CHALMERS

Exploring the Shadows of Project Management

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Department of Project Management
CHALMERS UNIVERSITY OF TECHNOLOGY
Göteborg, Sweden 2004

THESIS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

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ABSTRACT

The project has become a preferred way of organizing work. Two major reasons for this trend are demands for increased market responsiveness and the empowering of workgroups in order to improve employee commitment. The implementation of project work has greatly been influenced by the project management school, with its roots in military-industrial projects during the Cold War period and the construction industry. The project management school focuses on single projects and puts an emphasis on the planning and execution of a systemic breakdown of the project task. The mechanistic single-project focus of the project management school is complemented by the increased standardization of the multi-project environment.

Acknowledging that both rationalistic planning methods and standards are important tools for making a project-based organization efficient, this thesis recognizes that the project is also an ad-hoc organizational form, suited to dealing with uncertain tasks, while the bureaucracy is the organizational form best suited to repetitive tasks. A number of mainly Scandinavian researchers criticize the project management school for overemphasizing the technological characteristics while neglecting the informal characteristics of projects. This thesis aims to revisit the informal perspective of projects in order to improve management in multi-project environments. Findings drawn from data collected at Swedish organizations indicate that the covertly informal behaviour of project managers makes instrumental contributions to project success. This covert behaviour within the shadow system is an important mechanism for dealing with shortcomings in the formal system of the organizations. These findings served as a basis for two different interventions at a Swedish pharmaceutical company which aimed to set up formally legitimized arenas for creating learning within the shadow system. The results show that shadow systems, contradictory to earlier theory, can be subjected to influences in ways which strengthen their constructive qualities. Such influences presuppose that the formal system of the organizations refrains from attempts to regulate and control by making the informal legitimate. Informal management tools can be used to improve project results as well as provide management with general feedback on the actual operations of the projects and on the formal system of the organization.

KEYWORDS: project management, organization theory, formal organization, informal organization, shadow system, project management framework

LIST OF PUBLICATIONS

This thesis is based on the work contained in the following papers, referred to by Roman numerals in the text:

I "How Frequent is Organizational Political Behavior? – A Study of Managers' Opinions at 491 Workplaces", submitted to The Leadership & Organizational Development Journal

(Co-author S. Kylén)

II "Rule Breaking in New Product Development – Crime or Necessity?", Creativity and Innovation Management, 10(1), 2001, pp.15-25

(Co-author T. Olin)

III "Making the Non-discussable Discussable – An Exploration of a Novel PM Method for the Design Phase", submitted to the International Journal of Project Management

IV "The Collaborative Development of Leader@site" in Adler, N., Shani, AB, and Styhre, A. (eds): Collaborative Research in Organizations: Foundations for Learning, Change and Theoretical Development. Thousand Oaks, CA: Sage Publications

(Co-authors S. Kylén, K. Mulec, J. Roth, M. Sundgren)

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Acknowledgements

Scene: April 2004, our dinner table, she is reading the morning newspaper one page at a time, I am trying to read Kylén (1993), Ollila (2002), Lundqvist (1996), and Jaffee (2001) simultaneously, erratically flicking through the pages, looking for clues on how to write my methods section, commenting aloud on structure, pagination and line spacing, while trying to figure out a way to get rid of the big, old freezer in the basement without having to carry it out myself.

She: “You will revert to your usual self after your dissertation, won’t you, honey?”
Me: “What, don’t you find it interesting to discuss scientific methods?”
She: “I usually do, but you’re on the brink of turning into sheer madness…”

This breakfast conversation occurred only two weeks after I became a bit absent-minded outside the supermarket and drove away in the car without her. It wasn’t that bad – I didn’t forget the kids, and I had only driven about a mile before re-entering the physical world and realising she wasn’t aboard. It seems she hasn’t forgotten about it yet, though. Only a few days later, a reviewer asked me why an earlier version of this thesis contained two different but similar chapters on learning theory. That was a surprise, as I only had intended to write one. A quick browse revealed that she was right. Thus, data indicates an increasing absentmindedness by the author during this spring. My apologies, everyone, and may the printing of this thesis become a symbolic signal to recovery.

Writing the acknowledgement section of a thesis is a difficult undertaking, as it is the part of a thesis that attracts most of the reading (Berglund, 2002). Considering the testimonies of absentmindedness above, there is a risk of me neglecting to credit all people who have helped me in creating this work. If so, remember that this document constitutes a piece of the formal system, and you may also use the informal system to approach me in person to receive the praise you deserve.

Let’s get to the business… I owe a thank you to Stefan, Kerstin and the other directors of former Astra Hässle who gave me the opportunity to attend Fenix, and

to all the academics who have made Fenix such an interesting place to be, among them Flemming, Horst, Bengt, Sven, Alex, Sofia, Niclas, Per, Armand, Rami, Mats, and Anders. Many thanks to my supervisor Sven, Flemming, Joseph Schaller, Kina, Alex, Per, Sofia, and Torbjörn Stjernberg for your efforts in order to make this thesis better, and to Torbjörn Näslund for your explanations on the academic system. A very special thank you to Sanne for your tireless remarks on my social constructions; *as I perceive it*, it has made a difference. Thanks, Cecilia for teaching how a design phase can be managed, and for introducing me into the beauty of architecture, Jon for being an archetype of confident behaviour ("maj dågg kann do datt"), Jonas for being… well, Jonas (some kinds of praise do not fit into a formal format), Tommy for reminding me how nice it is to be an engineer, Ulf for helping me to become better rap artist, Mats for the lectures on the distribution of nitrogen in the atmosphere, Peter for that hilarious break dance show on Saltmätargatan… Well I have better put a stop to this. Other fellow students, you are too many to be mentioned, but you know you have made a difference.

Finally, I want to thank Helena, Anna, and Ulla for the smiles you give me when I enter the front door, and what they stand for;

There was a boy
A very strange enchanted boy
They say he wandered very far, very far
Over land and sea
A little shy and sad of eye
But very wise was he

And then one day
A magic day he passed my way
And while we spoke of many things
Fools and kings
This he said to me
"The greatest thing you'll ever learn
Is just to love and be loved in return"

Lyrics for Nature Boy *by Eden Ahbez*

I promise I'll try to revert to my usual self…

Prologue

> While we would not wish to suggest a direct correspondence between the worlds of mafiosi and management researchers, there are a number of parallels (Easterby-Smith, Thorpe and Lowe, 1991 p47)

One of my colleagues at the pharmaceutical company, PharmaSite[1], where I work, stopped by my office the other day. "I heard that you're writing a thesis on the topic of exploiting concealed behaviour. That's intriguing – how did you ever come up with that idea?" she asked me. I was stumped. How did I ever come up with that idea? I had spent so many months making letters into words, words into sentences, and sentences into paragraphs that I had almost forgotten the origin of this research. Eventually, she left my office, but her question did not. I intend to use this preface to elaborate upon a response.

My interest in this research field was awakened in an inductive fashion by a certain incident about a decade ago. I was invited to participate in a series of design revisions of the annual appraisal process, for which PharmaSite's Human Resources department was responsible. During the first revision, the appraisal strategy was revised in order to increase the salary range. Particularly, the managers of PharmaSite were instructed not to use a common budget dedicated to structural differentiation for marginal salary increases; "don't hand out single 100 kronor bills from the structure pot". However, it turned out that the majority of the managers disobeyed this directive, as lots of employees received salary increases of 100 kronor from this source during the execution of the appraisal process that year. The year after, the Human Resources department emphasized the directive again, but to no avail; a large number of employees received salary

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[1] I understand that many readers of this thesis will be able to recognize which organizations are represented by the labels PharmaCorp and PharmaSite. However, I use these in the belief that it may help those readers who are my colleagues at PharmaCorp to adopt a detached perspective to the organization in which we work.

increases of 100 kronor from the same source[2]. The irrational behaviour of the deviant managers puzzled us. Why would anyone disobey such a rational and clear directive without reporting a proper reason? And it was not just anyone; it was a large number of the managers.

After being accepted as a doctoral student, I got the opportunity to relate this anecdote to a couple of senior organizational psychologists. They were not puzzled at all. "Ah, that's easy to explain", one of them said, "in an egalitarian society such as ours participative leadership is the norm. In 'stealing' those 100 kronor bills from the company, they were symbolically showing their employees that they are supportive. You were naïve in assuming that managers, during a short period each year would abandon their cooperation with the employees, only to comply with directives from a function of presumably marginal status." Pondering over the light that their perspective shed on my other experiences of deviant behaviour, I asked why not one single manager reported a need for such symbolic gifts. "Why would they", the other one asked, "and many of them were probably unaware of their reasons for doing it anyway." And then they introduced me to learning theory and how we humans skilfully do many things without knowing.

Aha – so members of organizations do not necessarily behave as they are told, they do not necessarily say why, and they are not necessarily aware of doing this. If we turn to academia, we can get instant explanations from theory, but for one reason or another, industrial organizations prefer to describe themselves in rational terms, which do not fully recognize behaviour like this. I must admit that this led to a major revision of my view of the management of organizations, at least those large enough to make it difficult for everybody to know what everybody else is doing. This is the reason why I have written a thesis exploring how individuals populating organizations do things that they have reason not to tell everybody else, and finding ways of making use of this. I hope that you will find it as intriguing as I do.

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[2] The appraisal strategy and directive are simplified for reasons of clarity.

1 Introduction

This thesis investigates managerial aspects of the interface between the informal and the formal systems in project organizations. Based on theory and empirical data, its aims to provide an understanding of how the interface between the systems can be developed. The thesis will also present findings regarding principles and foundations for developing managerial tools that enables the organization to use the knowledge and human capacity embedded in the informal system of the project organization.

This introductory chapter provides a background to the foundations of the formal and the informal in organizations, followed by an example of effects of the informal on organizational performance. The research purpose will be presented in terms of scope, purpose and research questions.

1.1 The Projectification of the Workplace

During recent decades, a number of driving forces such as changes in production and information technology, advances in the development of human capital and changes in work force preferences have caused a shift from 'Tayloristic' organization (characterized by specialization of task) to 'holistic' organization (characterized by integration of tasks, learning, and job rotation) (Lindbeck and Snower, 2000). Caused by major changes in the market and our outlook on mankind (Naisbitt, 1984, Beckérus, Edström, Edlund, Ekvall, Forslin and Rendahl, 1988), this shift is evident in both Western and Japanese organizations (Lindbeck and Snower, 2001). Research carried out by NUTEK[3] indicates that three out of four Nordic organizations had moved to the flexible organization (delegation of responsibilities, teamwork, training etc) of work during the 1990s and that a majority of the Swedish organizations report that they have decentralized the planning of work down to the level of the individual (NUTEK, 1999).

[3] The National Board for Industrial and Technical Development

This shift to a holistic organization has entailed a number of consequences. More and more company tasks are being performed in projects (Midler, 1995), but the shift has also influenced the work performed within projects. The traditional New Product Development (NPD) organization was one where technical professionals assumed responsibility primarily for the technical tasks. In addition to being responsible for the technical tasks, technical professionals now share responsibility for the overall cross-functional team task with other functions (Farris and Cordero, 2002).

Swedish society has been subjected to the same kind of transformation as any other Western society. The tradition of separating work design and production, introduced by the school of Scientific Management, focused on efficiency and neglected the interests of the workers. In the 70s, absenteeism and low commitment led to group-based work design and the involvement of the workers, which increased productivity (see further Cole, 1989). During the 80s, technical orientation was superseded by customer orientation. This transformation included the control of results (instead of budget), market orientation (instead of production orientation), and the delegation of decision-making (instead of central planning). This shift in doctrine (from management by rules and instructions to management by ideas) has induced a change of organization, where work groups are assigned ends but are allowed the freedom of finding the best ways. It has also led to increased communication across professional borders and increased uncertainty (Edström and Jönsson, 1998). This decentralization also took place in the larger structures of the industry. In the 80s, many large Swedish corporations realized that their divisionalized organizations could not respond quickly enough to shifting market requirements; subsequently, they were reorganized into standalone subsidiaries (Sjöholm, 1994). In the 90s, efforts to increase the responsiveness of Swedish industry continued by way of the abandonment of function-orientation in favour of process-orientation, and increased cooperation with suppliers and customers (Greve, 1999). The changes in the direction of self-design, group organisation and the projectification of work are a development

towards a stronger focus on mutual adjustment in order to enable more flexible and innovative workplaces.

The change from working in accordance with a standard to working in accordance with situational adaptation seems to have a rebound; as more and more resources are being put into projects, concerns for project success and efficiency are increasing. The development of novel products does not need to only match certain quality and resource criteria, it also needs to reach the rapidly-moving market in time. There are inherent forces in organizations that strive for the bureaucratization of work (Mintzberg, 1979). Thus, the generic parts of project work, e.g. planning and control, are being regulated by the bureaucratic system (Maylor, 2001). The striving for overall efficiency has influenced management to apply engineering methods to development projects (Ekvall, 2000). The dominant academic discourse on the topic of projects, the project management school, has to a large extent adopted the machine metaphor perspective, focusing on the management of the repetitive patterns of projects. In doing so, it overlooks both the specific issues of individual projects (Christensen and Kreiner, 1997) as well as the dysfunctions, which do not reside in the project but in its environment and the bureaucratic system itself (Deming, 1988). It could be worthwhile to explore organic approaches to support projects (see also Roth, 2002) and several authors have called for a more holistic view of the management of projects (e.g. Christensen and Kreiner, 1997, Wikström, 2000, Olin, 2002, Ollila, 2002, Engwall, 2003).

1.2 The Organization as an Entity of Formal and Informal Systems

Understanding of the interface between formal and informal systems in project environments requires a picture of how researchers view organizations and describe their inherent systems. A nowadays common definition of organizations is that they are associations of people who interact in a division of labour in order to achieve a given purpose (e.g. Lysons, 1997). Schein's definition stresses that organizations are created by intent; "A formal organization is the planned co-

ordination of the activities of a number of people for the achievement of some common, explicit purpose or goal, through division of labour and function, and through a hierarchy of authority and responsibility" (Schein, 1980 p15). This quality found in most organizations, i.e. that their activities are planned and that planning influences the organizations' ability to achieve their goals, may perhaps mislead us into believing that the intended design is what makes the organization achieve. However, organizations are also social systems and are thus indeterministic (Crozier and Friedberg, 1980); there is something about humans that stops us behaving like predictable machines.

Barnard (1938) was perhaps the first to differentiate between the organizational design and the non-design. He was the first to distinguish the *formal* from the *informal* organization, where the former is a system of coordinated activities intentionally designed to achieve set goals, and the latter is a system of networks affecting the attitudes, understanding and behaviour of the organizational members (other definitions of the 'formal' and the 'informal' are offered by a number of writers). One evident communality among them is of course that there is an 'informal' quality in organizations, a quality which is not designed, at least not intentionally and not by management, whose perspective management literature and textbooks usually take. However, researchers have been aware of the informal side of organizations for a long time and substantial contributions to theory have been made since Barnard's publication in the 30s. Any comprehensive textbook on the topic of Organizational Behaviour provides the theory for power, motivation, group dynamics, deviant behaviour, etc. Many of these theories of organizational behaviour reflect the organizational indeterminism and might be perceived by practitioners as fuzzy, imprecise and sometimes even contradictory (Hogan and Sinclair, 1996). However, any organizational researcher or manager who is tempted to neglect the informal side of organizations might consider the following example.

1.3 Anecdotal Evidence of the Impact of the Informal System

The workers of the old state-owned, bureaucratic British Rail found out that it was much more efficient to declare a 'Work to the Rule' than to declare a formal strike. The latter would mean not doing the job and thus straining the strike funds, while the former meant really doing the job. A Work to the Rule meant that all directives would be followed, causing train traffic to slow down, if not leading to a standstill (Morgan, 1998). The moral of this anecdote does not concern strike innovations but the characteristics of organizations. It concerns the unions calling for their members to obey the formal system of British Rail, thus revealing that the organization, even without any formal directives to do so, had corrected defects in its formal system.

However, as in the example of Work to the Rule striking, it is problematic to use Barnard's model to distinguish the informal organization from the formal one. As the workers comply with some regulations, they are a part of the formal organization; does this imply that they are a part of the informal organization when they neglect some dysfunctional rules, even when this deviation is made in order to contribute to the overall goals of the organization? The behaviour of the workers of British Rail indicates that organizations consist of a formal rule-based system, and an informal system which interprets the formal system and makes adaptations to it, thus constituting a self-designing system (Weick, 2001).

The example of British Rail was used to illustrate the inherent complexity of the relationship between the behavioural prescriptions of the formal system and the interpretations of the formal system made in the informal system. The informal system seems to have instrumental qualities in making the intentions of the formal system work. Also, representatives of the formal system seem to have an underdeveloped understanding of the way the informal system works, as an informal system does not necessarily invite to scrutinization. This covert part of the informal system, the shadow system, will be given attention in this thesis.

1.4 Purpose of This Thesis

The organizing of work by projects has one of its theoretical fundaments as an informal approach to performing work. However, the dominant discourse regarding projects, the project management school, has focused on the formal, rational aspect of projects management for decades (e.g. Engwall, 1995, Kreiner, 1995, Midler, 1995). Several authors have stated that our understanding of social phenomena is improved by adopting different perspectives (Bolman and Deal, 1991, Dahlbom and Mathiassen, 1995, Morgan, 1998, Scott, 1998). The dominant rational, mechanistic view of projects will be supplemented by one which could be labelled natural (Scott, 1998), romantic (Dahlbom and Mathiassen, 1995) or organic (Morgan, 1998), in order to recognize that the actual behaviour of the organization is only characterized to a certain extent by the organizational blueprint.

This thesis aims to research the relation between the formal and the covertly informal shadow systems of development projects conducted in mainly R&D settings. In order to contribute actionable knowledge, intervention research is applied on how to manage the intersection between the formal and shadow systems. The purpose of the thesis is to explore whether covert behaviour can become more instrumental for organizations if this behaviour is recognized by the formal system, and whether parts of this behaviour can be made discussable within the organization through specifically designed methods. Specifically;

- Can the covert activities of the shadow system be made discussable and usable in relation to the formal systems?
- How can the intersection between formal and shadow systems be managed?
- What design principles for developing tools to manage the intersection between formal and shadow systems could be important to consider?

2 The Research Setting

All research reported on in this thesis is performed in Swedish organizations. Findings from an R&D subsidiary (PharmaSite) of an international pharmaceutical corporation (PharmaCorp) are reported on in three of the four papers constituting this thesis, and a section is dedicated to describing this particular organization.

2.1 On Swedish Culture

Although several of the organizations under study are global, national culture is a major influence on working culture (Hofstede, 1980). Identifying national culture is a difficult task (Daun, 1998, Lavelle, 2003); nevertheless, a number of attempts have been made. Most reporting on national culture includes the work of Hofstede (1980). In his report, the Nordic countries (together with the Netherlands) form a group characterized by short power distance between managers and subordinates, a low level of need for rules and structures, a high degree of individualism and a low level of masculinity (Edström and Jönsson, 1998). Hall (1990) found Sweden comparable with the US regarding monocronism (the preference for doing one task at a time), and that both cultures have a rather low language context (the message lies within the spoken words). Trompenaar's (1993) study of managers reveals that Swedish and American managers tend to be universalists, but Swedes are more collectivistic. This finding, that Swedes comply more with group norms, is also shown in a recent comparison between Swedes and Danes (Havaleschka, 2002).

2.2 PharmaSite

PharmaSite is an R&D site of one of the world's largest pharmaceutical corporations. Its mission is to conduct research on a particular set of human biological systems in order to develop drugs to cure important diseases affecting those systems. Like most companies within the pharmaceutical industry, PharmaCorp is R&D-intensive, large, and characterized by the uncertainty of the

product development process, its reliance on recent academic findings, and the importance of intellectual property regimes (Santos, 2003). PharmaSite is a knowledge-intensive organization (Ljungberg, 1997) and as such, can be characterized as follows; it is concerned with problem-solving; it is dependent on its employees and their ability to take action; its employees are highly educated; the intellectual assets residing with employees are more important than substantial assets; the organization is strongly dependant on key personnel and their loyalty (Alvesson, 1992). PharmaCorp has been successful and PharmaSite has grown considerably during the last 15 years. When the author of this thesis entered PharmaSite in 1988, it employed about 650 people; in 2003, there were about 2,700.

Two kinds of PharmaSite projects are reported on in this thesis. One is drug development projects, whose products constitute the main deliverables of PharmaSite. The other kind is software development projects, which aim to provide process improvements for drug development projects, although they themselves are product development projects. Pharmaceutical projects usually take more than five years, while software development projects usually take between 6 and 24 months to deliver. The deliverables of the pharmaceutical projects are the core business, while the deliverables of the software projects are intended to support the business. PharmaSite is a matrix organization, where project members belong to both a line function and a project.

Interestingly, a number of articles and theses have reported on the characteristics of PharmaSite. Two theses have reported on studies on perceived cultural differences. Meist and Dequidt (2002) used a subset of Hofstede's questionnaire (1980) to study differences among American, British, and Swedish sites within PharmaCorp regarding their management of IT projects. Results show that PharmaSite is significantly lower on power distance, which reflects Hofstede's original study (1980). Results from Meist and Dequidt's interviews with project managers and project members also show that Swedes emphasize product quality over speed of delivery, in comparison to their American and British colleagues. Burgess (2001) reports a less hierarchical PharmaSite leadership style based very

much on participation and aimed at achieving consensus. She also reports on the perceived modesty of the Swedes. It appears that personal praise and recognition are not often expected, and that the successful outcome of a given task is taken as praise enough. This finding complies with Daun's (1998) report that Swedes are not shy but modest. Ingelgård, Roth, and Shani (2002) reported the 'atmosphere' at PharmaSite to be open and informal, where people are helpful to each other and are willing to share experiences and skills. Unfortunately, this willingness to help is rarely put to use, as employees of PharmaSite tend to avoid asking others for help (Ingelgård et al., 2002, Mulec, Wickenberg and Kylén, 2003). Finally, in a study not of culture but of stress during projects, Mulec and Castenfors (1999) reported that work at PharmaSite gets more and more projectified, causing employees to participate in more than one project at a time. Those employees feel that they have to concurrently 'serve' several project managers and that they act on a kind of internal labour market which expects them to perform well. This requirement of a 'can do' image prevents them from asking their managers to help them to deal with the work overload.

PharmaSite's performance has been excellent in terms of both the number and the market potential of the developed products during the last two decades. During this period, there has been no downsizing, only organic growth. Regardless of this success, the management team of PharmaSite has increased its focus on managerial and leadership issues during the last years. Recent studies reveal that both individual leadership programs and project team interventions have, in short term, led to improvements in performance (Roth, 2002, Mulec and Kylén, 2003, Mulec and Roth, 2004).

3 Frame of reference

As the aim of this thesis is to investigate a perspective on the organizing of projects and their contexts, the frame of reference will begin with a brief introduction to organization theory including learning theory. Then, theory on the matter of projects will be reviewed together with examples of current criticism. Finally, a revisiting of organizational theory will explore theories on the distinction between formal and informal organization.

3.1 The Study of Organizations

For the last one hundred years, organizational theory has been divided into what could be characterized as two extremes. One is the technical requirements of the organization ('organizations without people') while the other is the social aspects of the organization ('people without organizations') (Mullins, 2002). Subsequently, research has left the extreme endpoints of these two positions and has sought to explore relationships between the formal and informal systems. In 1961, Burns and Stalker found that a number of Scottish firms had developed different structures according to the demands of the markets they were acting upon; firms needing to adapt to changes in the marketplace had more non-standardized *organic* organizations than did those acting on more stable markets, with more standardized *bureaucratic* organizations. Crozier (1964) found that both standardization and formal systems of authority affect the informal structure, and are in turn affected by it. Galbraith (1973) examined the high cost of coordination at an airplane manufacturer and was among the first to explore the mechanisms of formal and informal communication in organizations. Findings like these are the basis of the Contingency Theory School, which has explored organizational structure as a function of the context of the organization.

Another school evolved around Boulding's systems classification model (1956), based on the general science concept of systemic analysis adopted from biology by Bertalanffy (1951). The basic idea behind systems thinking is that any research

object can be viewed as a component of a larger structure, but also as a structure comprising smaller components. The relationships between parts make them interdependent. Systems theorists view the overall work organization and the interrelationships between structure and behaviour. Boulding's model contains nine levels of systems, categorizing organizations as complex social systems far more open to change than the cybernetic models previously proposed (Mullins, 2002). Katz and Kahn (1966) extended the analysis of organizations as systems through underlining their dependence on their environment; in order to survive, an organization needs to interact with its environment. Institutional theorists have argued that the choices available to an organization are set by the expectancies of its environment; an organization needs to procure legitimacy in its environment in order to function. Accepting this argument, Perrow (1986) notes that the environments of organizations largely consists of other organizations and are therefore a target of influence. Thus, any given organization, or part of an organization, is subjected to the influence of its environment but may also act to renegotiate or counter this influence; in an open systems perspective, directives are replaced by interactions.

3.2 Different Perspectives of Organizations

It is of great importance that we make ourselves aware of how we prefer to perceive things, because we know the world only by how we see it (Lewin, 1936). Both management theory and practice are based on images, or perspectives, that make us understand situations in powerful but partial ways. If we recognize this, we learn to recognize that our favoured ways of managing and organizing often lead us to miss out on other ways of managing and organizing. The most favoured way of understanding organizations is the mechanistic perspective – to view them as machines (Morgan, 1998). Several writers, such as Morgan (1998), propose that the application of a different view presents different findings in the study of organizations. For instance, Huczynski and Buchanan (2001) present two models, a rational and a political one; Dahlbom and Mathiassen (1995) present two

perspectives, a mechanistic and a romantic one; and Bolman and Deal present four, the structural, human resource, political, and symbolic models (1991).

3.2.1 The Mechanistic Perspective

A famous work written in a mechanistic perspective is Henry Mintzberg's The Structuring of Organizations (1979). In order to explain how organizations develop, Mintzberg uses the example of Ms Raku, who makes pots in order to sell them. Ms Raku's pots are successful on the market, so she soon hires her first employee, Ms Bisque. As the number of people employed by the pottery grows, problems start to arise. As an example, Ms Raku opens the kiln to find that the hanging planters have all been glazed fuchsia by mistake. Ms Raku's response is to appoint Ms Bisque as studio manager, to supervise and coordinate the work of the producers of the pottery. Ms Raku herself buys a Marimekko dress (Mintzberg wrote this in the seventies) and sees to the pottery's customers. Mintzberg uses this example to show us that as organizations grow, they replace the mutual adjustment as the preferred mechanism of coordination with direct supervision, and then direct supervision with different kinds of standardization. Organizations are greatly shaped around their flows of information and decision-making. But, Mintzberg notes, when an organization has to work under extremely difficult circumstances, such as putting the first man on the moon, it reverts to mutual adjustment, as it cannot rely on any one person to know how to proceed. Mutual adjustment achieves the coordination of work by the simple process of unregulated communication. Mintzberg shows us how the coordination by mutual adjustment at the pottery must be superseded by direct supervision, because as the number of employees grows linearly, the number of possible communication links between employees grows exponentially. In small organizations, things work out by themselves; in large organizations, management needs to design and maintain a proper structure. Mintzberg describes mutual adjustment at the pottery thus; "And this required coordination of the work, a small problem, in fact, with two people in the pottery studio: they simply communicated informally" (1979 p1). A later work is just as imprecise; "The people who do the work interact with one another to

coordinate, just as two canoeists in the rapids adjust to one another's actions" (Mintzberg, 1999 p335). To a structure researcher, it is, perhaps, of little interest to explore how something unstructured works. But does this unstructured, social mechanism of regulating coordination, which makes mutual adjustment work, cease to exist once the organization has adopted a formal structure? Or does it still play an important role in the larger organization as well? Structure research, like Mintzberg's, has brought about great achievement in making us understand the formal structure of organizations. However, there is more to organizations than just structure. Theorists and practitioners are aware that organizations do not respond to the commands of management in the way that a machine would – individuals and groups behave in other ways than following instructions to the letter. Consider the following example from the space mission Skylab 4.

> *Skylab 4 was NASA's fourth and final space mission to the Skylab space station. The Skylab program was part of the Apollo Applications Project, a consolation prize for astronauts who would have gone to the moon on the cancelled Apollo missions. As it was the final mission, NASA had removed virtually every slack from the astronauts' schedule and treated the men as if they were robots. To get everything in, ground control shortened meal times and reduced the time for setting up experiments, giving the astronauts no time for their favorite pastimes – watching the sun and earth. The director of the mission said "We send up about six feet of instructions to the astronauts' teleprinter in the docking adapter every day – at least 42 separate sets of instructions – telling them where to point the solar telescope, which scientific instruments to use, and which corollaries to do. We lay out the whole day for them, and the astronauts usually follow them to a 'T'. What we've done is we've learned how to maximize what you can get out of a man in one day" (Weick, 2001 p404). This Tayloristic approach to managing the well-educated space crew would soon result in the first-ever sit-down strike in outer space. But before the strike, one of the astronauts had made a plea; "[…] the ground should give the astronauts the bare framework of a schedule, together with a*

shopping list of things for them to do, and then let the guys on board figure out the best way of doing them" (Weick 2002 p404). This had already been done, as the crew members had been given short lists of tasks that they could carry out if an extra five or ten minutes of observing time were to become available. The data collected on these occasions turned out to be so useful that soon the ground team was requesting specific allotments of time to be spent by the astronauts for this kind of experiments. Because the astronauts were the ones who had access to the sensor outputs, they were in the best position to select the most interesting features to study. In this activity, the crewmen performed as scientists. The director in mission control saw things differently; "What if a guy gets an instrument focused on a star and just then his buddies in the docking adapter maneuver the vehicle around to look at the earth? Or what if a guy starts riding the bicycle ergometer, jiggling the space station, while another guy is taking a long film of the solar flare? Now, say that I gave the crew a rough framework of a schedule that said for example, 'Do five orbits of solar work followed by two orbits of earth resources passes over Africa.' They might get so superinterested in the sun that they didn't get ready in time for the earth resources passes and miss an important target on the ground! With so many constraints, I'd say they're bound to screw things up!" (Weick, 2001 p405).

Viewed from a mechanistic angle, the story of Skylab 4 is one of imperfect machinery and a question of machine design; which part is best suited to controlling the other. The astronauts called for the decentralization of design work. Mintzberg (1979) describes three reasons for an organization to decentralize. The first one, i.e. that all decisions regarding multiple units cannot be understood or managed at one centre, only partially applies here since ground control did not have numerous space missions to supervise; however, it had lost understanding of the conditions in the space station. The second one is that it allows the organization to respond more quickly to local conditions, which is valid here. And

finally, it is a stimulus for motivation, an important matter for the effectiveness of organizations – but not of machines.

3.2.2 The Organic Perspective

When complementing the mechanistic perspective with an organic one, factors like motivation become apparent. The story of Skylab 4 resembles the problems to be found in long-wall mining (Trist and Bamforth, 1951), where direct communication between shifts and, indirectly, the understanding and acceptance of the other shifts was inhibited by the physical hindrance of coordination by mutual adjustment. The method used in long-wall mining was designed to increase efficiency by increasing specialization. However, there was, in fact, a decrease due to the reduced motivation and dysfunctional coordination of the miners. In the example of Skylab 4, and in long-wall mining, ground control/mining engineers defined themselves as planners and the astronauts/miners as the implementers, which is the basis of 19th century Taylorism. We now know that the seemingly distinct activities of planning, designing, and implementation often turn out to be fairly intertwined (Weick, 2001), reducing the efficiency of organizations that separate them. Furthermore, for more than half a century, theorists of the Human Relations school have recognized the influence of motivation on performance. As early as in 1957, Argyris recognized that “if formal organization is defined by the use of such principles as task specialization, unity of direction, chain of command, and span of control, then employees work in a situation in which they tend to be dependent, subordinate, and passive to a leader. This type of situation may create frustration, conflict, and failure for the employee. He may react by regressing, decreasing his efficiency, and creating informal systems against management” (Argyris, 1957 p1). The examples of Skylab and long-wall mining show that seemingly less rational ways to organize can lead to better results. While it may be tempting to view an organization as a machine, it rarely pays to treat the members of the organization as elements of a machine.

3.2.3 The Organizational Learning Perspective

An important social learning[4] theory, applicable when explaining organizational behaviour, concerns the tacit process of workplace socialization (Bandura, 1977, 1986, Chao, O'Leary-Kelly, Wolf, Klein and Gardner, 1994). Another discourse of learning theory is Organizational Learning, which can be defined as changes in organizational practices (Ellström, 2001), thus implying that individual learning is a necessary, but not sufficient, condition for organizational learning to occur. The Organizational Learning discourse comprises a descriptive as well as a normative strand (Robinson, 2001). The managing of organizational learning is a difficult (Popper and Lipshitz, 1998, Steiner, 1998) but important (Shapiro, 2000) exercise for improving the competitiveness of the firm which has drawn increased attention during the last decade, and thus industrial practices, such as Deming's (1988) Continuous Improvement, have produced tools which influence organizational learning (Murray and Chapman, 2003). A number of academic writers have addressed workgroup learning (e.g. Poell and Krogt, 2003) as well as individual learning (e.g. Ollila, 2000, Chivers, 2003) aimed at workgroup improvement. Bushe and Shani (1990, 1991) have proposed a model of analysis for tools like these aimed at improving organizational learning, which identifies an *integrated learning mechanism* as one where the existing processes, structures, and tools of the organization are used, in contrast to the *parallel learning mechanism*, which requires separate processes, structures, and tools. Different learning mechanisms can be applied to the same organization; two examples of such mechanisms in use at PharmaSite are the parallel learning structure reported by Roth (2002) and the integrated learning mechanism reported by Pourkomeylian (2002).

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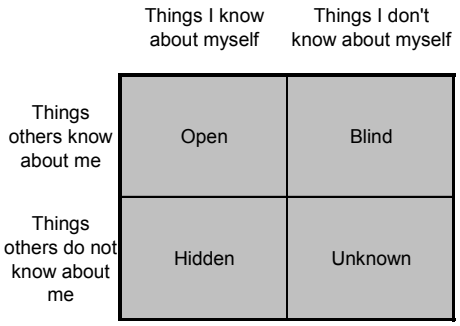
[4] Huczynski and Buchanan (2001) use the term *declarative learning* for the layman's use of the term *learning*, which usually occurs in school; such learning may not be evident until we are asked the right question. The classical behavioural discourse of learning theory introduced by Watson (2004) defines learning as an imminent, observable change of behaviour, while the modern cognitive discourse recognizes the learning of an individual as a change of the internal workings of the individual's mind.

The work of Argyris and Schön (1974, 1978) and Argyris (1982, 1990) introduces the concept of *the learning organization* and thus serves as the basis for a large part of the Organizational Learning literature is. One definition of a learning organization is; a form of organization that enables the learning of its members in such a way that it creates positively-valued outcomes, e.g. innovation, efficiency, better alignment with the environment and competitive advantage (Huysman, 1999). One problem concerning the understanding of behaviour within organizations is that we believe we act in accordance with one set of theories (our *espoused theories*) while we actually behave in accordance with others (our *theories in use*). The difference between these sets, the distorted view of ourselves, is larger as regards issues that we perceive to be embarrassing or threatening; such distortion is a major inhibitor of efficiency at work (Argyris and Schön, 1974, Argyris and Schön, 1978). According to Argyris (1990), members of organizations are prevented from learning because of defensive reasoning and routines, especially occurring in threatening situations. This way of thinking includes the three action values; seek to be in unilateral control, win, and do not upset people. These strategies, which Argyris labels Model I thinking, are often enacted in a quick and skilled way, making its actors unaware of what is going on and preventing any inquiry, which could have created a better understanding. In order to support learning, actors need to replace Model I thinking with Model II thinking, which consists of two action strategies; advocate your position and encourage inquiry or confirmation of it (by making public the reasoning that led us to our standpoint), and minimize our face-saving of others (thereby increasing feedback about distortion). Thus, Argyris' argument is that if we can create a climate where we can abandon Model I thinking in favour of Model II thinking, we will better be able to help each other to reduce distortion, i.e. our understanding of the actions we really perform, thereby increasing the efficiency of our actions. Argyris, Putnam, and Smith (1985) have presented a method, Action Science, which aims to increase organizational learning through creating collective arenas of Model II reasoning.

Learning literature advocates that, in order for an organization to learn, a climate of shared openness must be created, as exemplified by the Model II reasoning mentioned above.

Another example of learning theory is the JoHari model (Luft, 1961, 1969). It was designed to explain the need for learning on the individual level within groups (Figure 1).



It consists of four areas; the open, the blind, the hidden, and the unknown. The open area consists of things I know about myself and which others know about me. The blind area consists of things I don't know about myself, but which others do. The hidden area consists of things I know about myself, but which others don't. And finally, the unknown area consists of things nobody knows about me. Luft argued that, in order to increase self-knowledge, the individual should inquire from others what they know about the individual ("ask"), and the individual should invite others to understand what the individual knows about the individual ("tell"). In the Johari window, this corresponds to the open area expanding into the blind and hidden areas. Luft recognized that, for such an exchange of knowledge to occur, trust is required.

3.3 Bureaucratic Organizations and the Emergence of Adhocracies

There seems to be shift from the mechanistic to the organic perspective in organizing. This could be illustrated by the decline of bureaucratic organizations and the emergence of adhocratic organizing. In an early contingency work,

Thompson (1965) warned that the contemporary structure of organizations, the bureaucracy, fostered a drive for productivity and control which made them unfit for the increasing pace of technical innovation. The bureaucracy's monocratic structure has its emphasis on the superior-subordinate relationship. According to Thompson, a system which holds a single point of authority will not tolerate conflict, which in turn is a necessary characteristic of innovation. Another important attribute of the bureaucracy is that it demands that its members align their goals to the ones of the owner's. Alas, there is no right to 'joy at work'; to allow for such a right would be to admit interests other than the owner's and that would lead to the loss of control and influence over the members. Another fallacy of such monocratic organizations is that when innovative proposals are referred upwards in order to reach a point of proper jurisdiction, any veto along the way will reject the proposal, as all decisions are final. Thus, even if a monocratic organization allows ideas, it will have a fallacy to veto them (Thompson, 1965). Also, bureaucracies are prone to suffering from a loss of focus on the overall organizational goals, as each specialist function focuses on its internal efficiency instead (Abrahamsson, 1998).

In 1979, Mintzberg published his synthesis of research on organizational structure. Based on a literature review of over 200 articles and books, he presented five generic elements of organizations, identified five different mechanisms of coordination, and a set of formal and informal flows. He presented a model which stipulates that a number of design parameters and contingency factors make an organization adapt one of five specific structural configurations. This work is one of the most frequently referred to in social science (to date, it has been quoted in more than 1,100 articles in journals scanned by the Web of Science library service). One of the five structural configurations in Mintzberg's model is the adhocracy; the only one capable of sophisticated innovation. Its opposite, the bureaucracy, is designed for performance, not problem-solving; the idea behind a bureaucracy is to deploy standardized responses to a number of recognized situations. A demand of innovation requires an organization to be able to assemble a team of experts

from different disciplines into smoothly-working ad hoc project teams. The adhocracy is non-standardized, highly organic, and with little formalization of behaviour. Typically, the work done in an adhocracy is conducted in a matrix where the experts belong to functional units, but are deployed in project teams to do the work. It cannot rely on standardization for coordination; it must avoid the trappings of the bureaucratic structure, divisions of labour, and an emphasis on planning and control. Mintzberg notes that adhocracies are not highly ordered, but are nevertheless the most complex of the five structures in his model. As an example, while the strategy formulation in a bureaucracy is the functional breaking down of a conscious top-management decision, strategy in an adhocracy is formed implicitly by all the decisions concerning innovation and design. Top management in an adhocracy is much more involved with the external environment, which, in comparison with the bureaucracies, is very undefined. Mintzberg recognizes that the adhocracy is the structure about which science knows the least, partly because it is the newest structure, and partly because a structure of great complexity and low order is very hard to characterize (Mintzberg, 1979). Later, Mintzberg revised his model, adding a sixth generic element and a sixth mechanism of coordination to it, as well as revising the structural configurations (Mintzberg, 1999). The writings on the adhocracy, or 'the innovative organization', were extended. Mintzberg attributes this structure to "the industries of our age" (1999 p350), as organizations now need to innovate in more complex ways. However, youth is a precondition for an adhocracy, as it is difficult to keep a structure in an organic form for a long time. As Mintzberg puts it, "all kinds of forces drive the Adhocracy to bureaucratise itself as it ages" (1979 p455). An adhocracy might, for instance, be tempted to escape the risk of innovation efforts failing by standardizing its products or services and thus becoming a bureaucracy.

Mintzberg correctly predicted that projects would become the preferred way of organizing novel work (e.g. Brown and Eisenhardt, 1997, Adler, 1999a). His argument was based on the observation that a rapid rate of technological development required the deployment of the adhocracy. However, as was stated

above, this drive of technology has been supplemented by one of human relations; the societal development of the way of organizing skilled work in the Western hemisphere replaces transactional leadership with transformational leadership, strict specialization with group work and self-contained tasks; work which is suitable to be organized in projects (Ekvall, 1988).

3.3.1 Is Adhocracy the New Bureaucracy?

The adhocracy has emerged as the preferred way of organizing. But will it prevail? Mintzberg noted that "all kinds of forces" will drive the adhocracy to bureaucratize itself (1979). In his work on organizational renewal and its counterforces, Ekvall (1988) writes that, in order to innovate, organizations need to host creative processes and behaviours. As creativity occurs in the mind of the individual, organizations need to allow for individual creativity. The bureaucracy is an impediment to the necessary increase in change ability and flexibility, required of business, according to Ekvall (1988). He sees this need for change as being induced by the development of science and technology. But man's desire for a certain, predictable, well-planned and efficient operation has been allowing its deep roots to develop into industry for more than a century. This desire is materialized in administrative aids such as work and method studies, network planning, operational analysis, logistics, etc. and is particularly dominant in the large companies, making them well-nigh impossible to deflect from their current course. A common mistake made by the management of large corporations is to try to control R&D functions using the same means as for production, i.e. through lean budgets and demands for quick pay-offs. According to Ekvall (1988), R&D aimed at radical innovation is not predictable as regards time, spending and results in the same way as production. The demands for control imposed by top management have forced R&D managers to focus on incremental innovation, improving only existing methods, materials and technology. This, in turn, creates an attitude of irony or sarcasm in the creative members of the R&D organizations (Ekvall, 1988), thus boosting the shadow system of the organization.

3.4 Theory of the management of projects

A common configuration of the adhocracy is the project organization. It is perhaps the most obvious sign of the shift from the mechanistic to the organic perspective. However, a large part of the project theory seems to have developed under the influence of the mechanistic perspective.

> *"Project management is a science in that it relies on proven and repeatable processes and techniques to achieve project success. It is an art because it has a lot to do with managing and relating to people and requires intuitive skills to apply in situations that are totally unique for each project." (Mochal, 2003)*

The above quote from a software project consultant is selected in order to illustrate the dominant discourse on the management of projects, the Project management school, through its mechanistic focus on the generic execution of a single project. In contrast, managing its situational and non-mechanistic characteristics is not considered science but art. This thesis disregards the argument of the informal being an art, and argues that both formal and informal systems of projects can be made subject to research. Henceforth, the term *project management* is the management of projects; the term *project management school* has the meaning of the dominant practitioner discourse of managing projects, as illustrated by the above quote.

3.4.1 The Ideology of the Project Management School

Engwall's (1995) analysis of the project management school reveals that its contributions have largely been influenced by the ideology behind the planning methods developed for large American defence contracts in the 50s and 60s. The project management school's recipe for successful project management comprises a well-defined task, clear responsibilities and demarcations, particularly detailed planning and a break-down of the task, and finally an execution of the project where deviations from plan are carefully monitored and reported to a management structure which deals with those deviations. A fundamental model of analysis is

that projects host three interdependent dimensions; cost, time, and functionality. Any change in one implies a change in either one or both of the other. During the Cold War arms race, timing was essential and planning methods such as PERT and CPM were developed, offering a graphical view of the investment of time and resources assigned to each part of the divided task. The many important technical achievements during the Cold War period caused a booming interest in the management of projects, with a focus on the development of complicated technological products. Today, tens of thousands of practitioners are members of organizations like the Project Management Institute (PMI) in the US and the International Project Management Association (IPMA) in Europe. Central to the project management school is the striving for efficient project management and the belief that it is difficult, but yet possible, to control and manage project work. In the textbooks, the success or failure of a project is not determined by the nature of the project, but by how well the project is managed by its actors, i.e. the project manager and his or her co-workers. The management of a project is seen as something that can be controlled by the project manager in the same way as a skipper controls his ship. This is evident in the PMI definition of project management:

> *Project Management is the art of directing and coordinating human and material resources throughout the life of a project by using modern management techniques to achieve predetermined objectives of scope, cost, time, quality and participant satisfaction (PMI, 1987 p4-1).*

3.4.2 Critical Findings Regarding the Project Management School

In his analysis of the project management school Engwall identifies three tacit, but evident, premises. The first is that efficient project management results in successful projects; the second is that efficient project management can be evaluated according to general criteria; and the third is that efficient project management is achieved by the application of methods provided by the project management school. Engwall (1995) found it hard to match empirical findings

from three major industrial projects to these assumptions. Both the definition and characteristics of the projects differed to such a large extent that it was hard to define common criteria regarding what constituted efficient project management, as well as evaluation criteria for their overall success. One of the three projects, which was being managed by a formalized and strict breakdown structure and planned in accordance with modern methodology, became plagued by internal antagonism and covert resistance by different project members. Another, which was managed informally, without the deployment of a standard method, and even without any appointed overall project manager, turned out to have a smooth execution.

Engwall argues that situational factors such as the novelty and status of each project, in conjunction with the legitimacy of the applied management style in the host organization, have a greater influence on the management of projects than do the three premises of the school. While acknowledging that the school of management has made important contributions to the management of projects, especially in creating a common vocabulary and offering a perspective on depicting projects, Engwall argues that the project management school is not a collection of theories but a set of practical terms, methods, and rules of thumb, formulated by practitioners in order to solve practical problems. He warns that the normative characteristic of modern textbooks on project management may give the reader the impression that project management is a more structured and categorized topic than is really the case (Engwall, 1995).

3.4.3 The Scandinavian View of Projects

Sahlin-Andersson and Söderholm (2002) included Engwall in a discourse conducted by mainly Scandinavian researchers who have criticized the project management school and called the discourse *The Scandinavian School of Project Studies*, aiming to take a wider, and simultaneously closer, approach to the study of project management than the discourse of the project management school. For instance, Lindkvist and Söderlund (2002) noted that linear models of project

management[5], popular for describing projects, fail to recognize the need for variation and learning in order to achieve innovative tasks. Also, the project management school's focus on planning and execution may divert the attention of the practicing project manager away from the overall setting of the framing of the project (how and by whom are the project directives developed and which resources are initially allocated to do this), as well as the interaction with the customer of the project and other stake holders in the project environment. For instance, as project managers aim to exercise control over the execution of their projects in a controlled way, they deflect disturbances away from the project environment. A project manager who shuns any redefinitions of the task by the customer and sticks to the original plan may claim to be successful, in accordance with the originally set goals, but he or she delivers a result which does not match the customer's needs (Kreiner, 1995). Also, considering the influence of practicing project managers, it stands to reason that the project management school focuses on the successful execution of a single project, and where its success is measured in comparison with the project objectives. One dilemma in an environment hosting multiple projects is that one, albeit successful, project might exhaust common resources, causing other projects to suffer (Engwall and Jerbrant, 2003).

3.4.4 Product Development Projects

Another discourse regarding projects is related to product development. While the project management school is focused on the rational breakdown and planning of the execution of the project, product development focuses on managing the technology as such, and the decision models around it (Adler, 1999a). Its foci are on prescriptive management tools and practices (e.g. Cooper, 1979, Clark and Fujimoto, 1991, Wheelwright and Clark, 1992), the balancing of exploration and exploitation, or, using other terms, radical and incremental change (e.g. Kanter, 1989, March, 1991, Leonard-Barton, 1992), coordination and communication (e.g.

[5] E.g. Initiation phase -> Planning phase -> Implementation phase -> Termination phase

Galbraith, 1973, Allen, 1977, Katz and Allen, 1982), and knowledge creation (e.g. Nonaka, 1990, Nonaka and Takeushi, 1995, Iansiti, 1998) (Lundqvist, 1996, Adler, 1999a).

Adler's (1999a) review of product development literature, including the project management and management of technology schools, and organization theory, reveals that its major part is based on the assumptions that (1) the overall task is best managed by separating the novelty (uncertainty) aspects from the complexity aspects; (2) complexity is best managed by decomposition into subsystems; (3) novelty (uncertainty) is best managed by rigorous planning; and (4) coordination efforts are best reduced by allocating specialist resources to the different tasks so as to make them as independent as possible. The opportunity provided by substituting the linear, procedural logic, which aims to reduce uncertainty, with an interactive logic, which accepts that uncertainty is inevitable, is only recognized by some authors (Gustavsen, Hart and Hofmaier, 1991). For instance, Iansiti and MacGormack (1997) recognize that, in order to reach the market early, the development phase of a product might have to be commenced before the concept phase has finished.

3.4.5 Social Characteristics of Projects

There are also some texts which address the social characteristics of projects, e.g. the influence of leadership (Ammeter and Dukerich, 2002, Ollila, 2003) and political behaviours (e.g. Pettigrew, 1973, Lin and Ashcraft, 1990, Pichault, 1995, Hislop, Newel, Scarbrough and Swan, 2000, Koch, 2000, Peled, 2000), and even some recent contributions in journals associated with the project management school (Pinto, 2000, Sotiriou and Wittmer, 2001). This literature recognizes that an intrinsic change in any innovation, of product or process, in conjunction with the uncertainty involved in design decisions, causes reactions in the informal system of the organization; thus, the inherent uncertain change in projects makes them, to varying degrees, an arena for organizational politics (Frost and Egri, 1991). The degree of organizational politics performed in the context of change is dependent

on both the magnitude of the change and the change target; the more radical the change and the more strategic the business targeted for the change, the larger will be the political activities of both the opponents and the supporters of the change (Buchanan and Badham, 1999). Large-scale projects are subjected to more political activities during the design phase (Hellgren and Stjernberg, 1995); in fact, there are reports regarding projects being deployed purely for political reasons (Suchman and Bishop, 2000). Despite the availability of organizational politics theory, most project management literature neglects to recognize that a project manager needs to manage the political dimension of the project as much as the definition of the task, or the leadership (Ollila, 2003).

3.4.6 Project Novelty

The more novel the project, the less experience there is on which to base planning decisions. Doing without knowledge requires innovation, but the theory of project management avoids discussing innovation in projects (Hatchuel, Masson and Weil, 2001) and the practitioners of project management have a tendency to rush past the early innovative phase of project execution (van den Honert, 1992, Turner and Cochrane, 1993). Apart from offering an opportunity for innovation, a well-performed project start-up is important as it improves understanding of the project's overall purpose, scope and objectives (Halman and Burger, 2002). The stage-gate project model is a project management method designed to prevent premature commitment to designs which have not been sufficiently appraised (Cooper, 1988, Hosking and Morley, 1991). Many early design decisions may nevertheless have to be based on uncertain grounds. Unfortunately, bad decisions made early on in the execution of a project might be difficult to change as decision-makers tend to stick more rigidly to a given course of decisions after serious investment has been made (Staw, 1981, Brockner, 1992).

3.4.7 Concluding Project Management Theories

In conclusion, project management textbooks offer a standard of vocabulary and a set of practical methods regarding the formal management of projects, focusing on

the planning and execution of the projects. These tools can be seen as having made important contributions to the efficiency of certain types of projects (Adler, 1999a). The textbooks are based on the assumption that a rational approach to project management is what is required in order to achieve project success. Apart from focusing on a difficult task as such (Svensson, 1990), this assumption may lull readers into ignoring the (by comparison) indistinct, social characteristics inherent in any organization. The undersocialized and managerialistic focus of management textbooks also leads us to neglect to recognize that management is only one of many social groups with a stake in the behaviour of organizations (Collins, 1998, Huczynski and Buchanan, 2001).

3.5 Contrasting the Formal with the Informal

As stated earlier, the formal part of organizations have been explored, to a very large extent, in comparison with its opposite, the informal part of organizations, a property about which many managers understand less (Lysons, 1997). According to Perrow; "The conventional, structural viewpoint says that the rules direct or control behaviour. You tell a person what the rule is and that person follows it or is punished. Or we say that authority is vested in the office, and the commands that issue forth tell people what to do. Coordination is achieved by having one person or group find out what two other groups are doing and direct them to do it in such a way as to make their efforts fit together. Yet the vast proportion of the activity in organizations goes on without personal directives and supervision – and even without written rules – and sometimes in permitted violation to the rules. We tend to deal with this 'residue', which constitutes perhaps 80 percent of the behaviour, by invoking general concepts such as habit, training, socialization, or routine" (Perrow, 1986 p128). Lacking precise definitions for this 'residue', Schein's definition of its counterpart, the formal organization, can be recalled; "A formal organization is the planned co-ordination of the activities of a number of people for the achievement of some common, explicit purpose or goal, through division of labour and function, and through a hierarchy of authority and responsibility"

(Schein, 1980 p15). Thus, a formal organization is a pattern of roles and a blueprint for their coordination. In the formal organization, we find such artefacts as policies and procedures, organization charts, mission statements, and production efficiency and effectiveness measures. In the informal organization, we find group norms, grapevines, informal leaders, prestige and power structures, personal or group goals and perceptions, effective relationships between managers and subordinates, emotional feelings, needs and desires, and personal animosities and friendships (Lysons, 1997).

3.5.1 The Formal and Informal are Intertwined

A few writers have proposed models explaining how, in the words of Buchanan and Boddy, 'the rational and the political are irrevocably intertwined' (1992). Stacey (1996) reapplied the findings of the HR theorists to systemic thinking and found that the behaviour of groups and individuals creates an actual organization that is different from the formal, legitimate one. Stacey calls this the organization's *shadow system*, as it resembles the legitimate system and mirrors its moves. It consists of informal, social and political links, via which members develop their own rules for interaction. This set of partially shared and unshared rules of behaviour constitutes something that does not necessarily engage in the primary tasks of the organization. The shadow system consists of a set of thoughts, perceptions and behaviours that are only potentially available to the organization but which is not often used for its main purpose. It serves a myriad of other purposes that are often quite difficult to understand, ranging from the politicking of individuals to unofficial efforts to support or sabotage the official system.

Fear and the anxiety of failure prevent the shadow system from exposure. Another important characteristic of the shadow system is that it actively dodges any attempts to transfer it into the formal system (Stacey, 1996). This behaviour might be explained by the fundamental characteristics of mankind, as every organizational member is torn between two fundamental human forces; the one of autonomy, which drives us to strive for more independence, and homonomy, which

drives us towards community and affiliation. Both forces act upon each individual to varying degrees (Angyal, 1965). As creativity requires non-conformity, a creative person has to avoid fitting into the group-thinking of homonomy. Ekvall (1988) uses Angyal's theory to explain why one of the most important political buzzwords of our society, solidarity, is fundamentally at odds with creativity and innovation. If left alone, individuals' strive for homonomy, solidarity, and comfort would eventually lead to the death of societal development. On the other hand, if the force of autonomy is ever uncountered, we would eventually live in a world of conflict, without any structure to make use of all the creativity and development. In order for an organization to develop, both individual freedom and collectively-controlled action must coexist (Kylén and Shani, 2002).

Another example of a unifying model for organizations is the one of Shani and Lau (2000). This model describes an organization which consists of both a formal organization and a human organization. The formal organization is the blueprint, while the human organization is the actual implementation of the blueprints. Or, alternatively, the formal organization is the script while the human organization is the performance and the interpretations of the actors. As actors interpret the script, the human organization will become more or less differentiated from the formal organization; a "human organization emerges with its own characteristics, values, roles, and social norms as management and workers go about making the formal organization workable and liveable" (Shani and Lau, 2000 p89). This informal side of an organization is a self-organizing construct consisting of the glue that is necessary to make the formal blue-print work. The authors justify this model by recognizing that the difficulty of accurately predicting the behaviour of the organization lies in the failure to understand the dynamics of the social system. This model emphasizes that no instruction can perfectly regulate the performance of humans. As Wittgenstein noted, instructions regarding how to interpret a message cannot be given in the message (Monk, 1990).

It is not always possible to distinguish clearly between formal and informal organizations (Mullins, 2002). However, the most important attribute of the

informal organization is that it may be used to cover up deficiencies in the formal organization, such as when formal methods would take too long, or be inappropriate, to deal with an unusual or unforeseen situation (Gray and Starke, 1988). “The human organization is the way that the system actually works rather than the way it is supposed to work” (Shani and Lau, 2000 p89). Also, there is an end to how much formalization an organization can manage (Beck and Kieser, 2003), which leaves activities to be performed by the informal system.

Shani and Lau’s model is developed from Homans’ (1951) work on the formation of groups, which includes a model where the *external system*, comprising the required behaviour, influences the *internal system*, comprising the emergent or actual behaviour of members of a certain group. The internal system influences the outcomes (productivity, satisfactions, and personal development) of the group. “We can say that the internal system is continually emerging out of the external and continually feeding back to modify the external system, or rather, to build up the social system as a whole into something more than the external system we started with” (Homans, 1951 p153). Homans, who participated in Mayo’s research on the Hawthorne plant, found that deviances between the behaviour of the internal and external systems of workers in the Bank Wiring Room (reported in Roethlisberger and Dickson, 1939) can be viewed as either favourable or unfavourable, depending on the basis of judgement. The workers’ internal norm of not allowing anyone to bust the rate resulted in restricted output, which is unfavourable to the plant, but also prevented the foremen from identifying low-performers, which could eventually lead to lay-offs and social tragedy, which was favourable to the workers (Homans, 1951).

Kimberley and Evanisko use a model similar to Shani and Lau’s. According to them, the formal structure is constituted by the planned and formalized relationships within the organization, with its organizational chart being the most visible evidence. Indicating hierarchical relationships and functional assignments, it depicts the ‘skeleton’ of the organization. However, structure can also be defined in terms of actual patterns of behaviour and relationships, regardless of whether

they were intentionally designed or approved by the dominant coalition. If the formal structure primarily refers to hierarchical and functional relationships within the organisation, then informal structure relates to actual operating patterns. If the formal structure can be described as the organization's skeleton, then informal structure is its flesh and blood (Kimberley and Evanisko, 1979).

3.5.2 An Optimal Degree of Formalization?

The formal and the informal are seldom identical, and there is no reason to expect them to be. Behaviour is so complex that it is impossible to prescribe all possible behaviours and relationships in advance. If an organization attempted to formalize its structure to a very high degree, it would probably overemphasize the control function and neglect its need for flexibility. On the other hand, under-formalizing can create severe problems of control (Alderfer, 1976). By definition, an organization's informal structure is not formally prescribed. However, relationships and behaviours which have evolved informally can be, and often are, incorporated into the formal structure. Organizations frequently institutionalize practices which have developed informally and which contribute to the accomplishments of the organizational objectives (e.g. Lundqvist, 1996). It is important to recognize that neither the formal nor the informal structure of an organization is fixed; its development is a dynamic process. At any given point in time, the formal structure of an organization is the outcome of a variety of managerial decisions, and the informal structure represents employee responses to the need to adapt to situations which were not fully anticipated by those decisions (Kimberley and Evanisko, 1979).

Blau and Scott note that it is impossible to understand the nature of a formal organization without investigating the networks of informal relationships and the unofficial norms, as well as the formal hierarchy of authority and the official body of rules, since the formally-instituted and the informally-emerging patterns are inextricably intertwined. They warn us that a distinction between the formal and informal aspects of organizational life is only an analytical one and should not be

reified; they conclude that “there is only one actual organization” (Blau and Scott, 1962 p6).

Luthans (1981) regrets that the dysfunctional aspects of informal organization have received more focus than the functional ones. He notes that the informal organization blends with the formal organization to make a workable system for getting the work done; it lightens the workload of the formal manager and fills in some of the gaps in his abilities; it brings satisfaction and stability to work groups; it is a very useful channel of communication in the organization; and its presence encourages a manager to plan and act more carefully than he would otherwise do. Haimann and Scott support the argument that the informal organization has a functional influence on motivation; “it is folly for management to suppose that the functioning of the formal system alone can provide the entire range of satisfaction necessary for high spirit among employees. The informal organization has a positive contribution to make in this respect. As such, it should be nurtured by management” (Haimann and Scott, 1970 p435).

Simon (1997) describes the evolution of informal systems through an analysis of communication. No matter how elaborately a system of formal communication is set up in the organization, this system will always be supplemented by informal channels. Through these channels will flow information, advice and even orders. In time, the actual system of relationships may come to differ widely from those specified in the formal organization scheme. The informal communications system is built around the social relationships of the members of the organization. Friendship between two individuals creates frequent occasions for contact and ‘shop talk’. It may also create an authority relationship, if one of the individuals comes to accept the leadership of the other. In this way, ‘natural leaders’ secure a role within the organization that is not always reflected in the organization chart. Simon notes that this system of informal communication may also be used by individuals to serve personal interests. The informal communication system is sometimes used by organization members to advance their personal aims. From this arises the phenomenon of cliques – groups that build an informal network of

communications and use this as a means of securing power within the organization. Hence, whenever the members of the organization deal with one another, each must assess the extent to which the other's attitudes and actions are conditioned by personal rather than organizational motives (Simon, 1997).

3.6 Choice of Theoretical Perspective

Models, such as the ones explored above, explain that the informal systems of organizations are important parts of it. While this is a rather obvious statement, we must recognize that most textbooks address only the formal organization (Collins, 1998, 2000). That focus makes the readers believe that if they know the formal organization, then they also know the actual organization; on the contrary, it is the organizational members who know 'what really goes on around here' that are most satisfied with their job (Chao et al., 1994). An understanding of how the organization *really* works is necessary for those who perform within as well as those who study or redesign the organization.

The literature review of the framework revealed that some authors viewed the informal system as, to use Perrow's (1986) term, an 'organizational residue' (e.g. Schein, 1980, Lysons, 1997). According to these authors, the constructive activities of the organization occur in the formal system, leaving the informal system to host only non-rational and potentially destructive behaviour. A second group of authors regard the informal system as the place where all non-prescribed work occurs, including the constructive interpretations of either incomplete or corrupt prescriptions by the formal system, as well as counter-productive covert actions (e.g. Kimberley and Evanisko, 1979, Gray and Starke, 1988). And finally, there is a third group which defines the informal system as holding all actual behaviour, leaving the formal system to hold the blueprints of the prescribed behaviour of the organization (e.g. Homans, 1951, Shani and Lau, 2000)[6]. The model for the second

[6] Note that these authors use the terms internal/external and formal/human instead of formal/informal.

group is used for the analysis contained in this thesis. The reason for this choice is that it enables further categorization of the informal system into an open part, where behaviour is overtly performed, and a closed part, where the actors behave covertly. This part of the organization will be referred to using Stacey's (1996) term *shadow system*. The use of this definition for the term shadow system will inherently address the same behaviour as the authors of the first group when referring to the informal system.

We have explored literature which describes the existence of a non-managed side of organizations, a side which managers usually show little interest in, but which, nevertheless, has an influence on the outcomes of the organization; the informal side of organizations. Our literature review reveals that many writers argue that an understanding of the informal side of organizations is of great importance for those who are appointed to manage the organization. We have learnt that the informal side of organizations can host both destructive and constructive behaviour; its behaviour can be performed either publicly or privately. However, few attempts have been made at exploring how this informal side of project-intensive organizations can actually be attended to.

4 Method

In this chapter, I will provide a short introduction on the matter of the scientific research tradition. Then, I will present the methods used in this thesis.

4.1 On General Epistemology

Any given research method must achieve validity. It must follow a set and predetermined path of logic in its interaction with data, while also using carefully chosen analysis techniques (Easterby-Smith et al., 1991, Alvesson and Sköldberg, 1994, Larsson, 1996). The question to be asked is whether the research will stand up to scrutiny and will anyone believe what the researcher is saying about it (Easterby-Smith et al., 1991, Svensson and Starrin, 1996).

However, there has been, and still is, a polemic regarding what is and what is not valid empirical knowledge. In one camp of the polemic, we find representatives of the positivistic research tradition, calling for the validity, repeatability, and generalizability of scientific studies, in a quest for what the world really is; in the other, we find representatives of the hermeneutic research tradition, which emphasize that any interpretation of the world is a part of it. There are several accounts of the positivists' criticism of qualitative research, e.g.; "The empirical-analytical method is the only valid approach to improving human knowledge. What cannot be investigated using this approach, cannot be investigated at all scientifically. Such research must be banned from the domain of science as 'unresearchable'" (Bleicher, 1982 p14). Adherents of the interpretative discipline may seek support from the works of Nietzsche: "Against that positivism which stops before phenomena, saying 'there are only facts', I should say: no, it is precisely facts that do not exist, only interpretations" (Kaufmann, 1954 p458).

Bertrand Russell and Ludwig Wittgenstein had a famous disagreement about what represents valid knowledge; they discussed whether one can ever be sure if a rhinoceros is present or not (Monk, 1990). The rhinoceros quarrel demonstrates that, when empiric evidence is involved, there is hardly any end to possible levels

of rigour before accepting something as knowledge. The literature review performed before conducting the research for this thesis revealed a number of authors arguing for increased rigour, but no arguments for a reduction of rigour. This indicates that methodology is an area which requires some effort from the scientist in order for research to be satisfactorily performed.

Today, the epistemological norm is set by the different research traditions, or paradigms (Kuhn, 1970, Wallén, 1996), as Descartes once proposed. Each tradition thus contains its norms. Regrettably, there are several accounts of erroneous or fraudulent science (Bell, 1992, Collins and Pinch, 1998), within the positivistic research tradition as well. As an example, in 1937 a laboratory experiment exploring how rats learn their way through mazes unexpectedly revealed that rats can recognize locations from the reflection of sound on the floor. The publication of this finding can be seen as an important contributor to experimental setups for running rats through mazes. However, the scientific community of rat experimenters did not react to these findings; neither were earlier experiments repeated in this new context, nor were later experiments set up accordingly (Feynman and Leighton, 1992). This story warns us not to over-confide in the correctness of the established norms within a well-used paradigm, or to confide in a paradigm's abilities to correct errors. While this example was drawn from behaviourism, other research fields in social science are by no means safe from errors. Accordingly, it can be argued that each and every researcher is personally responsible for achieving a greater understanding of the performed research through reflecting upon that research in a wider ontological and epistemological context (Alvesson and Sköldberg, 1994).

4.2 The Fenix Research Program

The research presented in this thesis has been performed within the Fenix Research Program, jointly established by two universities (Chalmers University of Technology and the Stockholm School of Business), four companies (AstraZeneca, Ericsson, Telia, and Volvo), and a research foundation (IMIT). As

the purpose of Fenix is to improve collaboration between academia and industry, the research conducted aims to create actionable knowledge (Argyris, 1993) through using collaborative research methods. Since its inception in 1998, the Fenix PhD program has so far admitted 21 managers from the participating companies, including the author, as Executive PhD Candidates (EPCs) whose aim is to become Executive PhDs.

Fenix has provided an arena for sharing perspectives between the companies and the academy, and between the companies themselves (for a more comprehensive description of the Fenix program, cf. Hatchuel, 2001, Starkey and Madan, 2001, Hart, Kylén, Norrgren and Stymne, 2004). As was mentioned in the Prologue, the author brought to this arena a curiosity to explore the informal part of organizations and find ways of making better use of it. While each research trajectory is different, other members of the Fenix organization have brought insights from different research disciplines and different companies, as well as criticism and reflection. Thus, the research performed has been collaborative in a wider sense than the term usually implies. This mix of outsider and insider perspectives from different organizations (academic as well as industries) has served as a basis for exploring deeper understanding, as well as possibilities for distanced reflection upon the studied phenomenon.

The purpose of this thesis spells out research questions concerning informal behaviour and shadow systems in particular. The empirical work has been carried out mainly in R&D settings and related to project-based work. Since organizations have become increasingly projectified and R&D have become increasingly important for competitiveness, the thesis deals with “red and hot issues” (Adler and Shani, 2001). Using a collaborative research approach means involving practitioners and researchers jointly in designing and executing research. This could be seen as a way of getting close to the rich empirical data but lessening the risk that the practitioners perceive their role as subordinate to the researcher and thus becoming defensive (Argyris, 1980). At the same time, the involvement of outside researchers in joint studies increases the possibilities of distancing oneself

from becoming too involved in the insider perspective. Another important question has been whether or not shadow systems can be subject to influence. It was assumed that in order to deal with that issue, descriptive analytical research would not be sufficient, and hence intervention research has been applied in two studies, using both insider action research (Coughlan, 2001, Coughlan and Brannick, 2001) as well as employing the format of insider/outsider intervention research teams.

4.3 The Choice of Research Methods

The choice of research methods, especially the choice between the sets of qualitative and quantitative ones, is delicate; "contemporary social science is dominated by commitments to research methods almost as ends in themselves" (Morgan and Smircich, 1980 p491). The studies reported upon in this thesis have been undertaken using traditional qualitative and quantitative methods as well as intervention research. Some of the issues dealt with refer to behaviour within organizations that is at times perceived as less legitimate, from a mechanistic perspective (Stacey, 1996). In order to capture the essence of such activities, it has been considered worthwhile to use methods that enhance validity by developing a close relationship with the research subject (Argyris, 1980). The aim of the research is to study a complex phenomenon, such as the intersection of formal and informal systems and how these can be managed. To capture the complexity, it has been regarded worthwhile to apply different methods in order to better understand various perspectives of organizations (Morgan, 1998).

The first exploratory study of this thesis aimed to investigate the extent to which informal behaviour occurs in general. A quantitative method, utilizing a self-reporting questionnaire that provided data for statistical analysis, was chosen, exploring the extent to which behaviour occurs which is perceived as political. In order to get a representative sample of all Swedish organizations, a governmental statistics agency was contracted in order to use its copy of the Swedish Treasury's database for the creation of a sample. A questionnaire comprising a total of about

200 questions was sent to a selected manager at each organization. 303 valid responses were returned, constituting a response rate of 63%. The five questions on the questionnaire which concerned specific political behaviours connected to change were used as a compound, independent variable in the study. The study is reported on in Paper I.

The second study was set to explore the nature of constructive behaviour in the informal system with respect to project organizations. A qualitative approach utilizing semi-structured interviews was used, limiting the number of different organizations; the study comprises a total of nine interviews with managers and members of seven new product development projects conducted at five different organizations. Selection of the interview candidates was made using the results of an earlier study reporting on 19 successful NPD projects; out of those projects, seven were selected, which all reported being controlled by a set of common project management rules, and were all located in Western Sweden. The findings of the study were validated by means of a Jam Session seminar (Börjesson and Fredberg, 2004), to which representatives of the participating companies, other companies, and academia were invited. The study is reported on in Paper II.

The next study was an investigation into viable ways of managing covert parts of the informal system. As there is no pure way of inventing management models in a laboratory, such research has to be congruent with action (Hatchuel and Glise, 2004). Thus, an action research study was performed on the concerns project managers have regarding their projects and the context in which they are executed. The intervention was performed by the author of this thesis at the PharmaSite company, which he is an employee of, thus acting in the role of Insider Action Researcher (Roth, Sandberg and Svensson, 2004). Such a self-ethnographic approach is characterized by both intellectual and political challenges (Alvesson, 1999), requiring an awareness on the part of the researcher which Rendahl (1992) calls ‘disciplined subjectivity’. Another researcher assisted in the conducting of ten interviews with project managers and line managers, while three other researchers participated in the interpretation of the results. Findings arrived at during the

conducting of the method reported on in this study were reported on an aggregated level to management teams and project managers at PharmaSite. The study is reported upon in Paper III.

Finally, an attempt to further understand the findings from the third study was made through the use of a similar research approach in a fourth study. Five researchers, both company insiders and company outsiders, were participating in the research project, making this study an intervention-based application of Bartunek and Louis' Insider/Outsider Team Research methodology (1996). Data was collected using minutes, personal notes and 19 interviews. Paper IV, in which the study is reported, includes an extensive description of the intervention-based application of the Insider/Outsider Team Research method.

4.4 Reflecting on the Validity of the Performed Research

In many cases of qualitative research efforts, generalizability is problematic. Within the framework of this thesis, an attempt to test and generalize the findings of the second paper was performed. Findings from this paper showed that project managers and members spontaneously broke rules and invented informal procedures in order to improve project performance. Some of these cases were drawn from companies other than PharmaSite and did not involve active intervention by the researchers at the studied organizations. In the third paper, the findings from Study 2 were used to test whether parts of covert informal behaviour could be managed in a designed way by introducing a non-disclosing learning arena. The fourth paper of this thesis shows that non-disclosing tools aimed at the informal part of not just project management, but also management in general, seem to be viable. However, one might question whether or not the specific tool applied here would be equally applicable to other organizations either as R&D organizations or other kinds of organizations. As described earlier, PharmaSite has enjoyed decades of success which may influence the ability and willingness of individuals to enter into the necessary Model II reasoning. While theory states that employees of knowledge-intensive R&D organizations share some characteristics,

e.g. a high level of education, commitment and loyalty, further research is necessary in order to examine the manageability of the informal system and its interplay with the formal system, at different organizations and during different contingencies. Considering the fact that informal behaviour has been under exploration for almost a century, exploration of the informal in project management is still very novel.

The intention of the present work has been to explore the interaction between formal and informal systems by applying different descriptive methods (quantitative as well as qualitative studies) at different organizations, and intervention research at a particular organization. The aim to understand the intersection between informal and formal systems further is assumed to benefit from using complementary approaches and perspectives (Morgan, 1998). However, the applicability of the findings, vis-à-vis the intervention methods, to organizations other than PharmaSite lies beyond the scope of this thesis.

5 Summary of Conducted Research

This chapter summarizes the four studies which serve as the basis for this thesis. The research process commenced with the investigation of Organizational Political Behaviour (Study 1), which can be seen as one expression of the informal system. This was followed by another descriptive study based on interviews with project managers regarding their view and experiences of rule-breaking in project environments (Study 2). Findings from the first two studies led to conclusions (which will be reported in Chapter 5.3) which enabled a shift from descriptive studies to an intervention-based approach where studies were carried out using collaborative research methods. Studies 3 and 4 were interventions within different organizational fields where learning arenas were applied as non-formal devices to exert a constructive influence on the covertly informal system, the shadow system of the organization. In order to invite the scientific community to explore the interventions performed and the phenomena studied, studies 3 and 4 will be more extensively described.

5.1 Study 1 reported in "How Frequent is Organizational Political Behavior? – A Study of Managers' Opinions at 491 Workplaces"

Organizational politics is the covert application of influence attempts for self-serving purposes. Although many articles on the matter view it as a destructive behaviour, many of those authors do not describe their underlying distinction between self-serving behaviour and behaviour aimed at serving the common good. In fact, there are opposing arguments that organizational politics occur when neither rules/regulations nor rational choice can resolve a dispute (Miles, 1980, Frost and Egri, 1991, Buchanan and Badham, 1999). The majority of quantitative articles on the matter of organizational politics use POPS (Perceptions of Organizational Politics Scale) to view organizational politics as a measure of perceived destructive 'unfairness' within organizations (see further Ferris, Adams, Kolodinsky, Hochwarter and Ammeter, 2002 for a review of these). However, a

few attempts have also been made to explore actual political behaviour without framing it as either constructive or destructive. This study is a contribution towards the latter category.

The paper comprises theory which recognizes a distinction between espoused theory and theories in use on an organizational level; specifically, it uses March and Olson's (1983) categorization of discussions on organizational change into the *rhetoric of administration* and the *rhetoric of realpolitik*. The former is used to deal with the formal organization, while the latter deals with political struggle and competing interests. Organizations strive for the appearance of rationality (Pfeffer, 1992, Brunsson, 2000) and, like any influencing technique, political behaviour is efficient only when performed covertly (Huczynski, 1996). Thus there are several forces acting in order to avoid discussions about realpolitik entering the rhetoric of administration (Buchanan and Badham, 1999); anecdotal evidence of this is offered in the introduction to Paper 1.

The paper reports on a study which investigated a number of political behaviours, as perceived by managers at a number of Swedish organizations. The sampled organizations were selected from the Swedish Treasury's database and thus comprise a representative sample of Swedish organizations. A questionnaire was sent to the President, the HR Director, or a Vice President of each organization. Five different political behaviours connected to change were investigated.

The results show that, in general, most organizations host political behaviours to a small extent, while a small number of organizations host such behaviours to a large extent. As predicted by theory, larger organizations host more political behaviours than do smaller ones. Neither were any differences found between organizations from different industries, or between private and public organizations. The latter contradicts theory, as public organizations are expected to be more formalized and therefore fairer. However, when analyzing individual items, one particular behaviour occurred more in private organizations (manipulative invitations to influence), and another behaviour occurred more in public organizations (bureaucratic resistance). The occurrence of a greater extent of bureaucratic

resistance in public organizations shows how the attempted, fair predictability of bureaucratic organizations can be reactively used as a resistor to change. This result indicates that attempts to democratize organizations through bureaucratization leads to increased potential for reactive political behaviour connected to change.

In conclusion, it is difficult to believe that there could be any organization of size lacking political behaviour of any kind. And, since occurrences of political behaviours are evident during change in the majority of organizations, it is of interest for any conductor of change to acknowledge that organizational politics is a factor of influence. Also, as the characteristics of this behaviour are such that it is performed covertly, those change conductors cannot rely on the self-describing mechanisms of the organization to provide information about this behaviour; political behaviour is performed in the shadows of the organization.

5.2 Study 2 reported in “Rule Breaking in New Product Development – Crime or Necessity?”

This study is an exploration of the phenomenon of informal behaviour, set in the context of new product development (NPD) at five different Swedish companies. The study was initiated via discussions with project managers from two companies who agreed about a number of perceived bothersome similarities between the project support systems of the two companies. They argued that organizational structures, which were originally intended to support the NPD projects, actually created obstacles to the execution of the NPD projects. Agreement was reached to launch an investigation into the coupling between NPD projects and the use of rules in order to exert managerial control over the projects. This study was designed as an extension to another study (reported in Norrgren, Ollila, Olsson and Schaller, 1997, Ollila, Norrgren and Schaller, 2002) on informal characteristics of Best Practice NPD projects, which had aroused interest and garnered support among the managements of the companies invited to participate.

The paper elaborates on the difficulty of applying standardized management practices in order to regulate and control NPD, because these practices are geared to efficiency and standardization (Ekvall, 2000). Theory addressing rules, e.g. Perrow (1986) and March, Schultz, and Zhou (2000), is used to describe the characteristics of rule systems. While rules are needed in organizations, they can be seen as recipes for yesterday's problems. Comprehensive rule systems create a complex web, where changes in one node may lead to consequences which may be difficult to survey. Also, rules protect interests, so rules can be used to prevent changes, as was shown in Paper 1.

A simple model was created in order to categorize organizational behaviour in connection with rules. *Rules* are meant to be followed, in contrast to *guidelines*. Rules can be *general* or *specific*, and be communicated *orally* or in *documented* form. The breaking of a rule where the action still obeys the original intent of the rule is *allegorical* rule-breaking, in contrast to *categorical* rule-breaking.

The result of an earlier questionnaire study was used to identify seven successful NPD projects at five different companies which hosted general rules on the management of projects. Semi-structured interviews were conducted with knowledgeable project representatives (in most cases including the project manager).

The results of the study showed that four of the seven projects had broken some general rules, while two had not, and that one project would have had to break some rules had it not successfully changed the rules in collaboration with the rule deployers. Organizational size may be a contextual factor; the four rule-breaking projects and the one rule-changing project took place at large companies, while the two rule-following projects took place at small companies. The results supported Brunsson's (1989) argument that organizations host two different environments, where one cares about the rules of the organization, while the other cares about the actions taken by the organization. The representatives of the surveyed projects belong to the latter, since all but one of the interviewees showed a relaxed attitude towards breaking rules. The exception is a project at a large company active on a

market where rule-compliance is a customer requirement. This project enjoyed good collaboration with the rule-caring environment, as did the two projects of the small companies. The study indicates that large organizations tend to have a dysfunctional collaboration between rule-deployers and rule-followers, where the rule-followers have to sidestep a number of rules in order to advance their projects. It is unclear why such defective rules are not reported to the rule-deployers or why the rule-deployers do not investigate the effects of their rules. Perhaps it is the goal-orientation of project managers that prevents them from putting time into correcting defects in the project context, or perhaps it is because in one way or another they are served by a deprofessionalization of the rule-deployers. Both intentions could hide behind excuses such as a lack of energy.

5.3 Intermission: Summarizing Studies 1 and 2

The purpose of this intermission is to inform the reader about the combined conclusions drawn from the descriptive studies reported in the first two papers. These conclusions served as a base for adopting the intervention-based perspective applied in PharmaSite. The interventions were reported upon in the third and fourth papers, which will be summarized later.

The first two studies investigated different parts of the informal phenomenon. They reported the existence of a closed code of conduct, a shadow system, within the informal system of organizations in general. Study 1 showed that an aspect of the informal system (actions of influence) was present in the majority of the investigated, randomly-sampled organizations. Study 2 investigated another aspect of what is informal (non-action or actions of deviance) in project environments with a developmental mission. Political behaviour and rule-breaking were not reported to be a dominant phenomenon, but they occurred to an extent that may have an influence on the action pattern, and thereby also on the collective performance.

While Paper 2 reported constructive behaviour in the shadow system, the literature review included descriptions of the shadow systems as being out of reach of

management, hosting both constructive and destructive behaviour. A rational managerial response to the finding of emergent and non-managed behaviour affecting the performance of the organization would be management taking action and regulating or controlling the behaviour. However, the shadow system has been described as an ineffaceable reaction to the formal organization with abilities to avoid regulation attempts (Stacey, 1996). In other words, this is an occurrence of management being challenged to manage what has intentionally been designed to avoid managerial influence.

Analysis of the actor behaviour shows a pattern that deepens understanding of the phenomenon. The findings of Study 2 support descriptions of the organization hosting two systems that balance each other, but do not recognize one legitimate system and one illegitimate system. Instead, it reports on two interest groups in the organizations, either cooperating (in the case of the rule-following projects) or non-cooperating (as in the case of the rule-breaking projects). Also, while not explicitly stated, Paper 2 hosts an inherent research finding which is fundamental; the study included a collection of narratives of rule-breaking project managers reporting their deviant behaviour to the researchers. Both political behaviour and rule-breaking actions were brought into the open while reporting to researchers. A covert behaviour need not be covert in all situations; it is only covert during some circumstances, or to some actors.

Thus, the findings so far support a view of organizations as consisting of actors who publicly use a rhetoric of administration which espouses a rational ideal of common information sharing (Brunsson, 1989). However, when these actors need to act in ways which challenge the stake holders of the organization, the information sharing is restricted to certain networks. Any attempt to influence such behaviour without seriously disrupting the balance between the formal and the informal would need to have access to those networks.

The scientific way of accessing the shadow system used in Studies 1 and 2 was not characterized by power or hierarchy, but was of interest to the phenomenon and the behaviour of each respondent and recognition of the need for confidentiality.

A design to access the shadow system for interventional purposes would presumably need to respect the sovereignty of the individual by means of applying non-disclosure and disregarding hierarchy, and focusing on contributing to the interests of the individual through improving his or her ability to act within the organizational system. Such an approach would be constructive for the overall good of the organization in those parts of the shadow system where the goals of the individuals are closely aligned with the goals of the organization. Such target zones in the shadow system would also require a potential for improvement in order for actual contributions to be possible to deliver, i.e. there must be a learning potential. Considering the mechanistic perspective of the project management school, target zone candidates would have complex social characteristics such as the early design phase of projects (Nobelius and Trygg, 2002), and project manager leadership (Ollila, 2002). Interventions in these two target zones of the shadow system of PharmaSite will be explored in the following papers.

5.4 Study 3 reported in "Making the Non-discussable Discussable – An Exploration of a Novel PM Method for the Design Phase"

This study was based on action science methodology, and interventions were conducted when experimenting with the design of a novel project management support method and its application. The purpose of the intervention was to explore a way of approaching the informal organization in order to increase the effectiveness of the projects through high-quality learning among project managers. The intervention emanated from a proposal to the IT management of PharmaSite regarding how to deploy a service provided by one single full-time position with the mission of effectively supporting projects in the IT project portfolio of the organization.

The proposal called for an innovation within the field of project management methods. Searching for an influential but neglected component of the IT project workflow at PharmaSite resulted in the identification of the first project phase (henceforth called the early design phase), where the concepts of both the product

and the non-standardized parts of the process of producing it are formed. This phase is generally both influential (Weinberg, 1997, Nobelius and Trygg, 2002) and neglected (Engwall, 1995). An improvement of the understanding during this phase was thought to provide opportunities for design improvements to both product and process. This is because project teams, during the early design phase, have often not been established yet and thus the method was to focus on the project manager.

The further development of this method in order to support project managers during the early design phase was based on recognition of the informal organization and the constructive but covert behaviour of successful project managers, e.g. those described in the first two papers and by Ollila et al (2003). A conclusion of these studies was that project managers, at times, do manage the impression of their projects; thus, external interest owners of the formal organization do not have full access to information about the projects. This study reported on three different dilemmas deriving from this:

1. Apart from the need to objectively manage the evolution of the project result, project managers subjectively manage the project context; mastering two radically different ways of reasoning is difficult.
2. While successfully guarding the project from the influence of the formal support and control mechanisms' increased ease of project execution, it could also increase the project risk.
3. It was difficult for the formal organization to legitimize a shadow system of project management; while such legitimization could increase learning, it might also lead to an increase in deviation.

The recognition of these dilemmas served as a basis for designing a project management support method, aimed at improving learning among project managers during the early design phase by means of organizing an arena for reflection on both the overt and covert situational matters of the project manager. As the early design phase is characterized by a lack of knowledge, it is unfit for

proceduralized methods (Nobelius and Trygg, 2002) and thus a situational learning method aimed at creating a Model II (Argyris and Schön, 1978) arena was applied, where the project manager is in dialogue (henceforth *audit*) with a facilitator (henceforth *auditor*[7]). As the shadow system dodges exposure attempts (Stacey, 1996), to obtain access, this dialogue needed to be non-disclosing vis-à-vis the auditor. In order to further encourage the project manager to collaborate and engage in Model II reasoning, the legitimate power (French and Raven, 1960) of the project stayed with the project manager; the auditor was formally powerless. However, in order to allow for a constructive influence, the auditor needed to be experienced in project management under the existing circumstances; thus, the possession of expert power (French and Raven, 1960) by the auditor was seen as advisable. Considering the rational task orientation of project managers in general, the audits needed to be short and, finally, in order to facilitate the cooperation of all project managers, the method needed to be made mandatory.

A brief sketch of the design of this method, dubbed PIA for Project Initiation Audit, was presented to the IT management team at PharmaSite. The presentation covered the advantages of increasing knowledge during the early design phase and included a characterization of the method through the six bullet points of *early*, *confidential*, *mandatory*, *powerless*, *challenging*, and *cheap*. The IT management team approved PIA and decided to commission it.

Apart from describing the characteristics of typical PIA audits, Study 3 reported on interviews with managers, the auditor, and audited project managers and their perception of the phenomenon. The managers were supportive of PIAs but revealed little knowledge of what really went on during the audits. They had an attitude of "if it's fine by the project managers, it's fine by me". Interviews by project managers showed that they found the PIA method supportive, as it created an opportunity for critical reflection on their actions. Project managers welcomed such critical reflection, as they did not expect the members of the steering

[7] Argyris et al (1985) use the term *facilitator*; at PharmaSite, the terms *auditor* and *audit* were used.

committees of their projects, or their customers, to be that questioning. Some project managers stated that the confidentiality enabled them to bring up matters which they would otherwise have kept to themselves, while others said that the confidentiality was a dispensable attribute of the method. Although the PIA auditor was powerless to make the project manager retain power, some project managers stated that they had reported the auditor's assessments of their projects to their steering committees in order to influence them. Study 3 finally reported the perceptions of the auditor, who aimed to create Model II reasoning during the audits, characterized by openness and investigation. This kind of reasoning, argued the auditor, seemed to only occur in the confidentiality of two persons. Each time there were more than two people present, the audits did not reach a state of Model II reasoning. The auditor confessed to have failed to reach Model II reasoning during some one-on-one audits as well.

The "Making the non-discussable discussable" Paper concluded that through entering an arena for confidential Model II reasoning, project managers should be allowed to discuss embarrassing details concerning their work, such as their own ignorance. In this, PIA differed from regular rational project support methods which usually do not recognize the existence of any secret project leaders' agendas.

5.5 Study 4 reported in "The Collaborative Development of Leader@site"

The fourth study reports on the application of a learning model for the development of leaders in R&D intensive organizations. The intervention took place at PharmaSite with the purpose of finding a way of applying generic academic research findings to leadership development, adapting it to a specific organizational context. The intervention, labelled Leader@site, was implemented as an Insider/Outsider Team (Bartunek and Louis, 1996) manned by members of PharmaSite and the Fenix research faculty. Three of the participants belonged to both parties and thus served as insiders/outsiders (Roth et al., 2004); the paper reports that one of the outsiders went native (Crano and Brewer, 2002) during the

intervention and thus became an ‘outsider/insider’. The work was reported as a formal PharmaSite project, Leader@site, lasting for 18 months; Paper 4 reported to the scientific community midway during the project, with another paper (Mulec, 2004) during its final phase.

The task of finding ways of amalgamating Mode 1 academic knowledge with Mode 2 practitioner knowledge (Gibbons, Limoges, Nowothy, Schwartzman, Scott and Trow, 1994), in order to improve leadership development at PharmaSite, was a challenging task for the six members of the Leader@site project team. Paper 4 reports that training the three participating Fenix Executive PhD Candidates (EPCs) to handle multiple logics turned out to be useful for translating between the outsider and insider perspectives. The paper also reports that there was a strong covariance between energy levels and innovation on the one hand, and the level of attendance at the project meetings of the Leader@site project team on the other.

The team designed a working model, The Ideal Model, in order to allow for a self-learning system aimed at high-order change (Bartunek and Moch, 1987) among the leaders of PharmaSite. In order to increase the influence of the intervention, work was conducted in accordance with a number of principles. The work was to be perceived by the leaders as both new and different. Recognizing that the leaders were self-confident, the programme was arranged to challenge their existing theories of action. Also, in order to increase the level of understanding among managers regarding how the organization actually worked (Chao et al., 1994), the project was to recognize the existence of an informal side to organizing. Finally, in order to increase the learning capability of the members of the Leader@site project team, face-to-face communication between project members and their clients was to be encouraged.

Interviews were conducted with the first cohorts of leaders in order to explore their needs and motivations. During the interviews, the leaders were also asked to fill in a twelve-item questionnaire regarding perceived political behaviour within the organization, which was developed from the instrument reported on in Paper I.

The questionnaire results confirmed the report in Paper I regarding the existence of moderate levels of political behaviour.

The results of the interviews revealed that the leaders did not feel particularly involved in ongoing reflecting on their leadership roles. Also, few leaders displayed well-developed perspectives on leadership while most of them lacked a vocabulary of leadership. However, even during one single interview, the interviewers were able to recognize the rapid development of leadership models when the questions were challenging, as prescribed by the Socratian method (Huczynski, 2001). Questions such as "How do you know that", and "Couldn't it be like this instead" affected the respondents' involvement, motivation, and, in particular, their interest in refining their internalized theories of leadership. Also, the leaders called for arenas of reflection on leadership matters. Some leaders reported difficulties when discussing leadership issues with their managers while others were obviously uneasy about discussing it. According to one manager;

> During intensive phases, the situation is so chaotic that you don't know where to begin; you don't know where the problem is. You feel inadequate, it would feel like a failure to show that you don't know where the problem is; it is hard to ask for help (Mulec et al., 2003 p12, author's translation).

The results of the interview study were compiled and reported to the project team. The characteristics of the situation were similar to those reported on in Paper 3; professionals needing arenas of reflection and learning, but being hesitant to enter such arenas when public.

Consequently, the Leader@site team designed and commissioned non-exposed learning arenas. The arenas where organized as learning group syndicates (Huczynski, 2001) known as 'coach groups', each consisting of 5 or 6 leaders and a professional coach, set for regular meetings for about 24 months prior to disbanding. Each coach group was populated with either line managers or project managers. In contrast to the PIA method reported on in Paper 3, where the coach (auditor) allowed the project interventions to emanate from each project's

specification, the coach group coaches would either allow the issues for discussion to be chosen by the participants or propose a general issue in the leadership field.

At the time of writing Paper 4, no formal scientific inquiry had yet been conducted into the efficiency of the coach groups[8]; the coaches successfully repelled any attempt by members of the Leader@site team to directly influence or investigate the actions of the coach groups. However, second-hand statements by the coaches reported the initial confusion about utilization of the coach groups being replaced by successful leader reflection and learning, in all line manager coach groups. The coaches reported difficulties when creating these reflection and learning arenas for the project managers.

Paper 4 reports that the Leader@site team succeeded in creating only some of the intended comprehensive high-order change regarding leadership development at PharmaSite. While several leadership development innovations were appreciated by the leaders targeted for the development programme, a proposal by the Leader@site project team to institutionalize leadership development by making leadership development mandatory for managers was turned down, as were general attempts to find support for individual development initiatives among middle managers.

[8] Formal examination of the coach groups took place right before disbanding the Leader@site project; this examination confirmed the earlier reports made by the coaches (Mulec, 2004).

6 Conclusion

This chapter contains a synergic compilation of the four studies. First, the findings will be put in the context of the chosen frame of analysis and special consideration will be given to the project organization. Then, different aspects of the shadow system will be examined and, finally, the purpose of the thesis will be revisited.

6.1 The Studies in the Context of Formal and Informal Systems

The descriptive part of this thesis, consisting of Studies 1 and 2, confirmed theoretical claims regarding the existence of a system of covert behaviour, a shadow system (Stacey, 1996), within the informal system of organizations occupied with change and project activities (Frost and Egri, 1991). However, the findings of Studies 1 and 2 indicate that such covert behaviour is only a minor part of the overall behaviour of an organization. Study 1 also showed that the covert behaviour occurring within the shadow system is, in some ways, correlated to the design of the formal organization (Stacey, 1996).

Findings reported in Paper 2 support theoretical claims that the covert behaviour occurring within a shadow system may have constructive qualities which compensate for the destructive qualities of the formal system of the organization (Gray and Starke, 1988). Furthermore, this shadow system turned out to be something other than closed; under some circumstances, it allowed examination and the sharing of experiences with others when these others were in no position to threaten the interests of the shadow system.

Findings from Paper 1 and 2 led to explorations of viable methods of improving the shadow system's constructive qualities through the facilitation of learning arenas. Paper 3 reported on a study set in an IT project management environment. It confirmed Paper 2's findings that the shadow system is used for activities contributing to the project's performance, but where the behaviour of individuals needed to be concealed from actors in the project's context. Furthermore, the shadow system turned out to host something other than purely covert behaviour; it

is also used to conceal ignorance. Paper 3 reported on the design of learning arenas for project managers. The greatest use of these arenas turned out to be reducing ignorance, a quality among project managers which is not reported to the formal system.

Paper 4 reported on a study which included three different learning arenas. The first one, the project team, was the arena which designed the other two. The steering committee directed the project team to find ways of fulfilling the project goals but left no instructions regarding how to achieve that goal; in other words, the formal system created a project framework and left it to the informal system to figure out ways of delivering. The second type of learning arena, the interview setting, resembled the one reported in Paper 3 and indicated that the concept would work not only within the management of projects but also within the leadership development of line managers. This second type of arena was managed by members of the project team. The third type of arena, the coach groups, was initiated by the project team. The coach groups were to be used as protected arenas in relation to the formal system of the organization, but the agents running them, the coaches, later recognized the project team as being part of the formal system and refused them access to content discussions on the coach teams.

6.2 Projects as Informal Executions of Formal Assignments

Mintzberg (1979) argued that the adhocracy would be a preferred way of performing work when the tasks are characterized by a high degree of uncertainty. When converted to a framework of formal and informal organization, Mintzberg's adhocracy is a prescription for the use of informal organizing. Through formally organizing semi-autonomous subsystems called projects, the adhocracy appoints the project manager to develop understanding of the project task and the project's deliverables by exploiting the internal and external resources of the organization. As was reported in Study 4, the management team at PharmaSite directed the project manager of Leader@site as regards which targets to achieve concerning leadership development, but left it to the project to figure out ways of achieving

them. Thus, the formal system prescribed the 'what' and 'by whom', but left it to the informal system, in the shape of the project, to perform the double task of figuring out the 'how' and then performing it (Uyterhoeven, 1991).

In this light, it becomes evident that project managers who are appointed to master the informal system's development of knowledge cannot readily fall back on the actors of the formal system as regards figuring out how to achieve the project task; thus a project manager is in great need of knowledge creation (Nonaka and Takeushi, 1995), but at the same time, he or she needs to communicate signals of 'being in control'.

Also, the extent to which the formal system aims to influence the informal activities in project management seems to vary. The Leader@site project was characterized by a great deal of novelty for the PharmaSite organization. This finding from Study 4, together with findings from Studies 2 and 3, indicates that the less novel and the more repetitive a project task is to the organization hosting it, the more standards will be created in order to control such projects; in terms of formal and informal systems, in novel types of projects the formal system leaves more of the work design to the informal system of the organization.

6.3 Findings Regarding Characteristics of the Shadow System

The dysfunctional qualities of the shadow system have traditionally received more attention than the functional ones (Luthans, 1981). A comparatively small number of authors have recognized its functional qualities, e.g. Haimann and Scott (1970), Luthans (1981), and Lysons (1997). However, these authors emphasize the functional use of the shadow system due to its influence on employee motivation. Studies 2, 3, and 4 reported on the functional use of the shadow system; Studies 3 and 4 reported on it utilizing a safe arena for learning, with Study 2 reporting on it improving project effectiveness by shortcutting ineffective routines prescribed by the formal system. Thus, theorists such as Gray and Starke (1988) and Kimberley and Evanisko (1979), who describe the constructive qualities of the shadow system, have found empirical support in the results of this study.

6.4 Findings Regarding Accessing and Influencing the Shadow System

According to Stacey (1996), fear and the anxiety of failure prevent the shadow system from exposure. Another characteristic of the shadow system is that it actively dodges attempts to regulate the formal system (Stacey, 1996). Such a system would be difficult to access, let alone influence. However, Study 1 reported on influence attempts by others acting within the shadow system of a large number of organizations. Furthermore, the researchers in Study 2 managed to successfully interview project managers about their actions within the shadow system. Thus, Studies 1 and 2 reveal that the shadow system is accessible through arenas created for the scientific collection of data. This observation, together with Stacey's argument about the shadow system's fear of exposure and regulation, indicates that the shadow system is indeed accessible under the following conditions:

1. The agent accessing the shadow system cannot be authorized by the formal system to *control* the shadow system
2. No details are to be reported to the formal system which would enable the formal system to identify the individual actions or individual actors of the shadow system
3. Actions anticipated by the agent, e.g. reports to the formal system, must serve the interests of the actors of the shadow system

The interventions of Studies 3 and 4 were designed with these conditions in mind. The findings of Studies 3 and 4 confirm that access attempts, fulfilling these requirements, were successful.

Regarding the design of Study 2, in a broader research context, the investigating researchers did not, from a formal perspective, have any authority with respect to the projects under study. Their study was, however, endorsed by the formal systems of the companies and line managers showed an interest in learning more about which formal and informal aspects would be able to explain the performance

of the projects. In a sense, the setup of the research project provided a parallel learning structure (Bushe and Shani, 1990, 1991) within these companies where the researchers reported on a combined level and preserved confidentiality. As the study was to report on generic defects in formal systems' influence and standardization, project managers who had acted within the shadow system could be served by supporting the study. Hence, in Study 2, findings from covert activities in the shadow systems were made discussable (Argyris and Schön, 1978), while at the same time preserving the confidentiality of individuals who had acted within the shadow system. Thus, the three requirements had been fulfilled.

Regarding Study 3, the agent, in the form of the PIA auditor, was formally deployed to perform the audits but was also without any formal authority, with all project managers being accordingly informed of this before the start of each audit. Furthermore, the auditor was formally instructed not to do any reporting project-wise, apart from reporting any project manager who was not cooperating fully. And, finally, the audits were performed in order to support the project manager, thus fulfilling requirement number three.

Finally, regarding Study 4, two arenas of influence were intentionally staged in order to access the shadow system of the participating leaders of the development program; the initial interviews and the coach groups. As regards the initial interviews, the setup was similar to the interviews in Study 2; without formal authority and non-disclosing. The interest of the interviewees lay in influencing the leadership development program in ways that would better serve their needs. As regards the coach groups, the setting was more complex, compared to both the initial interviews of Study 4 and the settings of the earlier studies. Here, each agent, the coach, had gathered six participants with the formal purpose of improving the leadership qualities of each participant. While the formal framework for each coach group was that all matters were to be treated in confidence, only the coach was explicitly, professionally bound by non-disclosure and each coach group member had five colleagues working at different locations within PharmaSite.

6.5 Empirical Evidence of Formal Legitimization

The research performed for this thesis has reported several occurrences of managers approving the setup of arenas for protected openness. In other words, there is evidence of the formal system legitimizing not only the emergent overt activities of the informal system but also non-disclosing attempts to reify the effects of covert behaviour within the shadow system. Legitimacy is the recognition of the formal system that the organization can be served by the formal system not interfering with the shadow system in order to control it.

Study 2 was designed as an extension of an exploratory study of Best Practice projects (Norrgren et al., 1997, Ollila et al., 2002), where 19 projects were identified at a number of Swedish industrial organizations. One purpose of this Best Practice study was to explore the practice of political tactics by project managers (reported in Ollila et al., 2002). The management teams of the participating industrial organizations provided support for the study and a willingness to learn about the possible instrumentality of the shadow system.

Study 3 reported extensively on the participation of IT management at PharmaSite in the design and application of a non-disclosing IT project support method.

Study 4 reported on a change program, Leader@site, intended to explore both the overt and covert agendas of the organization in order to educate both general and project managers regarding how the organization really works. The executive management team of PharmaSite were supportive of the programme.

In conclusion, these findings provide support for arguments for management wanting other organizational members to also be informed of the actual behaviour occurring in their organizational context, and not only about the formally prescribed behaviour.

6.6 Summarizing the Main Findings

The purpose of this thesis was to explore if covert behaviour can become more instrumental to organizations if this behaviour is recognized by the formal system,

and if parts of this behaviour can be made discussable within the organization through specifically designed methods. The results of this thesis show that;

- *Shadow systems within project organizations have constructive qualities*

  Projects contain informal activities that can make the projects fulfil their objectives better than activities prescribed by the formal systems.

- *Contrary to previous theoretical claims, shadow systems are both accessible and open to influence*

  Informal systems provide learning opportunities if they are seen as serving the interests of actors both from the formal and informal systems.

- *Shadow systems can be influenced in ways which make them more instrumental for the organizations*

  Shortcuts developed by informal systems can be made discussable with those parts of the formal systems that care specifically about the results. Especially in novel or uncertain projects, the informal systems can provide new approaches to project management that can be made use of by the formal systems.

- *In order to achieve this, the formal systems must not aim to control the shadow systems in order to make them parts of the formal systems*

  The formal systems should avoid to unilaterally control or formalizing the activities of informal systems. Actors working as "brokers" in between the formal and informal systems should respect the integrity of both the formal and informal aspects of work in order to turn learning opportunities into learning arenas serving the interest of both parties.

The four studies in the thesis outline the opportunity for the formal system to exert an influence on the shadow part of the informal system; it is about the formal system lending *legitimacy* and *confidentiality* to the shadow system. As was elaborated upon in Study 3, this foundation can be considered contradictory to the conventional modus operandi of a formal managerial system (Collins, 1998).

7 Discussion

The discussion chapter of this thesis consists of an investigation of the match of the findings to theory, followed by a discussion on the standardization of project management and the paradoxes of formal legitimacy. The chapter concludes with recommendations for practice and for future research.

7.1 Revisiting Theory

7.1.1 Mintzberg's Theory of Organizational Structure

The results of the research conducted in this thesis do not lend their support to Mintzberg's prediction that adhocracies tend to turn into bureaucracies. The companies consisted of functions in the technostructure intended to exercise control through the standardization of aspects of project work[9]. Thus, the findings of this thesis reveal that mature organizations hosting numerous projects have a structure not of two components as proposed by Mintzberg (1979), but of three; management, the projects, and the technostructure[10]. This extension to Mintzberg's original structure is essential when analysing the shadow system and its relationship with the formal system. Furthermore, the results of the intervention-based studies of the thesis have shown that the management part of the formal system can legitimize and make use of the shadow part of the informal, thereby countering the striving for formalization by the technostructure. There is no evidence of representatives of the technostructure recognizing the functional qualities of the informal system; on the contrary, statements from its representatives indicate that the technostructure regards the inherent variation of

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[9] It is unclear whether company Delta (cf. Study 2) comprised such a structure at the time of investigation. However, Delta cannot be regarded to have been a multi-project environment at that time.

[10] Though a technostructure can host several specialist functions, this thesis regards the project specialists.

the informal system as a problem as such, stressing qualities of formalization like well-documented process definitions and ignoring the qualities of variation like innovation and learning. According to Dahlbom and Mathiassen (1995), a focus on process regardless of results is caused by organizational members' basic individual motives to reduce the inherent uncertainty of the world and can be expected to occur more in technology-oriented organizations than in socially-oriented ones. Brunsson (1989) reported that organizations usually consist of two groups, one focusing on the rules of the organization and another focusing on its results. The results of this thesis indicate that the technostructure belongs to the rule-caring group while projects belong to the result-caring group. Management, recognizing the need for both structure and innovation, visits both camps but looks in the other direction when projects break the rules to contribute to results. In this light, management can be regarded as more oriented towards results than rules.

7.1.2 Theories of Formal and Informal Systems

The theoretical framework of this thesis included interpretations of the distinction between the formal and the informal systems of organizations. Two of the identified theory groups have proven useful when analysing results. The first group consists of writers who distinguish between behaviour which is formally prescribed and informal behaviour, which is not (e.g. Kimberley and Evanisko, 1979, Gray and Starke, 1988). For the purposes of analysis in this thesis, the informal behaviour has been further categorized into overtly and covertly performed informal behaviour, using Stacy's (1996) term *shadow system* for the latter. The second group consists of writers who view the formal system only as a prescription for the actual behaviour of the organization (Homans, 1951, Shani and Lau, 2000); in this perspective, all behaviour occurs in the informal system of the organization[11].

[11] The writers use the terms *internal system* and *human organization* for the informal system.

Connecting the behaviour model with Mintzberg's theory of organizational structure reveals that different parts of the organization have different interests which reflects the amount of behaviour the different actors enact overtly, or covertly within the shadow system. The conclusions of this thesis lend support to Stacey's argument that the shadow system will dodge regulation attempts (1996), but the thesis has provided evidence contrary to Stacey's argument that the shadow system always would shun exposure. The thesis has also provided evidence of the shadow system containing behaviour more instrumental to the organization than what is prescribed by the formal system. It can be argued that it is the existence of a prescription within the formal system that causes the more instrumental behaviour to occur in the shadow system instead of within the overt part of the informal system. However, the findings of this thesis also indicate that organizational members use the shadow system to conceal attempts at innovation until they have proved to be functional. Thus, the fear of failure and embarrassment is an impediment to having an open climate at an organization (Argyris and Schön, 1978).

The description of an organization as consisting of a formal and an informal system may lure readers into an unnecessarily reductionistic view, assuming that the individuals of the organization either belong to the formal or to the informal system. As the formal system can never provide perfectly explicit directives (Beck and Kieser, 2003), the behaviour of each individual in any given situation will resemble the formally-prescribed behaviour to varying degrees. In this thesis, behaviour close to the formally-prescribed behaviour is considered to occur within the formal system and vice versa. The findings of this thesis also describe individuals whose behaviour at times belongs to the formal and at times to the informal system. Notably also, managers do use the shadow system at times. Thus, it is conventional to think of the informal organization, and particularly its shadow system, as some kind of 'ghost in the machinery', something that is supplementary to the 'real' organization. The formal system and the shadow system may be argued to be enfolded into one another and inextricably entangled, rather than just

in close proximity. That is to say, the formal organization provides an arena for the shadow system which in turn feeds the formal organization with symbolic interactions and beliefs that make the formal organization run smoother without formally acknowledging the shadow system. Thus, the shadow system is a part of the infrastructure of the formal organization rather than its subsystem. The results of this thesis overturn the idea of the shadow system as being what kicks in when everything else is absent. Thus, one should not 'fear the darkness' of the shadow system but recognize it.

7.1.3 Learning Theory

The theoretical framework of this thesis comprises a selection of learning theories; action science by Argyris and Schön (1978) further developed by Argyris, Putnam, and Smith (1985), and the JoHari window by Luft (1961, 1969), all intended to increase organizational learning by sharing beliefs and thoughts between organizational members. Action science has been criticized for exposing its participants and making them vulnerable following intervention (Kemmis and McTaggart, 2000), and Hase, Davies, and Dick (1999) have criticized the JoHari model for not recognizing the fact that individuals may have thoughts that they are unwilling to share with others. Argyris and Schön (1978) have argued that an ideal organization would be characterized by a climate allowing open Model II reasoning, leading to increased learning and innovation. This thesis does not oppose that argument. However, as long as organizations do not host such a climate, protected learning arenas may serve as a viable way of improving upon the learning capability of organizations by enabling actors to reflect on and recombine knowledge which they are not yet prepared to disclose to the organization. However, as has been argued in this thesis, in order to facilitate such a learning arena, the organization must recognize the need of individuals for nondisclosure. Thus, contrary to the openness proposed by learning theory in general, this thesis argues that, in order to exploit the knowledge within the shadow system of the organization, the organization must support *protected openness*.

7.1.4 Project Management Theory

The project management school views the mission of a project as planning and executing work tasks of a rational downdivision of the overall project task. The project management school has provided a number of tools for such planning in order to reduce the uncertainty of the projects (Engwall, 1995). As was stated in the theoretical framework of this thesis, several authors, including authors from the project management school, have recently argued that project managers need to develop their political skills in order to better be able to manage their projects as regards the existence of shortcomings in the project context (Hislop et al., 2000). The project management school has not been used as a provider of theory for this thesis; instead, it has been presented in its role of being a major influence on the practitioners of the management of projects.

In the theoretical framework of this thesis, the project management school was contrasted with the Scandinavian School of Project Studies, which has emerged as an attempt to provide a wider approach to the studying of projects than the project management school, by studying projects and their contextual dependencies in multi-project environments (Sahlin-Andersson and Söderholm, 2002). This discourse includes the argument that the project management school's focus on rational planning and mechanistic tools neglects the importance of the need for learning in order to manage project uncertainty (e.g. Norrgren et al., 1997, Adler, 1999a, Lindqvist and Söderlund, 2002).

Put in the terms of analysis used in this thesis, the project management school argues that the mission of a project manager is to rationally apply project management tools to the formal directive given to the project by the formal system. This discourse has a great influence on the professionalization of project management (Hodgson, 2002) and this thesis has reported that non-experienced project managers are unable to act when their projects become impeded by what they perceive to be non-rational, political deficiencies in the contexts of projects. Thus, the findings of this thesis support the argument put forward by the Scandinavian School of Project Studies regarding the need to provide practitioners

with a wider picture of project management than the one provided by the classical project management discourse.

7.2 Formalization and Standardization in Project Management

7.2.1 Forces Acting for Project Management Standardization

As was reported in the Conclusions chapter of this thesis, there is little support for Mintzberg's (1979) argument for working in projects tending to be replaced by work standardization. However, it is evident that there is a tendency to standardize project work. During the research conducted for this thesis, several forces, acting for the standardization of project management, have been identified;

1. Learning rationality
2. The bureaucracy problem, in the shape of
    a. Management's calls for uniform objects of control
    b. Project managers' calls for the demarcation of unwanted tasks
3. Legitimacy

The first force is the rational force; when the organization has performed a number of similar projects, a pattern of generic project characteristics emerges which may be suitable for standardization (cf. Lundqvist, 1996, Adler, 1999a). Mintzberg (1979) has also addressed such rational reasons for standardization, which may be supported by different groups of interests within the organization, e.g. management and the project managers.

A second force can be recognized in project standardization due to management's striving for homogeneity in order to ease control (cf. Ekvall, 1993, 2000). Standardization attempts aimed at making it easier to control may not necessarily be constructive and are thus not always rational; as an example, management may force projects which are novel, uncertain, or complex to file reports in accordance with a standard which is suited for repetitive types of projects. Project managers' efforts to disregard unwanted tasks in their projects may also result in calls for

standardization. An example of such a task, provided by project managers at PharmaSite, is the definition of which documentation to produce (Alexandersson and Johansson, 2003, Grönnesby and Nikoulina, 2003). This force seems to work independently of the first one, in that the demand to demarcate a certain activity may be raised before learning has occurred. A common denominator in the behaviour of management and project managers is their efforts to improve the efficiency of their own work without taking a holistic view of the function of the organization as a whole. Abrahamsson (1998) defines this behaviour as *the bureaucracy problem* and attributes it to large organizations.

The final force for the standardization of project management, which has been identified during the research for this thesis, concerns building the legitimacy of the organization. An organization may adopt a certain common project management standard because of the demands of customers or management (Abrahamson, 1991, Brunsson and Jacobsson, 2000, Ekvall, 2000).

7.2.2 Dysfunctional Project Standardization

Study 2 reported from the case of company Gamma, where a project management framework was created to support and control the NPD projects of the company. Development of the framework was carried out with the extensive involvement of experienced project managers. The project managers of Gamma found the framework to be very useful in allowing them to focus on the specifics of their projects, leaving the generalities to be performed in accordance with the framework. After being successfully put into service, the ownership of the framework was transferred to a group which became detached from the day-to-day work of project management. About five years later, this group commissioned a revised framework. According to the project managers interviewed in Study 2, this revised framework had been designed without recognition of the way a project manager needs to work. Alas, the project managers of Gamma needed to engage in rule-breaking in order to prevent flaws in the framework from affecting project execution.

Adler describes how bureaucracies fail to produce standards which support business but aim to control them (Adler and Borys, 1996, Adler, 1999b). Adler argues that the dysfunctionality of bureaucracies is not connected to the existence of rules but to the intentions of those who design the rules. He calls for a different kind of bureaucracy which aims to support business; *the enabling bureaucracy*. Adler's theory, applied to the case of company Gamma, indicates that the technostructure owning the project management standards, in the form of frameworks, does not necessarily design the framework in order to enhance and support project execution but to secure interests related to being in control. This is in line with Morgan's (1998) observation that rules may be created to protect their creator from blame in case of a serious blunder.

Dysfunctional project support exerts a destructive influence on the projects of an organization. However, this thesis has reported that project managers use the shadow system to reject influence when they perceive their environment to be unsupportive. This leads to an increased project risk as the functional influence of the project support functions also suffers when the support functions receive insufficient information from the projects. A control system response to this could be to increase the pressure as regards accessing and influencing the projects; thus, a negative spiral is created whereby the actors depict each other as belonging to 'the other camp'. While this thesis has described how project managers may use the shadow system to evade the influences of dysfunctional parts of project standards, it is not an argument for using the shadow system in favour of a functional formal prescription.

7.3 The Influence Paradox of Management Legitimization

If the formal management system reifies the covert and informal shadow system in order to increase its constructive qualities, this legitimization would perhaps lead to the formal system losing influence and perhaps also reinforcing the destructive qualities of the shadow system. An analysis gives at hand that it is essential to understand what component of the informal system is legitimized by the formal

system. It would be an exaggeration to describe the behaviour legitimized by the arenas of protected openness reported in this thesis as a legitimization of depriving management of their right to remain informed in order to execute their responsibilities vis-à-vis the organization. This thesis does not propose a reduction in openness within the organization. Quite the reverse, this thesis proposes that areas of closeness should be managed as a complement to the organization's striving for openness, through allowing a protected openness to occur in order to improve the knowledge of individuals regarding their own role and the behaviour of their organizational context. These areas of seclusion have traditionally been out of reach of the formal system, and it would be futile of the formal system to impose control on them; it would be like removing the locks in order to inspect what goes on in the restrooms only to find that people move their business elsewhere. By allowing these arenas of protected openness to be professionally managed, the organization may be served in three different ways;

1. The protected openness leads to increased learning in the functional part of the shadow system
2. The potentially destructive part of the shadow system can exploit the protected openness as an arena for anxiety reduction (Moxnes, 1991)
3. Management receives reports on an aggregated level on the state of affairs from the agents, and may hence be more inclined to relax controls

In conclusion, properly set up arenas for protected openness may prove to be a viable mechanism for improving on the organizations learning capability. However, as has been proposed by Hellström, Malmquist, and Mikaelsson (2001), agents acting within the informal system must possess great integrity, as stakeholders from different groups may want to influence the agents to support their interests during the exchange of information. Aligning their incentives to the business goals of the organization that they are set to support may be a necessary precondition.

7.4 The Ignorance Paradox of Management Legitimization

Within the legitimization of the covertly informal by the formal resides a peculiar paradox, as it contradicts a legitimate fundament of management; the right to be informed. A manager who legitimizes a non-disclosing tool to enhance the informal does in fact say "do not inform me in order that the projects may succeed better". An organization, which bluntly moves its management into ignorance, will of course fail and this is not a proposal being made in this thesis. What is being proposed is for management to make use of a part of the informal organization which is barred to managers enforcing a control-based agenda; the one of the actual, genuine beliefs, understandings, and shortcomings of the project managers. The use of non-disclosed Model II reasoning in closed parties is not new; it is used in many kinds of coaching and mentoring, and it is institutionalized by physicians, priests, and lawyers. It has novel qualities in that it is deployed not on an individual level, but on an organizational one in the context of project management, and as such, has been legitimized by the formal system. The same thing could be said about the method of interviewing and the use of group coaching in the Leader@site development program in Study 4. In its legitimization lies management's understanding that some kinds of information cannot be readily shared among all organizational members, a condition which is neglected by the mechanistic perspective of dominant project management textbooks. By means of this, the thesis supports the argument of Morgan (1998) regarding the use of multiple perspectives in order to create a better understanding of the behaviour of the organization in order to increase the benefits provided by it.

Findings indicate that management is aware of this paradox; this formal legitimization by management was done with some ambivalence as regards the creation of non-disclosing arenas for project management. On the contrary, management showed no such ambivalence regarding the legitimization of non-disclosing arenas for leadership development. Three possible explanations for this behaviour are offered. First, it can be interpreted as the formal system not wanting to *publicly* legitimize the shadow system to influence project management, which is

considered to be within the authority of the formal system (Thompson, 1965); leadership development, on the other hand, has a tradition of being within the authority of the individual (Sullivan, Perry and Gawel, 1970, Berglund, 2002) and management is, accordingly, used to such arenas being non-disclosing. Second; legitimization was carried out by different management groups, and the group legitimizing the project manager arenas might show hesitation due to such arenas being unpractised. And, finally, management might become concerned with the paradox of legitimizing the informal when a shift of balance from the formal to the informal is at hand.

The shift of balance from the formal to the informal regarding non-disclosing arenas for project management was proposed by an agent outside of management, and this circumstance, together with management's reluctance to publicly display interest in the arenas, can be interpreted as a political act of precaution; if the move turned out to be disastrous, management would be able to revert to a more formal way of relating to project management without having to publicly repent any legitimization of the shadow system. Such discrepancy between the public and backstage performances of management is both common and necessary in order to manage both perceptions and actions (Buchanan and Boddy, 1992) and reveals that management, being the archetype for the formal system, also makes use of the shadow in the informal system. Apart from endorsing arguments regarding the ever-present existence of the shadow system, this implies that the paradox works both ways; individuals on different levels in the organization, who have developed skilful ways of making use of the shadow system, might be reluctant to allow the formal system to gain influence. Managers are also served by the formal system being unable to fully depict all behaviours within the informal system. Thus, formal training systems are partly unfit to transfer knowledge to newcomers regarding the way the organization actually works, leaving educational efforts to occur haphazardly through socialization or, which is one argument of this thesis, to occur within legitimized non-disclosing learning arenas.

7.5 Recommendations for Managers

This thesis has identified interplay between project-intensive organizations among three different interest groups; line management, the standardization specialists within the technostructure, and the project managers. As the thesis has aimed to develop alternative forms of support for the latter category, the recommendations are directed towards the two former groups, who can legitimize new project management support structures. As line management is considered to direct the standardization specialists, it is given more strategic recommendations while the standardization specialists are handed more tactical recommendations. Of course, both categories of stake holders may be served by reading the full chapter, because, as Deming once noted, the organization is served by its members being able to share each other's perspectives.

7.5.1 Breaking the Evil Chain; Recommendations for Line Managers

This thesis is a contribution towards a stream of literature which aims to show organizations alternative ways of supporting their projects other than applying standards of control and influence. The thesis has described principles for the design of methodologies which have turned out to exert a positive influence on the management of projects by deliberately using parts of shadow system activities. At the same time, these methodologies can provide aggregated information to management on the advances of the projects, as well as reports regarding restraints on project execution caused by the project environment. This latter property makes these methods suitable to be used as complements to traditional methods of project standardization in that they lead to improved understanding of both the management of projects and the influence of project management frameworks.

Due to the strong alignment between the task agenda of a project organization, on the one hand, and the project managers' running of it, on the other, there was no need to realign the agenda of the project managers. As was shown above, the case of those managing the project management frameworks may be different. Thus, in

order to contribute to the efficiency of the project organization, line managers are given the following advice:

1. Replace a strategy of unilateral control with one of learning and support
2. Align the business aims of the project support functions with the aims of the project organization
3. Design complementary learning systems, as modelled in this thesis

Through management's focus on viable standards and routines to support project work and project managers' focus on project execution, the organization can improve its aim of becoming what Anell and Wilson (2002) call a permanent, flexible organization.

7.5.2 Get into the Projects: Recommendations for Specialists in the Project Support Structure

As evidenced by the findings of this thesis, as well as other publications, the formal system, in the form of functions organized to exert an influence on the project organization, is hesitant to become involved in the project organization. There seems to be a tendency for the technostructure to turn, metaphorically speaking, into a publishing house for prescriptions for how others should behave. However, in order to be constructive, this urge for standardization must still result in standards which match task-oriented projects. This calls for learning as regards what goes on in projects. Hypothetically, members of projects could be directed to teach project standard specialists their trade, but a couple of reasons speak against this. First, projects are task-oriented and adding such a teaching task would divide the attention of the project. Second, project members may be unaware of repetitive patterns of projects executions, and may also lack the language for such descriptions. An approach by specialists in 'project ethnography' will allow the members of the projects to keep focusing on their specialization, namely project execution. Thus, multi-project organizations are in need of a professional project support function to create learning within the organization. However, standardization should be considered a means, not an end, for such a function.

Unless the end of the project support function is to support projects in their striving for improvement, increased polarization will cause more project behaviour to occur within the shadow system.

Based on my research findings, I suggest that the project support specialists consider the following:

- Learn how to distinguish between the support needed for recurring, standard types of projects and projects that are novel and uncertain. Standard types of projects can be seen as being served more by generic frameworks and guidelines while more novel types of projects may need some of the generic frameworks, but would also need other types of support such as learning dialogues in arenas that are of a non-disclosed character.
- The technostructure would be more able to influence projects if they were more willing to activate parallel learning structures. At the same time, they would be gaining input into their own development through such structures. By engaging in such learning, technostructure managers would be able to help project managers to become more aware of their ignorance. They would also be able to learn about the contextual restraints of some projects that would make the use of some of the standard frameworks less applicable. Over time, they could also collect new practices developed by specific projects that they could formalize and transfer to other projects.

The technostructure might need to become more open in order to learn more about the concerns that project managers share with line managers; how to balance the use of standard frameworks, rules and guidelines with acceptable shortcuts in order to reach the objectives in time. This can probably only be achieved by co-opting technostructure people into projects – "living within" projects for periods of time and not just meeting project managers via educational activities planned by the technostructure, or by distributing manuals and recommendations from a distance.

7.6 Suggestions for Future Research

The research presented in this thesis should less be regarded as a further scrutinizing of a well-trodden research path and should more be regarded as a first step into a less investigated part of the research map of the constructive exploitation of the informal shadow system in project-based organizations. The low quantity of this kind of research necessarily implies the further exploration of its applicability to contexts different from the context of R&D, and in different organizations. The proposal for such an extension would also include the exploration of different kinds of arenas than those explored by this thesis; would perhaps a project-based organization be served by general training in model II reasoning? Would such general training be served by the recognition of protected openness, as proposed by this thesis?

As the practice of project management has a complex social character, the development of valid theory regarding the management of projects needs a connection with communities of practice in order to develop and validate such theory. The project management school discourse has traditionally exerted an influence on practice, and recent indications of the project management school discourse extending into the political domain (Pinto, 2000, Sotiriou and Wittmer, 2001) may prove influential in the development of theory addressing the management of projects in both a wider and deeper sense. A redirection of project management research is recommended in order to include managerial ways of capitalizing on the innovative parts concealed within the shadow system of projects. This calls for the development of models and language for the describing of the informal, and for the development of research deploying a complementary focus of the formal, the informal, and how they are intertwined. This redirection of research seems necessary in order for researchers and the practitioners of project management not to end up with a toolbox which is only valid for repetitive actions within projects.

8 Epilogue

Readers beware – a Paul Auster-style wrinkle is coming up.

The first part of the research conducted for this thesis, consisting of Studies 1 and 2, identified the fact that individuals within organizations actively manage *Hey!* impression of their projects, recognizing that the project context *Hey kid!* less than rational, and… Eh, yes? Who is calling? *Well, I'm glad you asked. Listen, you might not have recognized this, kid, but you have an audience out here.* I do? *You bet, and I'm one of them. But I'm telling you, if you don't shape up quickly, you're gonna see me and a whole bunch of other managers leaving pretty soon!* I need to shape up? *Yeah, we've suffered your text for this long, and then I hear you start up in that tone again I figured I'd better put a stop to this before you waste more of our time.* Well, I didn't intend to waste your time, and… *Now listen, I know that you were once a line manager yourself. And you've been a project manager and then a specialist in that, whaddayacallit, techno…* Technostructure. *Yeah, technostructure. You've done it all. But you don't remember, do you kid? Have you been away at that University so long that you've forgotten what it was like to be a manager? We live in a world of speed, remember? You gotta serve us fast food, not five-course dishes!* Well… Fast food? *Yeah, fast food. And its gotta be clever too, because we ain't dumb just because we don't have that fancy way of describing things.* I know… *So now you know, do you? Then show me!* Well… What do you want to know? *Okey, kid. I give you one minute* One minute?! *…,yeah, one minute to tell me the most important thing about your research that I need to know.* Then what do you need to know? *Now, don't be smart with me, kid. Remember the days when you were speeding too. Look into your research. What do I need to know? One minute!* Well, I haven't forgotten, its just that I was using academic language, and… *Get on with it! One minute!*

Ok. One minute. Hmm… I guess what has surprised me most and what any manager needs to be aware of is the forces that drive us to unconsciously become

less efficient. It's what Abrahamsson 1998 called *Shape up!* Sorry! I meant, it's what academics call the bureaucracy problem, that we unconsciously reduce the level of focusing on the reason for the existence of our position within the organization, and replace it with a focus on making the job easier for ourselves. *You mean suboptimization?* Yes, exactly. I was not aware of it being an unconscious mechanism. Take librarians, for example. They don't make much money. Many of the students who choose to become librarians probably do so out of a devotion to the idea of educating the masses. If we were to interview librarians on what they do for living, they would probably respond that they help people read books. But if we studied librarians in action, we would probably observe that a number of them act in ways which reveal that they protect the order of the library more than they invite people in to use it. *Is that your point?* No, that's my example. My point is this – in order to manage an organization well, you need to know how it works as well as how you work, remembering that we are not fully self-aware. We all have an urge to unconsciously redesign our work to suit us, not our colleagues, our customers, or our shareholders. As long as we are aware of this, we can foresee the problem.

Is that what your thesis is about? Well it is about more than that, but you must recognize this in order to understand why project support structures might end up not supporting projects at all. Project support structures may originally be designed to support projects so that they become successful, but over time they change their strategy in order to better support their own interests. Perhaps the support structures develop rules to protect their owners from blame whatever the problem affecting a project, and that is a lot different to supporting the successful execution of the projects. *What would that look like?* Well… Let's say that a company gets into this risk management thing. *We did that years ago.* Good for you. I bet your project handbook states that a risk analysis should be prior to that particular stage-gate, right? Well, I argue that a truly supportive project support structure would be out there visiting other companies, reading literature on how to manage risks, discussing risk management with project managers, identifying patterns between

different kinds of projects and so on, compiling a body of knowledge on risk management at the company. Projects cannot do that. It's a specialist thing to take care of it. But doing that takes more of an effort. And it's risky, too. If you get involved in risk management in a project, which subsequently fails, you might get a share of the blame. It is more convenient and requires less effort to simply state that risks should be managed, and then check that people sign documents labelled Risk Management Plan. You become a policeman instead of a nurse. *Yeah, but there's a need for control in business.* Yes, definitely, but you need control in matters where people's incentives are low. Project managers want their projects to succeed, they care about the management of risks. *Then why don't they write their risk management plans according to instructions?* Well, perhaps their projects will not be served by them filling in these documents. Perhaps the authors don't know what to write, and can find no way of learning how. A plan is a result of planning, but the templates provided to produce the plans are perhaps focusing on how to fill in the plan, not on how to perform the planning.

And this is what your thesis is about? We're getting close. You see, project managers are expected to perform, right? They are not praised for seeking advice on different matters. *Any project manager at our company is welcome to ask me anything.* Yes, perhaps, but which kind of project managers do you prefer, the kind who already knows what he or she needs to know, or the kind who needs to spend your time asking things before they can get started? *Of course it's the first kind.* And do you think that project managers, one way or another, will pick up on your preference, and then adapt their behaviour to please you? *You've got a point.* Yes, and I made a thesis out of it. You see, project managers need to find out which rules they can bend, and which directives they need to follow. In short, they need to know how the organization actually works. But these things are a little hush-hush, so this thesis shows how management can allow secret-keepers to discuss these matters with project managers so that they will better be able to learn how it all works and what they actually can do. *But that's not good. The organization should work according to its directives.* And it can, but only if it's a very stable

organization, and if it's characterized by a lot of openness. You see, people want to develop new ideas and opinions of new things in private until they are certain that their opinion is acceptable. The shadow of the organization, as I call it, hides a large number of opinions and behaviours. Only when a new idea has mobilized enough support does it leave the shadows to challenge what prevails. And many ideas die in the shadow without becoming public. *I don't like the idea of having a shadow in my organization.* Well, you have it, whether you like it or not. And that's why I believe this thesis can be of interest. It has shown that management may be served by supporting what is going on in the shadows, if management is willing to sacrifice its urge to stay informed about anything it pleases. *Uhuh, but I don't like it anyway. I want to declare my company a shadow-free zone.* Then you would need to become not only fully transparent yourself, but you would also need to impose this kind of openness on all the members of your organization. But you will fail anyway. There is no time to communicate everything about everyone, so the people in your shadow-free organization will have to choose which information to share. As they are served by selecting the information that puts them in a good light, they hide information that is less favourable, and Wham! The return of your shadow system. You'd better get used to it.

But I can't tell people that it is okay to conceal things from me. Business would turn havoc. Yes, there's a paradox here. You can't publicly describe how things actually work, because you set the norm and peoples' behaviour follows. You can't set the norm at where the actual behaviour is, because people would react to that and perform the actual behaviour in another way. There will always be tension between the norm and the outcome. *So your thesis is about accepting and then managing the shadows?* Yes, that's about it. *But you're a researcher, you wouldn't need to use the shadow system, would you?* Would I? *I say you would. Because I have observed you using the shadow system yourself, here and now.* Did I? *Yes! Because I offered you a minute but you took five.* Ooops, sorry. *Never mind. It's nice to be able to actually use theories provided by academics.*

The above dialogue was added following an encounter with a manager at a Swedish IT company. The purpose of the author inviting the manager to a meeting was to practice the author's ability to lecture on the findings of this thesis to a managerial audience. However, it soon transpired that the manager had no intention of respecting the author's lecture plan, and the lecture turned into something closer to an interrogation. Afterwards, reflecting upon this, I realized that the lecture-cum-interrogation was very timesaving compared with what I had originally intended to do and, after all, my presence at Fenix is in part to provide actionable knowledge to the industry. The text above was created in an attempt to resemble both the answer-my-question-goddammit mindset and the content of that particular discussion.

The dialogue has been reviewed by a number of PharmaSite professionals, as well as a number of academics. An interesting contrast happened to emerge between two adjacent pieces of feedback. According to one practitioner, the dialogue text was "just what I needed to know". When asked about the other 80 pages, she read a few of them and concluded "I understand each and every word separately, but when put together, they create a language that is so difficult to interpret". A while later, I received the comments of a senior researcher at the University regarding the dialogue text; "I read it and then I read it again, asking myself – what does this text mean?" I interpret this as final evidence in support of the conducting of insider/outsider collaborations in organizational research, which has been central for this thesis.

The Marimekko woman! Yes, what about her? *What happened to her?* Well… When Ms Raku eventually is president of a large, standardized pottery corporation, she accidentally falls to the ground, ruins her dress but rediscovers the joy of feeling the earth in her hands, and realizes that life is just not about money after all (Mintzberg, 1979 p480).

And that's all there is to say about that.

9 References

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