

SECTION 2. Management in firms and organizations

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The impact of crisis on enterprise life-cycle

Abstract

Crisis management research tends to focus on the crisis and its management, ignoring the particular life stage that the enterprise is at. However, crisis management should adjust its focus according to the enterprise's life stage. This paper, from the perspective of the enterprise's life-cycle, analyzes crises and their impact on enterprises.

The aim of this research is to discover how different types of crises impact Chinese enterprises at the different life-cycle stages. The research questions are: 1) Which types of crises have occurred in Chinese enterprises? 2) At which life-cycle stage(s) did the crisis happen? 3) How did these crises impact Chinese enterprises in each life-cycle stage?

In this paper, exploratory, descriptive, and explanatory (casual study) approaches were used. The qualitative method (interview) was also used for this research due to its possibility to deepen the knowledge and understanding of the detailed information. The interviews included open and close ended questions about the impact of crisis on the enterprise. The method used for the primary data analysis was ordinal.

The analysis results indicate that enterprises at different life stages may encounter different types of crises; at the same life stage, enterprises encounter similar types of crises; and crisis may cause enterprise life stage shift. The findings of this paper, based on Chinese companies, may offer a reference for crisis managers wanting to detect, distinguish and determine the crisis and manage it effectively.

Keywords: crisis type, impact, character, enterprise life-cycle, stage.

JEL Classification: M10.

Introduction

Crisis is a low probability, high consequence event that is capable of threatening organizational legitimacy, profitability and viability (Shrivastava, 1987a: 194). Enterprises as one type of organization are affected by a variety of crises, such as changes in competitors, marketing alliances, new market products, availability of resources, corporate acquisitions, government regulations (Keeffe and Darling, 2008), and so on. Having experienced a series of radical changes in the last several decades (Alas et al., 2009), Chinese enterprises, therefore, are good samples for study crisis management at the organizational level.

Previous research in crisis management tends to focus on the crisis and its management, ignoring the enterprise's life stage. However, at each life stage, the enterprise manifests certain struggles (Adizes, 1999). These struggles, which consist of the enterprise's reaction to crisis, possess their own characteristics, procedures and requirements according to that concrete stage. At the same time, the failure to manage the crisis effectively leads to even more risk-laden eventualities for the organization and its stakeholders (Ulmer et al., 2007). Thus, crisis management should adjust its focus according to the enterprise's life stage so as to detect, distinguish, and determine the crisis in time and manage it effectively.

From the perspective of the enterprise life-cycle, this paper analyzes crisis and its impact on the enterprise. The paper starts with a theoretical overview of crisis management and enterprise life-cycle, then, the hypotheses were brought up, followed by the empirical study of 156 Chinese organizations and subsequent analysis.

The aim of this empirical study is to discover how different types of crises impact Chinese enterprises at the different life-cycle stages. The following research questions were formulated: (1) Which types of crises have occurred in Chinese enterprises? (2) At which life-cycle stage(s) did the crisis happen? (3) How did these crises impact Chinese enterprises in each life-cycle stage?

The results of the analysis indicate that at different life stages, enterprises may encounter different types of crises; at the same life stage, enterprises encounter similar types of crises; crisis may cause enterprise life stage shift.

1. Theoretical background

1.1. Crisis. Curtin et al. (2005) pointed out that a crisis can have serious consequences on a company's revenue streams; a badly managed crisis can severely damage a company, its reputation and its brand. Crisis challenges the public's sense of safety, values and appropriateness (Sapriel, 2003). Crisis can occur with little to no warning (Keeffe and Darling, 2008). It can happen to every firm (Nurmi and Darling, 1997).

Naturally, there are variations on the theme of crisis dynamics: a slow-burning, serious crisis may be hidden behind a clear-cut event that seems to be a simple, ordinary incident (Lagadec, 1993). Bolzinger (1982: 476) pointed out that “not every serious or dangerous condition deserves to be called a crisis”. However, in the real life of human society, “there is no realm that is not haunted by the threat of a crisis” (Morin, 1976: 149).

1.1.1. Definitions of crisis. Scholars and theorists have defined crisis from various perspectives. Hermann (1963) has given a classical definition: Crisis is an event surprising individuals, restricting their time for developing a response, and threatening their high-priority goals.

Nystrom and Starbuck’s (1984) notion of crisis is “threat to the organization’s own survival”, Fink’s et al. (1971) concept of crisis is “threat to the system in its entirety”. Tushman et al. (1986) perceived crisis as a “frame-breaker”.

One mainstream of management literature viewed a crisis as disrupting the technical core of an organization (Thompson, 1967), or its input-throughput-output process (Katz and Kahn, 1978).

All of these definitions could be involved in Pauchant and Mitroff’s (1992) definition that a crisis is a disruption that physically affects a system as a whole and threatens its basic assumptions, its subjective sense of self, (and) its existential core.

Pauchant and Mitroff (1992) mentioned three existential effects of a crisis: first, a crisis can threaten the legitimacy of an entire industry; second, a major crisis can reverse the strategic mission of an organization; third, the effect occurs at the individual level, that disturbs people’s subjective world, the sense of self-worth, power, and identity; their inner cohesion.

Charles Perrow (1984), from a historical and sociological view, considered crises the result of a cumulative process, which emphasizes that crisis is a normal phenomenon resulting from the complexity of the technologies we now use.

Irvin Janis (1989), from socio-psychological and political view, considered crises the result of faulty decisions, placing the responsibility of individuals and groups at centre. In his view, the purpose of crisis management is to decrease the usual constraints on decision-making and, thereby, avoid policy disasters that could be lethal.

Paul Shrivastava (1987), integrating the two previous perspectives, stresses that crisis is a normal event triggered both by the complexity of the system itself and by faulty decisions, as well as by the

interrelationships between technological systems and the humans who attempt to manage them.

Keeffe and Darling (2008) describe crisis as an unstable time or state of affairs in which a decisive change is impending – with a distinct possibility of either a highly undesirable outcome or a highly desirable and extremely positive outcome. It does not only mean that a crisis is both a danger and an opportunity; it also means that the destructive side of a crisis is itself a *sine qua non* condition for the development of an organization (Pauchant and Mitroff, 1992).

1.1.2. Types of crises. In academic field, scholars have developed many classification systems of crisis types. These systems help to reduce uncertainty when crises occur (Ulmer et al., 2007). The criteria of crisis classification systems are various. In this paper, the authors could only introduce some of them which are considered the most frequently used in academia.

Some scholars categorize crisis according to its character or forming up process; some classify it according to the triggered reason or source; others sort crisis according to its impact or result.

According to the character, Perrow (2007) in his disaster research defined three crisis types: natural disaster, industrial disaster, and terrorist disaster. Curtin et al. (2005) suggested there are three essential types of crisis: unlooked-for accident, manufactured, and crisis escalated for an accident.

According to the forming up process, crises can be divided into two types: abrupt crisis and cumulative crisis (Hwang and Lichtenthal, 2000). The former strikes suddenly and catches the management off-guard; the latter accumulates stressors and eventually erupts (ibid).

By triggered reasons, Lewis (2006) distinguished crises made by single person or group of people from natural disasters and infrastructure disruption.

By source, crises differentiate between intentional and unintentional crises (Ulmer et al., 2007). Intentional acts designed to harm an organization are terrorism, sabotage and workplace violence, but also poor employee relationships, poor risk management, hostile takeovers and unethical leadership. Unintentional crises are natural disasters, disease outbreaks, unforeseeable technical interactions, product failures and downturns in the economics (ibid).

Boin et al. (2008) classified crises according to the impact scope. Some crises affect the whole organization while others are related to only a few departments or some people.

Mitroff and Anagnos (2001) classified crises into seven types, according to the impact. They are economic, informational, physical, human resources, reputational, psychopathic acts, and natural disasters. Mitroff in his later literature (2005) defined each type of the crisis. According to Mitroff (2005), economic crisis was triggered by labor strikes, unrest, and shortage; major decline in stock price and fluctuations; market crash; decline in major earnings; and hostile takeovers. Informational crisis happens because of the loss of proprietary and confidential information; false information; tampering with computer records; loss of key computer information with regard to customers, suppliers, etc; and Y2K. Physical crisis was caused by loss or breakdown of key equipment, plant; loss of material suppliers and key facilities; major plant disruptions; explosions; faulty of poor product design; product failures; and poor quality control. Human resource crisis results from loss of key executives, personnel; rise in absenteeism or in vandalism and accidents; workplace violence; lack of succession plans; corruption; labor strikes, unrest, and shortage. Reputational crisis happens due to slander; gossip, sick jokes, rumors, damage to corporate reputation; tampering with corporate logos; and false rumors. Psychopathic acts are the results of product tampering, kidnapping, hostage taking; terrorism; workplace violence; criminal/terrorist/ psychopathic acts. Natural disasters are the consequences of earthquakes; fires; floods; typhoons; hurricanes; and mudslides.

In the light of crises results, organizations may face five types of crises. According to Sher (2006), *reputational crisis* happens when corporation inappropriately handles problems in product quality, package, function, and after-sales service, or when corporation behaves vilely which harms consumer's benefit, and finally badly harms corporation's public image. It includes corporate credit crisis and concatenated crisis. *Production crisis* happens when product package, variety, or quality can not meet market demand, and can not be accepted by consumer. As product loses its competitive ability and market share, corporation falls into crisis. *Financial crisis* happens when corporation's

financial behavior meets capital market change, interest or exchange rate adjusting, or stock market shaking. It results in a corporation's financial cost increase over its income, run out of working capital, and breakdown as a result. *Property crisis* is due to natural disaster or human accident; corporation loses a huge share of its property, so that it cannot stay the course. *Human resource* crisis includes lacking of competent person and key person leaving. Sher's (2006) classification is close to Mitroff and Anagnos' (2001) sort of crises. However, it does not cover crisis related to information or natural disasters which are necessary to sort crises in China.

Similar to Mitroff and Anagnos' (2001) classification, Coombs (2006) summarized different crises impacts into three categories. The first category includes crises that harm organizations reputationally and financially, such as product tampering, workplace violence, terrorism, computer hacking and rumors. The second category is called accidental crises, such as product harm, industrial accident, transportation mishaps, challenges and sudden loss of key personal. The third category is management misconduct which are the crises created by management, such as improper job performance and purposeful legal or regulatory violation. Coombs (2006) sorts crises in terms of both crisis impact (the first category) and triggered reason (the second and third categories). The second and third categories of crises can be resorted by the impact in accordance with Mitroff and Anagnos' (2001) classification.

To summarize, Mitroff and Anagnos' (2001) model represents or covers other scholars' category models. It is from both crisis impact and the triggered reason perspective that wholly includes all the possible crises types. Table 1 presents the connections between Mitroff and Anagnos' (2001) model and other models. Whereas this study aims at studying the impact of different crises on the enterprise life-cycle from a typological perspective, compared with others classifications, Mitroff and Anagnos' (2001) classification is more distinguishable and suitable, and was selected as the category model to sort crises by types.

Table 1. The connections between Mitroff and Anagnos' (2001) model and others models

| Mitroff & Anagnos (2001) | Economic | Informational | Physical | HR | Reputational | Psychopathic acts | Natural disasters |
|-----------------------------|-----------------------------------|---------------|----------------------|----|--------------------------|-------------------|-------------------|
| Hwang & Lichtenth-al (2000) | Abrupt crisis – cumulative crisis | | | | | | |
| Sher (2006) | Financial production | | Production, property | HR | Reputational, production | | |

Table 1 (cont.). The connections between Mitroff and Anagnos' (2001) model and others models

| | | | | | | | |
|---------------------|--|--------------------|-------------------|-----------------------------------|-------------------------------|-----------------------|---------------|
| Coombs (2006) | Financial harm | | Accidental crises | Accidental, management misconduct | Reputational harm, accidental | Management misconduct | |
| Lewis (2006) | Crisis made by single person or group of people – infrastructure disruption | Natural disasters | | | | | |
| Perrow (2007) | Industrial disaster | Terrorist disaster | Natural disaster | | | | |
| Ulmer et al. (2007) | Intentional/unintentional | Unintentional | Intentional | Intentional/unintentional | Intentional | Intentional | Unintentional |
| Boin et al. (2008) | Affect the whole organization – related to only a few departments or some people | | | | | | |

Source: Drafted by the authors.

1.2. Enterprise life-cycle model. For several decades, management scholars have conducted studies on the organizational life process and formed a number of 'life-cycle' models. Adizes (1999) suggested that every system has a life-cycle. Enterprises have life-cycles that parallel those of human beings (Allen, 1999). Regarding the enterprise life-cycle, scholars have used different models to divide the life stages and describe the characteristics of each stage.

From the perspective of enterprise goals, Churchill and Lewis (1983) brought up a five-stage model – Existence, Survival, Success, Take-off and Resource Maturity. The model (ibid) shows that as a company grows from young to mature, it becomes larger in size, less focused, more diverse and more complex (Allen, 1999). Some other theorists, such as Lippitt and Schmidt (1967), Flamholtz (1986), Scott and Bruce (1987), Kazanjian (1988), Adizes (1999), Allen (1999), and Smallbone and Wyer (2000) have also, from

the same or a similar perspective, presented their own life-cycle models with different life stage divisions and characteristics.

Based on Churchill and Lewis' (1983) model, Allen (1999) developed another five-stage model – Pre-Start-up, Start-up, Growth, Maturity, and Rebirth or Decline, and listed the needs and goals of each stage. According to Allen (1999), the Pre-Start-up stage is when the enterprise's concept is formulated, the enterprise does not indeed exist until the "start-up" stage.

From the organizational structure (Quinn and Cameron, 1983; Smith et al., 1985; Hanks et al., 1993; Lester et al., 2003) or leadership (Schein, 1985; Hoy, 2006) perspective, other scholars have brought their own models and the characteristics of each stage. Adizes' (1999) model tries to provide a complete view of all sides of the enterprise. Table 2 lists 14 scholars' life-cycle models and the distinguishable characteristics of each life-cycle stage.

Table 2. Life-cycle models and the distinguishable characteristics

| Scholars | Characteristics | Life-cycle model |
|-----------------------------|---|---|
| Lippitt and Schmidt (1967)* | Age, management focus, different interest groups' priorities, crises and presence of confrontation, structure, management formalization | Birth, adolescence, maturity |
| Churchill and Lewis (1983) | Age, size, dispersion, complexity | Existence, survival, success, take-off and resource maturity |
| Quinn and Cameron (1983)* | Age, size, efficiency, structure, formalization, centralization, leadership, culture | Entrepreneurial, collectivity, formalization, elaboration of structure |
| Schein (1985)* | Culture function, management generation, complexity, size, management style, top management composition | Birth or early growth, middle life, organizational maturity |
| Smith et al. (1985)* | Age, size (sales), size (staff), growth rate, top managers' priorities, Structural form, remuneration system, centralization, top managers' interaction | Inception, high growth, maturity |
| Flamholtz* (1986) | Age, size, growth rate, critical development objectives, organization, formalization of planning, control, budgeting, operational and management systems, leadership, decision-making | New venture, expansion, professionalization, consolidation, diversification, integration, decline |
| Scott and Bruce (1987)* | Age, size, growth rate, industry development stage, key challenges, Structural form, control system formalization, top management style | Inception, survival, growth, expansion, maturity |
| Kazanjian (1988)* | Age, size, growth rate, dominating management challenges, structural form, formalization, centralization | Conception and development, commercialization, growth stability |

Table 2 (cont.). Life-cycle models and the distinguishable characteristics

| Scholars | Characteristics | Life-cycle model |
|---------------------------|--|---|
| Hanks et al. (1993)* | Age, size, growth rate, structure, formalization and centralization degree, specialization | Creation, commercialization, growth, maturity |
| Adizes (1999)* | Age, size, normal and transition challenges, structural form, formalization of policies and procedures, leadership qualities needed, diversity, complexity | Courtship, infancy, go-go, adolescence, prime, stability, aristocracy, salem city, bureaucracy, death |
| Allen (1999) | Age, size, focus, diversity, and complexity | Pre-start-up, start-up, growth, maturity, rebirth or decline |
| Smallbone and Wyer (2000) | Age, size, growth rate, organization structure, information processes, control, plan, strategy | Start-up, survival/development, growth, maturity, decline |
| Lester et al. (2003)* | Age, size, power, information processing, type of organizational structure | Existence, survival, success, revival, decline |
| Hoy (2006)* | Age, size, founding leader's personality | Birth, growth, maturity, decline/renewal, death |

Source: The rows with * are sourced from Shirokova (2009). Others are drafted by the authors.

In summary, all these models present life-cycles ranging from three to ten stages. It is clear that enterprises are “born” (Lippitt and Schmidt, 1967; Schein, 1985; Hoy, 2006) at some point, and then grow to one size or another (Smith et al., 1985; Scott and Bruce, 1987), and finally they “die” (Flamholtz, 1986; Adizes, 1999) or enter a “rebirth” (Allen, 1999; Lester et al., 2003; Hoy, 2006). Thus, Allen’s (1999) model was selected for this paper to determine the enterprise's life-cycle stage.

1.3. Enterprise life-cycle stage and hypotheses. The relationship between the characteristics of the enterprise's life stage and performance indicators involve age and size as well as other variables (Storey, 1994). In Table 3, all the theorists mentioned “age” and “size” as the main distinguishable characteristics. Organizational aging can be averted with appropriate treatment (Adizes, 1999). For some companies the life-cycle is brief, for others their life spans decades (Allen, 1999). As Lester and Parnell (2008) pointed out, the enterprise's size changes dramatically as the organization moves through the life-cycle stages. Therefore, “age” and “size” are selected here as the dimensions for determining the enterprise's life stage in this paper.

According to Allen (1999), at each stage of the life-cycle, the needs and goals of the company differ. To meet these different needs and goals, the enterprise has to face different difficulties and overcome various indicative challenges and hurdles (Smallbone and Wyer, 2000) so as to retain stability and pursue development. According to Adizes (1999), difficulties arise when an organization moves from one life-cycle stage to the next. All these difficulties, challenges and hurdles require enterprise to make decisions appropriately, since the faulty decisions result in crises (Janis, 1989; Shrivastava, 1987) upon the enterprise. Furthermore, as Shrivastava (1987) comments, the complexity of the (societal and enterprise internal) system may either trigger crisis. Therefore, the first hypothesis may be proposed:

Hypothesis 1: At different stages of the life-cycle, Chinese enterprises may encounter different types of crises.

At “start-up” stage, enterprise's needs and goals are to identify the market, attract customers and sell products so as to acquire financial resources (Adizes, 1999; Allen, 1999; Smallbone and Wyer, 2000). Failure to achieve these goals results in enterprise revenue insufficient, even financial net loss, enterprise input-throughput-output process disrupting (Katz and Kahn, 1978). Thus, enterprise financial flow is broken or frozen. The enterprise has to face a series of difficulties which relate to finance, economy, in another word. Therefore, the second hypothesis may be proposed:

Hypothesis 2: At start-up stage, Chinese enterprises most frequently encounter economic crises.

At the “growth” stage, enterprises need to increase sales through exploring potential customers and building up customer relationships as well as building up predictable financing systems (Allen, 1999). In addition, in comparison with the previous stage, enterprises need to attract better quality staff (Smallbone and Wyer, 2000) to provide the conditions for setting up a professional management structure at the “maturity” stage. Therefore, hypothesis 3 was presented.

Hypothesis 3: At growth stage, Chinese enterprises most frequently encounter economic and human resource crises.

2. Empirical study

In this part, the methods used in this empirical study will be described and discussed. First of all, the authors conducting this research aim to discover how different types of crises impact Chinese enterprises at the different life-cycle stages. Based on the literature review and the presented hypotheses, the following research questions were formulated: (1) Which types of crises have occurred in Chinese enterprises? (2) In which life-cycle stage(s) did the crisis happen? (3)

How did these crises impact Chinese enterprises in each life-cycle stage?

2.1. Research methods. The methodology used in this research is necessary to fulfil the research tasks, test the hypotheses, and draw the correct conclusion. In this paper, exploratory, descriptive, and explanatory (casual) studies were used to fulfill the research tasks.

The exploratory study was used for generalize hypothesis. The descriptive study was used to serve the research questions, while the explanatory study was used to achieve the research aim.

The qualitative method (interview) was used to this research due to its possibility to deepen the knowledge and understand the detailed information about crisis management implementation in Chinese organizations.

The interview questions were formulated in English. It was translated into Chinese Mandarin to conduct the interview in China because the interviewees were Chinese natives. The interview questions include two parts. The first part is the sample company's information and the interviewee's position. The second part is focused on crisis happened in the sample company. It includes crisis type, happened time, triggered reasons, handling process, stakeholders, and the impact on enterprise. The interview questions are listed in the Appendix. The interviews time is between 30 to 90 minutes.

In the interview, the manager was asked to think about a certain crisis situations. For those interviewees who were insecure about the meaning of "crisis", the interviewers defined it as "a low probability event with serious consequences and short response time". The interviewees decided which crisis situations to focus on to describe.

Following the interviews, a content analysis of interview results was conducted so as to discover the answer of the research questions, i.e. the internal connections between crisis and enterprise life-cycle. The method used to analyze the data was ordinal. The primary data gathered via interviews were categorized and ordered. The hypotheses presented before were tested according to the analysis results.

2.2. The samples. From 2008 to 2009, 156¹ Chinese enterprises that had experienced crisis were interviewed. The selection was random except that the enterprise must have experienced a crisis. The sample companies were from Beijing, Guangdong, Jiangsu, Jiangxi, Hebei, Henan, Hubei, Hunan, Inner Mongolia, Shandong, Shanghai, Sichuan, Xinjiang

and Zhejiang provinces. Altogether companies from 14 provinces, 57 cities, represent agriculture, manufacturing, service and entertainment, finance and real estate, education, transportation, medication, technology and telecommunication industries. Middle to top-level managers from the sample companies were chosen as interviewees.

The size of the enterprises varied as follows: 35.9% (56 companies) had less than 100 employees; 25.6% (40 companies) had between 101 and 500 employees; 18.6% (29 companies) had between 501 and 1000 employees; 10.3% (16 companies) had between 1001 and 5000 employees and 9.6% (15 companies) had over 5000 employees.

The age of the sample companies was as follows: 60 enterprises (38.5%) were established before 1990, 40 enterprises (25.6%) were established between 1991 and 1997; 31 enterprises (19.9%) were established between 1998 and 2004 and 25 enterprises (16.0%) were established after 2004.

The management positions held by the interviewees were from different levels. Most of them (97 people, 62.2%) were middle level managers, 17 (10.9%) were assistants to the top managers and 42 (26.9%) were top-level managers.

2.3. Analysis. *2.3.1. Enterprise life-cycle stages.* To observe and analyze the type of crisis the enterprise encountered at each stage of its life-cycle, the sample companies were sorted into four different life stage groups based on Allen's (1999) model: the Start-up (S1), Growth (S2), Maturity (S3) and Rebirth or Decline (S4) stage. Since all the sample companies already existed, the "pre-start-up" stage was omitted.

"Age" and "size" were two main indicators to determine at which life stage the enterprise was when the crisis occurred, but not when the interview took place, since all the companies were still operational after the crisis. When "age" and "size" are insufficient for indicating the life stage, then other variables, such as business scope, turnover, growth rate, management structure and so on were adopted as additional indicators. The sort result is presented in Table 3: 21.8% of the companies were at the S1 stage; less than one third (30.8%) were at S2; the largest percentage (41.0%) belongs to S3; and 6.4% were at S4.

Table 3. Sample companies' (i.e. crises) enterprise life-cycle stage

| Life stage | S1 | S2 | S3 | S4 | Total |
|------------|-------|-------|-------|------|-------|
| Crises | 34 | 48 | 64 | 10 | 156 |
| % | 21.8% | 30.8% | 41.0% | 6.4% | 100% |

Source: Drafted by the authors.

¹ In 2008, 102 interviews were done; in 2009, 54 interviews were done.

2.3.2. *Types of crises.* Crises were analyzed according to Mitroff and Anagnos (2001) – over half of all crises were related to economy (51.3%), the second group to reputational (18.6%), the third largest group to human resources (16.0%), followed by physical crises (14.7%), information (13.5%), natural disasters (10.9%) and psychopathic acts (5.1%).

It should be clarified that each percentage in Table 4 is calculated based on 156 companies. In many cases, one crisis has dual or triple impacts on an enterprise, therefore, one crisis may belong to more than one crisis type. The significance of this calculation is in showing the frequency of each type of crisis among all the samples. Table 4 presents these results.

Table 4. Types of crises in total and at each stage

| Crisis type | Economic | Informational | Physical | HR | Reputational | Psychopathic acts | Natural disasters |
|-------------|----------|---------------|----------|-------|--------------|-------------------|-------------------|
| Total | 80 | 21 | 23 | 25 | 29 | 8 | 17 |
| | 51.3% | 13.5% | 14.7% | 16.0% | 18.6% | 5.1% | 10.9% |
| Rank | 1 | 5 | 4 | 3 | 2 | 7 | 6 |
| Stage 1 | 18 | 6 | 3 | 6 | 5 | 1 | 2 |
| | 43.9%* | 14.6% | 7.3% | 14.6% | 12.2% | 2.4% | 4.9% |
| Rank | 1 | 2 | 5 | 2 | 4 | 7 | 6 |
| Stage 2 | 26 | 3 | 8 | 11 | 10 | 2 | 2 |
| | 41.9% | 4.8% | 12.9% | 17.7% | 16.1% | 3.2% | 3.2% |
| Rank | 1 | 5 | 4 | 2 | 3 | 6 | 6 |
| Stage 3 | 28 | 10 | 12 | 8 | 14 | 5 | 12 |
| | 31.5% | 11.2% | 13.5% | 9.0% | 15.7% | 5.6% | 13.5% |
| Rank | 1 | 5 | 3 | 6 | 2 | 7 | 3 |
| Stage 4 | 8 | 2 | -- | -- | -- | -- | 1 |
| | 72.7% | 18.2% | -- | -- | -- | -- | 9.1% |
| Rank | 1 | 2 | | | | | 3 |

Note: * This percentage and those after in the table were calculated on the basis of each stage.

Source: Drafted by the authors.

2.3.3. *Consequences of crises.* When looking more carefully at each life stage, a clear profile of crises emerges. Obviously, nearly half of all crises at S1 were related to economy (43.9%), although other types of crises also attacked newborn enterprises. Equal percentages (14.6%) of crises were related to information and human resources. Reputational crises occurred in 12.2% of cases, physical crises in 7.3%, 4.9% are related to natural disasters, and psychopathic act occurred in 2.4% of cases. All of them impacted the entire enterprise (see Table 4).

Economic crises halted the company's business, reduced income, caused a lack of running capital and a net loss and reduced employee incomes. Development was held back or slowed down in some companies, and some even had to make employees redundant. Except for one company that failed to handle the crisis and jumped to S4 and fell into decline, all other companies finally resolved their crises.

Informational crisis resulted in a decrease in the enterprise's profits, an absence of active money, employees leaving or the loss of employee activity and lower service quality. Incorrect medical information led to one enterprise almost going bankrupt. The enterprise jumped from S1 directly to S4, then fell into decline without even passing through S2 and S3 stages.

HR crises caused a lack of labor force, a reduction in productivity, working discipline could not even be carried out and clients were even lost due to key employees leaving. Another enterprise that experienced a human resource crisis, had to pay huge amounts of money as compensation to an injured employee, since then the company ran out of working capital and fell into debt.

Physical crises led one company to suffer a break in its supply chain. Natural disasters damaged enterprise property, and even caused the daily operations in one company to stop altogether. Psychopathic acts disrupted a company's daily business for half a day and left an impression that the company was "a dangerous place".

At S2, economic crises (41.9%) were still the main type of crisis. Crises related to human resources (17.7%) shifted to second rank. Reputational crises (16.1%) were in the third group, and then came physical crises (12.9%), informational crises (4.8%) with psychopathic acts and natural disasters equal to 3.2% (see Table 4).

Six companies had several departments that were impacted during the crises. The other companies reported that the whole company had been

impacted. There were seven companies that shifted from S2 to S4 and fell into decline without any experience of S3. Four of them had a crisis related to economy, one mentioned a crisis related to HR and three said it was due to a reputational crisis.

Economic crises forced companies to speed up their market development, product and technological innovation, new product development and product range adjustment. Some companies had to improve cost control, reduce prices and improve product or service quality. These crises caused changes to their customer relations as well. Three companies encountered quite similar crises that after providing a product or service, their clients could not pay them the necessary large amount of money. The impact on each of the three companies differed. One company solved the crisis successfully and built up a long-term cooperative relationships with its clients. Another company shifted to S4 and fell into decline. Yet another tried all sorts of approaches to get the money back, and after getting the money, the company got rid of those clients immediately and started to seek new customers. In these three companies, no one had built up a predictable financial system (Allen, 1999) before the crisis occurred.

HR crises caused a drop in product or service quality, production was paused and clients were lost. It also affected the company's daily operations. One company could not even continue running its daily business. Most companies solved these kinds of crises successfully. These companies finally obtained stable and excellent personnel with the required skills, built up or completed the HR system and the business developed smoothly.

Reputational crises caused a reduction in sales revenue, an abrupt slump in performance in the following two years and were dropped by clients or customers. Several companies reported that daily operations were affected. Due to the crises, two companies became bogged down in public relation crises. The mainstream media began to pursue their every action and to dig up their past, and any shortcoming or weakness the company had was disclosed. The melamine scandal caused related sales chains to break down totally, and even the dealer or retailer involved felt the impact. Those companies' credibility plummeted to rock bottom in just a few days. One company's stock on the Hong Kong market fell by 60%. Three companies shifted to the S4 stage, fell into decline or were taken over by a competitor.

Physical crises caused tense customer relations, employee income cuts, a loss of the company's property and a halt in production. One company lost reputation; another totally broke down.

As a result of informational crises, company sales slumped, sales channels reduced and the company became overstocked. Psychopathic acts caused problems with customer relations. Natural disasters reduced company income.

At S3, the most frequently encountered crises were still economic crises (31.5%), though the percentage was lower. Reputational crises rose to second place (15.7%). Physical and natural disasters both ranked third on 13.5%. Informational crises occurred in 11.2% of cases, HR crises in 9.0%, and psychopathic acts in 5.6%. Crises impacted 11 companies partly, while in the remaining cases the crises impacted the entire company. Crises caused companies to shift from S3 to S4 within one to eight months. Two companies fell into decline, and three more were reborn as new companies (see Table 4).

Due to economic crises, the flow of capital slowed or even stopped in some companies. Some could not pay off their debts and purchase raw materials for production, and their accounts appeared as a net loss. Their supply chain broke and production dropped or stopped altogether, their turnover fell; they experienced an overstock of products, could not pay salaries and finally went bankrupt.

Reputational crises caused disapproval and criticism from suppliers, dissonant public relations or customer relations, an oversupply of products or completely stagnant sales or even product recalls and a loss of loyalty among the employees. Some companies were banned from producing their products. The crises not only destroyed the brand involved in the crises, but also affected other brands or products belonging to those companies.

Physical crises seriously affected the enterprise's main business, polluted the environment and threatened human life and security. Natural disasters reduced or totally destroyed farm productivity, damaged property and caused the loss of human lives. All the owners of orange farms in the Bactrocera (tetracus) minax (Enderlein) disaster area in Sichuan province had to remove all the ripened oranges from the trees and bury them deeply in order to avoid the disaster spreading. Their whole year's work had gone with the wind.

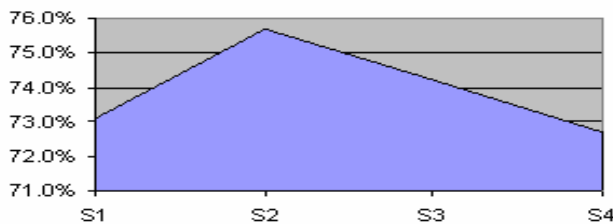
Information crises blocked the enterprise's sales channels and caused rumors about the companies. Inaccurate information led the customers to doubt the quality of the products or the investors to misunderstand. HR crises lowered the enterprise's service quality, sales fell into decline and they lost their competitive advantage. Some companies lost labor force or lost an excellent person with skills. Psychopathic acts harmed the enterprise's security, customer relations and reputation.

At S4, economic crises occurred in 72.7% of cases, informational crises in 18.2% and natural disasters in 9.1%. Information related to other types of crises was not found. These crises impacted the entire enterprise (see Table 4).

Economic crises halted production. The companies experienced a lack of capital, and could not pay off their huge debts. The crises forced companies to struggle for a living. One company successfully entered the S1 stage; two companies transformed their decline into a rebirth, while others went to S4 and remained there.

Information crises blocked sales channels and reduced the company's market share. Natural disasters damaged company property. Enterprises at the S4 stage may not have wanted to release any information, so it was very difficult to get information about companies at the S4 stage.

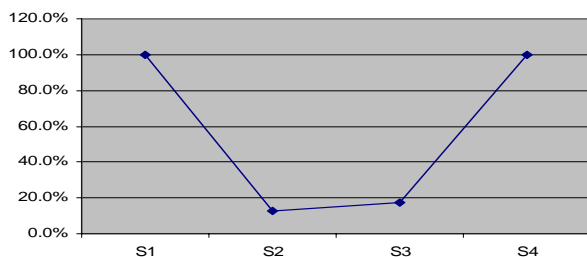
As Figure 1 shows, at S1, the main crises occurred in 73.1% of cases, at S2 in 75.7%, at S3 in 74.2%, and at S4 in 72.7% of cases. Overall, the main crises in each stage occur in 72% of cases on average, therefore, it can be said that the crises types at each life stage distribute concentratively.



Source: Drafted by the authors.

Fig. 1. The distribution of main crisis types at each life-cycle stage

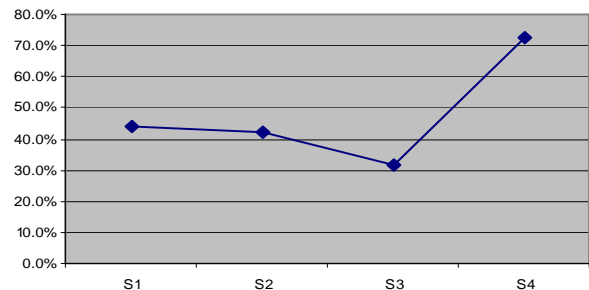
It was found that at S2 and S3, the enterprise is stronger than at S2 and S4 to deal with the crisis attack. Enterprises at S2 and S3 have smaller scopes attacked by crises than at S1 and S4. Figure 2 shows these changes. At S1, every company felt the impact of crisis in the entire company scope. At S2, 12.5% of the companies felt partial impact. At S3, 17.2% of the companies felt partial impact. And at S4, the companies once again all felt the impact of crises on the entire company scope. From S1 to S2, the impact scope trend falls, from S2 to S3, it rises slightly and then it rises to a high point at S4.



Source: Drafted by the authors.

Fig. 2. Crises impact scope

During different life-cycle stages, economic crises happen with different frequencies. Figure 3 shows that from S1 to S3 the frequency goes down. After S3, it rises up and reaches a peak at S4. This trend indicates that as enterprise is growing up to maturity (from S1 to S3), the ability to manage economic problem is improving. After enterprise maturity, this ability decreases.



Source: Drafted by the authors.

Fig. 3. Frequency of economic crises

Conclusion

The interviews and analysis present a clearer view of the connection between the types of crises and the enterprise's life-cycle stage. The hypotheses previously proposed should be re-evaluated.

Hypothesis 1: At different stages of the life-cycle, Chinese enterprises may encounter different types of crises.

This hypothesis was supported. At S1, the most frequently happened crises are related to economy, the second and the third ones are informational and human resource crises; at S2, economic, HR and Reputational crises were the first three frequently happened crises; at S3, economic, reputational, and physical and natural disasters impact the enterprise the most; at S4, economic crises are still the main type, information crises and natural disasters were both detected. Therefore, it can be claimed that at different stages of the life-cycle, Chinese enterprises encounter different types of crises.

Hypothesis 2: At start-up stage, Chinese enterprises most frequently encounter economic crises.

This hypothesis was supported. Economic crises attacked enterprises most often when they were just born i.e., at the start-up stage. Moreover, not only in the start-up stage, but also in each of the following stages, economic crises occurred, always, more frequently than any other type of crisis. It can be seen that economic crisis is the primary type of crisis that attacks Chinese enterprises most frequently.

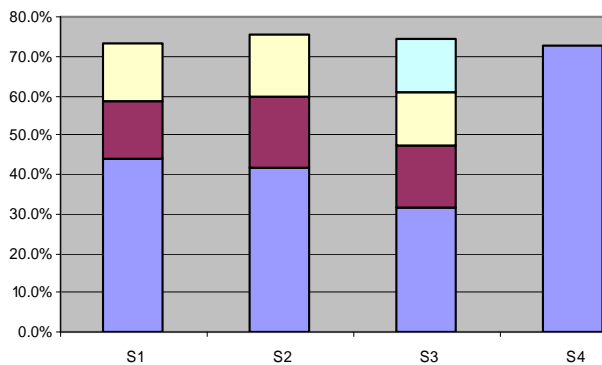
Hypothesis 3: At growth stage, Chinese enterprises most frequently encounter economic and human resource crises.

This hypothesis was supported. The analysis results indicate that economic crises rank first among all the

crises at S2. Human resource crises occur in 17.7% of S2 cases, which are the second frequently happened crises at S2. Therefore, at growth stage, Chinese enterprises most frequently encounter economic and human resource crises.

At each stage, the first three frequently happened crises were defined by the authors as the main crises types of each stage. The main crises types at each stage were summarized as follows.

At S1, the main types of crises that attack enterprises are economic, informational, and HR crises. Information was mentioned as a vital support element for enterprises. At S2, enterprises mainly encountered economic, HR, and reputational crises. The lack of a reliable financial system made it impossible for the enterprise to detect and avoid the crisis in time. At S3, the main crises are economic, reputational and physical crises and natural disasters. The Bactrocera (tetradacus) minax (Enderiein) disaster indicates that the government needs to promote and disseminate agricultural knowledge and prepare a comprehensive disaster action plan. At S4, the main crises are economic crises. Figure 2 shows the main crises at each stage.



Source: Drafted by the authors.

Fig. 4. The main types of crises at each life-cycle stage

The crises types concentrative distribution at each life stage indicates that enterprises encounter similar types of crises at the same life-cycle stage.

At each stage of the life-cycle, the enterprise, impacted by crisis, may enter another stage by shifting over one or more stages. At each stage, a crisis may accelerate this shifting process and may even cause the enterprise to jump over one or more stages and enter another stage. As Allen (1999) pointed out, unlike human beings, a company can reach a stage and then be “reborn” and go through a new life-cycle.

The crises impact scope changes during the enterprise's life-cycle. At S2 and S3, the enterprise is stronger than at S2 and S4 to meet the crisis attack. The impact of each type of crises can be summarized as follows.

Economic crises may cause enterprise lack of capital, decreased income, development slowness, looseness of customer relation, and even bankruptcy. The flexibility of enterprise controlling economic issue and/or preventing economic crisis goes stronger at the earlier stages of enterprise's life-cycle (S1, S2, and S3). After enterprise maturity, this flexibility starts to decrease.

Reputational crises may cause sales revenue fall to zero, clients leave, supply chain destruction, employee loyalty comedown, public and/or customer relation tension, company stock crash, or finally bankruptcy. HR crises result in lack of labor force, drop in product or service quality, loss of clients, and interruption of daily operation.

Physical crises pollute environment, damage both property and the company's reputation, reduce income, endanger human life and security, and even break down the whole enterprise. Information crises block company's sales channels, reduce profits, lower employee activity, decrease quality, and lead to company decline. Natural disasters damage property and human life, and reduce or completely cut off the enterprise's income. Psychopathic acts may cause a reduction or loss of the feeling of security and a customer relations breakdown.

It could be concluded that Chinese enterprises may encounter all kinds of crises during the enterprise life-cycle. Altogether, three types of crises – economic, reputational, and HR crises – occur most frequently among all the types of crises in Chinese enterprises. During each stage of the life-cycle, the main crises an enterprise encounters differ.

Limitations and further studies

Due to limited sources and information, the data about S4 may not represent the complete views of Chinese enterprises. Continuing this research and developing contacts with more interviewees may provide stronger data and further results of this field of study.

In the future, the impacts of other crisis dimensions on the enterprise are directions that also need research. Empirical studies in other countries could broaden the scope for making conclusions and generalizations.

References

1. Adizes, I. (1999), *Managing Corporate Lifecycles: How to Get to and Stay at The Top*. Paramus: Prentice Hall Press.
2. Alas, R., Gao, J., and Vanhala, S. (2009), The crisis management in Chinese and Estonian organizations, *Chinese Management Studies*, 3 (4), pp. 1-33.
3. Allen, K.R. (1999), *Growing and Managing An Entrepreneurial Business*. Boston: Houghton Mifflin Company.
4. Boin, A., McConnell, A., and Hart, P. 't. (2008), "Governing after crisis", in *Governing after Crisis, The Politics of Investigation, Accountability and Learning*, Boin, A., McConnell, A., and 't Hart, P. (Ed). Cambridge: Cambridge Press, pp. 3-30.
5. Bolzinger, A. (1982), Le Concept clinique de crise, *Bulletin de psychologie*, XXXV (355), pp. 475-480.
6. Churchill, N.C. and Lewis, V.L. (1983), The five stages of small business growth, *Harvard Business Review*, 6 (3), pp. 30-39.
7. Coombs, W.T. (2006), *Code Red in the Boardroom: Crisis Management as Organizational DNA*, Abingdon: Greenwood Publishing Group.
8. Curtin, T., Hayman, D., and Husein, N. (2005), *Managing a Crisis: A Practical Guide*. Basingstoke: Palgrave Macmillan.
9. Fink, S., Beak, J. and Taddeo, K. (1971), Organizational crisis and change, *Journal of Applied Behavioral Science*, 7, pp. 15-37.
10. Flamholtz, E.G. (1986), *Managing the Transition from An Entrepreneurship to A Professionally Managed Firm*, San Francisco: Jossey-Bass.
11. Hanks, S.H., Watson, C., Jansen, E. and Chandler, G. (1993), Tightening the life-cycle construct: a taxonomic study of growth stage configurations in high-technology organizations, *Entrepreneurship: Theory and Practice*, 18 (2), pp. 5-30.
12. Hermann, C.F. (1963), Some consequences of crisis which limit the viability of organizations, *Administrative Science Quarterly*, 8, pp. 61-82.
13. Hoy, F. (2006), The complicating factor of life-cycles in corporate venturing, *Entrepreneurship: Theory and Practice*, 30 (6), pp. 831-836.
14. Hwang, P., and Lichtenthal, J.D. (2000), Anatomy of organisational crisis, *Journal of Contingencies and Crisis management*, 8 (3), pp. 129-139.
15. Janis, I.L. (1989), *Crucial Decisions: Leadership in Policymaking and Crisis Management*, New York: Free Press.
16. Katz, D. and Kahn, R.L. (1978), *The Social Psychology of Organizations*. 2nd ed. New York: Wiley.
17. Kazanjian, R.K. (1988), Relation of dominant problems to stages of growth in technology based new ventures, *Academy of Management Journal*, 31 (2), pp. 257-279.
18. Keffe, M.J. and Darling, J.R. (2008), Transformational crisis management in organization development: the case of talent loss at Microsoft, *Organization Development Journal*, 26 (4), pp. 43-58.
19. Lagadec, P. (1993). Preventing Chaos in a Crisis: Strategies for Prevention, Control and Damage Limitation. Translated by Jocelyn M. Phelps. (original name in French *La Gestion des Crises*.) London: McGraw-Hill International (UK) Limited.
20. Lester, D.L. and Parnell, J.A. (2008), Firm size and environmental scanning pursuits across organizational life-cycle stages, *Journal of Small Business and Enterprise Development*, 15 (3), pp. 540-554.
21. Lester, D.L., Parnell, J.A., and Carraher, A. (2003), Organization life-cycle: a five-stage empirical scale, *The International Journal of Organization Analysis*, 11 (4), pp. 339-354.
22. Lewis, G. (2006), *Organizational Crisis Management: The Human Factor*, Boca Raton: Auerbach Publications.
23. Lippitt, G.L. and Schmidt, W.A. (1967), Crisis in a developing organization, *Harvard Business Review*, 45 (6), pp. 102-112.
24. Mitroff, I.I. (2005), *Why Some Companies Emerge Stronger and Better from a Crisis, 7 Essential Lessons for Surviving Disaster*, New York: Amacom.
25. Mitroff, I.I. and Anagnos, G. (2001), *Managing Crisis before They Happen: What Every Executive and Manager Needs to Know about Crisis Management*, New York: American Management Association.
26. Morin, E. 1976. Pour une crisologie, *Communications*, (25), pp. 149-163.
27. Nurmi, R. and Darling, J. (1997), *International Management Leadership: The Primary Competitive Advantage*, New York: International Business Press.
28. Nystrom, P.C. and Starbuck, W.H. (1984), To avoid organizational crises, unlearn, *Organizational Dynamics*, 12, pp. 53-65.
29. Pauchant, T.C. and Mitroff, I.I. (1992), *Transforming The Crisis-Prone Organization, Preventing Individual, Organizational, and Environmental Tragedies*, San Francisco: Jossey-Bass Publishers.
30. Perrow, C. (1984), *Normal Accidents: Living with High-Risk Technologies*. New York: Knopf.
31. Perrow, C. (2007), *The Next Catastrophe: Reducing Our Vulnerabilities to Natural, Industrial and Terrorist Disasters*, Princeton: Princeton University Press.
32. Quinn, R.E. and Cameron K. (1983), Organization life-cycles and shifting criteria of effectiveness: some preliminary evidence, *Management Science*, 29 (1), pp. 33-51.
33. Sapriel, C. (2003), Effective crisis management: tools and best practices for the new millennium, *Journal of Communication Management*, 7 (4), pp. 348-355.
34. Schein, E.H. (1985), *Organization culture and leadership*, San Francisco: Jossey-Bass.
35. Scott, B.R. and Bruce, R. (1987), Five stages of growth in small business, *Long Range Planning*, 2 (3), pp. 45-52.
36. Sher, L. (2006), Enterprise crises types and exhibition, *Chinese Information*, October 11, pp. 6. Translated.
37. Shirokova, G. (2009), Organisational life-cycle: The characteristics of developmental stages in Russian companies created from scratch, *Journal for East European Management Studies*, 14 (1), pp. 65-85.
38. Shrivastava, P. (1987), *Bhopal: Anatomy of A Crisis*, New York: Ballinger.
39. Shrivastava, P. (1987a), *Strategic management: Concepts and practices*. Cincinnati: South-Western.

40. Smallbone, D. and Wyer, P. (2000), Growth and Development in The Small Business, Explaining Growth in Small Firms, *Enterprise And Small Business, Principles, Practice And Policy*, 2nd ed. Carter, S. and Jones-Evans, D. ed. Harlow: Pearson Education Limited, pp. 100-126.
41. Smith, K.G., Mitchell, T.R., and Summer, C.E. (1985), Top level management priorities in different stages of the organization life-cycle, *Academy of Management Journal*, 28 (4), pp. 799-820.
42. Storey, D. (1994), *Understanding The Small Business Sector*, London: Routledge.
43. Thompson, J.D. (1967), *Organizations in Action*. New York: McGraw-Hill.
44. Tushman, M.L., Newman, W.H. and Romalli, E. (1986), Convergence and upheaval: managing the steady pace of organizational evolution, *California Management Review*, 29, pp. 29-44.
45. Ulmer, R.R., Sellnow, T.L., and Seeger, M.W. (2007), *Effective Crisis Communication: Moving from Crisis to Opportunity*. Thousand Oaks: Sage Publications.

Appendix

Interview questions

Company name:

- 1) Number of employees:
- 2) Industry:
- 3) Year of establishment:
- 4) Your position:

Please, describe one concrete crisis in your company, how it happened and how you solved it. Describe the crisis. What happened, what were the results of this crisis?

- 5) What type of crisis was it? (mark with “+”):

| Economic | Informational | Physical | HR | Reputational | Psychopathic acts | Natural disasters |
|----------|---------------|----------|----|--------------|-------------------|-------------------|
| | | | | | | |

- 6) How did this crisis start?
- 7) Did it happen suddenly (abrupt crises) or was it the result of accumulated stressors that eventually erupted (cumulative crisis)?
- 8) What was the scope of the crisis, did it influence the whole company or only some department?
- 9) Who was impacted by the crises? Who could feel the consequences of the crisis?
- 10) Who were the stakeholders, whose interests did the organization have to consider? Had the organization determined stakeholders already before the crisis or only after?
- 11) Please, indicate what stakeholders were considered the most important, second important and third important.
- 12) How did the company prepare for the crisis: Did the company determine principles that should be followed during solving the crisis before the crisis started?
- 13) Had the company formed any documents for solving crises before the crisis? Describe these documents. When were these documents written?
- 14) Were areas determined where crises could happen before the crisis hit? Was the potential of the crisis analyzed? Did they form a crisis center before the crises? Did they have a crisis plan? Have they been trained how to behave during crises?
- 15) How did the company react when the crisis happened? Please, describe in detail.
- 16) How was the process managed: Who led the process? How were decisions made? How were tasks determined?
- 17) How would you describe the management style in crisis situations in your company? Which characteristics did the leader need?
- 18) Describe crisis communication: Who was leading the communication? Which messages were sent out? Which channels were used? How were decisions made?
- 19) What was done to maintain the reputation of the company?
- 20) What did you learn from implementing these changes? What would you do differently in the future?
- 21) What would you suggest to others?
- 22) What were the most important success factors?