives management the graphical tool to diagnose the nature of relational change in their organization, forming a foundation for strategic decisions. By combining the energy levels in the NICIPA energy form, the NICIPA energy grid shows its multidimensionality as a managerial tool. The critical incident processes may by management be analyzed on different levels through the focal energy grid, the local energy grid and the external energy

grid. By analyzing the three energy levels separately, the critical incident processes may be diagnosed in more detail. The detailed analysis of the critical incident processes allows management to categorize incidents according to their relationship change energy. Although the total change energy or criticality index specifies the total level of change in focal, local and external relationships and is most interesting form the perspective of top management, middle management should be provided a tool for analyzing focal, local and external change separately. Different managerial groups are interested of different levels of relationship change. Human resources managers may be most interested in focal and local relationship change, whereas determining external relationship change is of great importance to for example sales managers. With the help of the NICIPA energy form and grid managers may analyze different levels of change separately. By analysing incidents with different outcomes separately, management is also able to specify where these incidents emerge, in the interface of the company or deeper down in the organization. By diagnosing which types of processes result to a specific type and level of change management is provided with valuable information on which to base strategic decisions on. Consequently, the NICIPA framework is useful in assessing, diagnosing as well as developing not only internal but also external relationships. The created framework facilitates the discovery of change energy processes in relationship networks.

REFERENCES

Bitner, M.J., Booms, B.H and Tetreault, M.S. (1989): Critical Incidents in Service Encounters, *Designing a Winning Service Strategy*, M.J. Bitner and L.A. Crosby, (eds.), Chicago: American Marketing Association, pp. 89-99.

Bitner, M.J., Booms, B.H and Tetreault, M.S. (1990): The Service Encounter: Diagnosing Favorable and Unfavorable Incidents. *Journal of Marketing*, Vol. 54, January, pp. 71-84.

Bitner, M.J., Booms, B.H and Mohr, L.A. (1994): Critical Service Encounters: The Employee´s Viewpoing, *Journal of Marketing*. Vol. 58, October, pp. 95-106.

Botschen, G., L. Bstieler and A.G. Woodside (1996): Sequence-Oriented Problem Identification Within Service Encounters. *Journal of Euromarketing*, Vol. 5, No. 2, pp. 19-52

Decker, A. and Meissner H. (1997): The Sequential Incident Technique for Innovations (SITI) – An instrument for Generating Improvements and Ideas in Services Processes. *Diskussionsbeiträge der Wirtschaftswissenschaftlichen Fakultät Ingolstadt*. Nr. 87. Catholic University of Eichstaett.

Edvardsson, B. (1988): Service Quality in Customer Relationships: A Study of Critical Incidents in Mechanical Engineering Companies. *The Service Industries Journal*, Vol. 8, No. 4, October, pp. 427-445.

Edvardsson, B and I, Roos (2001): Critical Incident Techniques – Towards a framework for analysing the criticality of critical incidents, *International Journal of Service Industry Management*, Forthcoming.

Edvardsson, B. and Strandvik, T. (1999): Criticality of Critical Incidents in Customer Relationships. In Kunst, P., Lemmink, J. and Stauss, B. (eds.) *Service Quality and Management*, Deutscher Universitäts-Verlag. Pp. 90-110.

Elsässer, M. (1984): *Marknadsinvesteringar. Två fallstudier av etablering av utländsk marknad* (Market Investments. Two Case Studies on the Establishment on a Foreign Market). Stockholm. Liber.

Fisher, W. (1987): *Human Communication as narrative: Toward a Philosophy of Reason, Value, and Action*. Columbia, SC: University of South Carolina Press.

Flanagan, J. (1954): The Critical Incident Technique, *Psychological Bulletin*, Vol. 51, No. 4, pp. 327-358.

Gremler, D.D., Bitner, M.J. and Evans, K.R. (1994): The internal service encounter, *International Journal of Service Industry Management*, Vol. 5 No. 2, pp. 34-56.

Halinen, A. (1994): *Exchange Relationships in Professional Services. A Study of Relationship Development in the Advertising Sector*. Doctoral Dissertation Series A-6, Turku: Turku School of Economics and Business Administration.

Halinen, A., Salmi, A. and Havila, V. (1999): From dyadic change to changing business networks: an analytical framwork. *Journal of Management Studies*, Vol. 36, No. 6, pp. 779-794.

Havila, V. and A. Salmi (2000): Spread of change in business networks: an empirical study of mergers and acquisitions in the graphic industry. *Journal of Strategic Management*, Vol. 8, pp. 105-119.

Holmlund, M. (1996): A Theoretical Framework of Perceived Quality in Business Relationships. Research Reports No. 36, Helsinki: Swedish School of Economics and Business Administration.

Holmlund, M. (1997): *Perceived Quality in Business relationships*. Doctoral Dissertation, Publications of the Swedish School of Economics and Business Administration, No. 66, Helsinki, Finland.

Holmlund, M. and Strandvik, T. (1999a): *Critical Incidents in Business Relationships*. Working Papers No. 396, Helsinki: Swedish School of Economics and Business Administration, Finland.

Holmlund, M. and Strandvik, T. (1999b): Negative Critical Incident Mapping in Business Relationships. *Paper presented at the 15th Annual IMP Conference*, September 2-4, Dublin, Ireland.

Neuhaus, P. (1996): "Critical incidents in internal customer-supplier relationships: results of an empirical study", in Swartz, T.A., Bowen, D.E. and Brown, S.W. (Eds), *Advances in Services Marketing and Management*, Vol. 5, pp. 283-313.

Oderkerken-Schröder, G., M, van Birgelen, J, Lemmink, K, de Ruyter and M, Wetzels. (2000): Moments of sorrow and joy: An empirical assessment of the complementary value of critical incidents in understanding customer service evaluations. *European Journal of Marketing*, Vol. 34, No. 1/2, pp. 107-125.

Olsen, M.J.S. (1992): *Kvalitet i banktjänster. Privatkunders upplevda problem med banktjänster – en studie med hjälp av kritisk-händelse-metoden*, Edsbruk: Akademitryck AB, 3rd ed.

Olsen, M. (1996): The Critical Episode Model as a Tool fo Organizational Learning in Service Organizations. In Edvardsson, B. and Modell, S. (eds.) *Service Management*, Stockholm: Nerenius & Santérus Förlag Ab, Sweden.

Pettigrew, A.M. (1992): The Strategy and Significance of Strategy Process Research. *Strategic Management Journal*, Vol. 13, pp. 5-16.

Roos, I (1996): *Customer Switching Behavior in Retailing*. Working Papers No. 327, Swedish School of Economics and Business Administration, Helsinki, Finland.

Roos, I (1998): *Customer Switching Behavior in Retailing.* Research reports No. 41, Swedish School of Economics and Business Administration, Helsinki, Finland.

Roos, I. (1999): *Switching Paths in Customer Relationships*, Doctoral Dissertation, Publications for the Swedish School of Economics and Business Administration, No 78, Helsinki, Finland.

Roos, I. (1999a): Switching Processes in Customer Relationships, *Journal of Service Research*, Vol. 2, No. 1, August, pp. 68-85.

Roos, I and T. Strandvik (1996): *Diagnosing the Termination of Relationships.* Working Papers No. 335, Swedish School of Economics and Business Administration, Helsinki, Finland.

Stauss, B (1993): Using the Critical Incident Technique in Measuring and Managing Service Quality, in Scheuing, E. and Christopher, W.F. (eds.) *The Service Quality Handbook*, New York: American Management Association, pp. 408-427.

Stauss, B. and Hentschel, B. (1992): Attribute-Based versus Incident-Based Measurement of Service Quality: Results of an Empirical Study Within the German Car Service Industry, in Kunst, P. and Lemmink, J. (eds.) *Quality Management in Service*, Assen/Maastricht: Van Gorcum, pp. 59-78.

Stauss, B. and Weinlich, B. (1995): Process-Oriented Measurement of Service Quality By Applying the Sequential Incident Method. *Proceedings form a Workshop on Quality Management in Service V*, May 11-12, Tilburg, The Neatherlands.

Stauss, B and Weinlich, B. (1997): Process-Oriented Measurement of Service Quality. Applying the Sequential Incident Method. *European Journal of Marketing.* Vol. 31, No. 1, pp. 33-55.

Stewart, K. (1996): Relationship Breakdown – An Exploration in Retail Banking. *1996 International Conference on Relationship Marketing, Development, Management and Governance of Relationships* 29-31 March 1996 in Berlin.

Strandvik, T. and Liljander, V. (1994): Relationship Strength in Bank Services. *Proceedings from the 1994 Research Conference on Relationship Marketing: Theory, Methods and Applications*. Sheth, J.N. and Parvatiyar, A. (eds.) June11-13, Atlanta, Georgia.

Tjosvold, D. and Wong, C. (1994): Working with Customers: Cooperation and Competition in Relational Marketing. *Journal of Marketing Management*, Vol. 10, pp. 297-310.

Voima, P. (2000): Critical Incidents in Internal Relationships. Working Papers No. 420, Publications of the Swedish School of Economics and Business Administration, Finland.

Voima, P. (2001): Negative Internal Critical Incident Processes - windows to relationship change. Doctoral Dissertation, Publications of the Swedish School of Economics and Business Administration, Finland. Forthcoming.

APPENDIX A-1: INTERVIEW GUIDE

Male   Female   Age

Think of a time when a particularly dissatisfactory interaction took place in a relationship in your organisation.

When did the incident take place?

Exactly what happened?

How did you react?

Why was this incident dissatisfactory?

Tell me about the relationship within which the incident took place

- technical and social aspects/ before the incident and after

Why did this incident take place?

Did you communicate about it to anyone? How many? Who?

What kinds of feelings did you experience during the incident or event?

Did the feelings arise during the situation, or can you remember anything special about how you were feeling earlier that day. What were your feelings earlier that day?

Had a) this type of incident b) other types of incident occurred in

- the focal relationship (before the reported incident)
- within other relationships in the organisation?

Was this incident connected to a specific project?

What did the incident result in within the organisation

- the focal relationship
- local relationship/s?

What did the incident result in for the external customer?