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Time for the organization
Uncertainty and decision-making in management and governance

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Time for the organization

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Abstract

This thesis is a case study with the purpose of exploring the validity of Requisite Organization, a framework developed by the organizational theorist Elliott Jaques. Jaquesian theory is methodologically individualist, and the author argues that there are close theoretical linkages to especially the Austrian school of economics. An integral aspect pertains to how individuals deal with uncertainty over time when making decisions and solving tasks. Intentional behavior requires independent planning and execution of tasks over time, and the complexity of intentional behavior is directly correlated to the expected completion time of a task. An individual's Capability to deal with complexity can be matched to the requirements of a work role, forming the foundation for matching strategy to structure and staffing in organizations. The presented evidence supports the validity of Jaquesian theory. In addition, the study examines how implementation could come about, and how Jaquesian theory can be used to develop corporate governance. A discussion on research methodology is also included.

Keywords: Knowledge, Uncertainty, Management, Corporate Governance, Methodological Individualism, Elliott Jaques, Requisite Organization, Capability, Time-Axis of Intentionality

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1 INTRODUCTION

> "There is in the universe something for the description and analysis of which the natural sciences cannot contribute anything.
> There are events beyond the range of those events that the procedures of the natural sciences are fit to observe and describe.
> There is human action."
> *Ludwig von Mises*

1.1 Background

Science is impossible without the measurement of time. No stringent study of physical or chemical phenomena could be done without correctly measuring their time of occurrence. In modern physics, measurement of time provides the only fix point of reference – the speed of light is constant.

Life is also impossible without the measurement of time. But whereas science deals with past events, living organisms constantly deal with future time – goal-directed behavior entails continuously making predictions on what might happen, and what this implies for action.

Understanding living behavior thus implies understanding time and its relation to intentionality. For humans, and other social organisms, the individual's understanding of future time is intimately tied to predicting the likely behavior of others. Therefore, in order to fully explore the human relation to future time, it is necessary to engage in social science.

Goal-directed behavior in social interaction implies constraints on the freedom of action of the individual. These constraints are set by the laws of nature, but they are also set by the behavior of others. In cooperative social arrangements, the interacting individuals tend to set up constraints that are commonly agreed upon, either tacitly or explicitly. These constraints are termed e.g. rules, institutions or simply structures. Organization theory implies a specific focus on understanding these formalized constraints.

Organization theory within social science is thus the study of the interaction of structure and agency. Structures direct individual behavior, but individual agents can also change structures, affecting future behavior of themselves as well as others.

In order to study the interaction of structure and agency, certain demands are put on methodology. The two main schools in contemporary social science are the methodologically collectivist and individualist schools. Representatives of the former include Marxist theory, structuralism and post-structuralism. Representatives of the latter are mainly found in the field of economics.

This study is an attempt to validate a novel theory within the methodologically individualist approach in organization theory. It seeks to explain the interaction of structure and agency by employing a theory on how humans deal with future time when engaging in goal-directed behavior. The theory was developed by the organizational theorist Elliott Jaques,[1] who spent several decades conducting research on businesses as well as government bureaucracies. With time as the starting point for analysis, he provides an explanation of why certain forms of organization occur, and how they should be constructed to produce desired outcomes.

The study is conducted within the field of business organization. Successful business practices hinge not only on sound and functioning business structures, but also on matching roles and individual agents. Furthermore, corporate governance, or the relationship between owners and managers, as well as the role of the board of directors, is a key factor affecting business performance. What constitutes proper corporate governance practices is a hotly contested topic, especially in the wake of several incidences of corporate fraud in both Europe and the US.

In addition to exploring the validity of Jaquesian theory, this study examines how the recommendations that follow from Jaquesian theory could be implemented, as well as how the theory affects corporate governance. An additional focus concerns proper research methodology.

1.2 Research questions and design

This thesis aims to answer four questions:

1. *Does Jaquesian theory provide valuable insights on how to forward successful business practices in order to reach good business performance?*
2. *If Jaquesian theory proves valid, how should its recommendations be implemented?*
3. *How can Jaquesian theory be developed to provide insights on proper corporate governance relationships between business owners and managers, including the role of the board of directors?*
4. *How should Jaquesian theory be used when performing research, and could the research methodology be developed to create better research results?*

Elliott Jaques passed away in the spring of 2003, and although his main theoretical contribution can be found in the literature he pro-

1 Pronounced [Jacks]

duced, the largest body of practical experience on how to work with the theory was lost. Jaques worked with several firms and corporations as well as government agencies throughout the world, employing his theoretical framework to develop organizational practices. Also, several individuals and firms, mainly in the Anglo-Saxon world but also elsewhere, have used Jaquesian theory both in research and organizational consulting. In 1998, the management consultancy ENHANCER was founded in Sweden to commercialize Jaquesian theory.

This thesis is a multiple-case study, examining five instances when ENHANCER applied Jaquesian theory in companies, on behalf of either management, the board of directors or owners. The author selected the five cases out of the approximately 100 that ENHANCER had worked with at the end of 2004 as five examples of how the theory could be used in practice.

1.3 Organization

This introduction is followed by a theory section. Three approaches within the methodologically individualist tradition are described and contrasted – neoclassical economics, the Austrian school of economics and Jaquesian theory. The main focus is on Jaques' theory of the individual, as well as his conclusions on organization, labeled Requisite Organization.

The methodology section follows. Methodological individualism and collectivism are compared and contrasted, to provide a basis for understanding the Jaquesian approach. Jaques' concept of a Time-Axis of Intention to analyze goal-directed behavior is described in greater detail, followed by a discussion of how this concept affects and complements case study research. A description of how the present study was conducted follows.

In the case descriptions that follow, the five cases are presented in a narrative format. No analysis is included in the actual descriptions, other than that provided by interviewees.

In the analysis and discussion section, the four research questions are answered in turn. The data in the study is found to support the validity of Jaquesian theory. The theory is assumed to be valid when the other research questions are answered. Conclusions concerning implementation and how corporate governance could be improved are presented. In addition to evaluating the case study approach, the discussion on methodology touches upon other possible research designs when employing Jaquesian theory. Some concluding remarks on how business performance could be improved by taking the Time-Axis of Intention into account ends the thesis.

2 THEORY

> "Without a theory the facts are silent."
> *Friedrich Hayek*

A substantial part of social science research is done within the methodologically collectivist approach. This is especially true for organization theory. However, Jaquesian theory is methodologically individualist. In the methodology section, a critique of methodological collectivism will be made along Jaquesian lines in order to contrast this approach to the individualist. It will be argued that a methodologically individualist starting-point is necessary in order to take account of both structure and agency in social interaction.

In the theory section, Jaquesian theory will be compared and contrasted with other methodologically individualist approaches to organization within the field of economics. A useful starting-point for understanding the important differences between the approaches can be found in the concepts of knowledge and uncertainty.

2.1 Knowledge and uncertainty

What an individual knows and does not know can be divided into four different categories:[2]

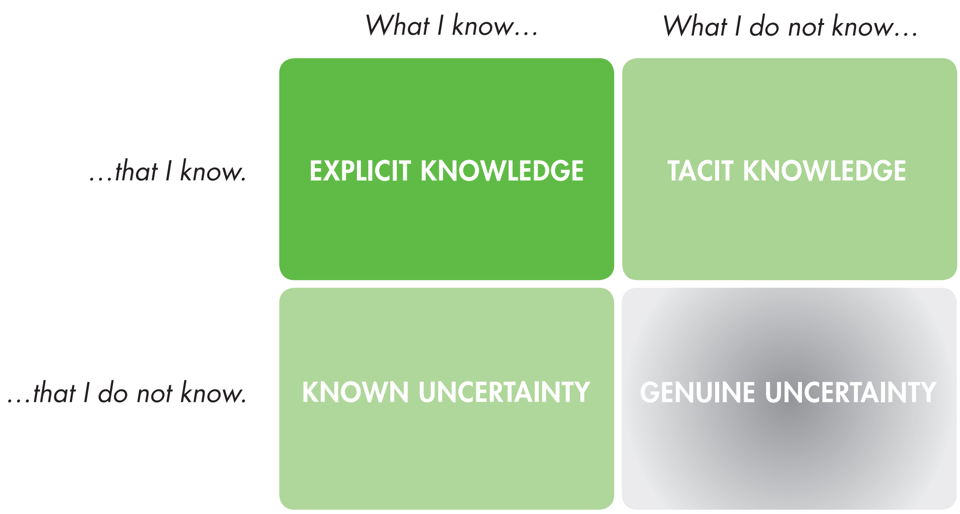

Figure 1: The different kinds of knowledge and uncertainty

These distinctions are important, because they set boundaries for communication. Explicit knowledge is of the kind that can be found in textbooks and manuals, and that can be articulated and transferred freely. It is the type of knowledge that comprises the whole of science. A necessary requirement is that it can be expressed in mathematics or other language.

[2] Differentiation based on Polanyi (1958) and Knight (1921).

Known uncertainty is the corollary of explicit knowledge in that it can be formulated mathematically or in terms of other language. It signifies e.g. a knowledge gap that is clearly identified, and that can be filled through information search, or through reaching the logical conclusion that it is unknowable. Known uncertainty can often be described in probabilistic terms, such as the chance or the risk of a certain outcome, and can thereby be included in rational calculation.

Tacit knowledge is knowledge that cannot be formulated in terms of language, and is therefore not freely transferable. It is often described as "knowledge how" rather than the explicit "knowledge that". Tacit knowledge as a concept has proved difficult to capture, and definitions tend to boil down to what it is not, i.e. knowledge that is not explicit.

Genuine uncertainty, finally, is of the kind that is neither known nor possible to define in terms of probabilistic outcomes or known knowledge gaps. It is uncertainty of the kind that cannot enter into rational calculation, nor be transferred between individuals.

Once the different kinds of knowledge and uncertainty are appreciated, it becomes possible to define the main differences, as well as the limits to theory, of the two main approaches within economics – the mainstream neoclassical economics and the Austrian school of economics. A more thorough understanding of these schools of thought makes it clearer how Jaquesian theory fits with and complements the methodologically individualist approach of economics.

2.2 Economics

2.2.1 Neoclassical economics

The focus of neoclassical economics is to depict an economy in a mathematically derived general equilibrium framework. Each economic agent is described as a utility function, and although this is not necessary for modeling to function, all individuals are usually assumed to be identical, i.e. having the same utility function. Provided with a certain kind of input, the individual will automatically produce a certain output, in accordance with the utility function.

The purpose of neoclassical economics is to find Pareto-optimal solutions, i.e. situations where the utility of all individuals is maximized given the constraints of others' behavior and where the total welfare of the economy as a whole is at its maximum. In order to determine Pareto-optimal states, economic agents are modeled as rationally self-interested, i.e. they maximize their own utility according to their utility function and according to the information on the behavior of others that they have access to.

When modeling individuals as utility functions, neoclassical economics can only take into account explicit knowledge and known uncertainty, since only these categories are freely transferable between agents. If information cannot be formulated mathematically or in other language, it cannot enter into a mathematical function.

2.2.1.1 Transaction cost analysis and the neoclassical theory of the firm

The Pareto-optimal solution in a general equilibrium framework is a state of perfect competition, where all behavior is coordinated by the price mechanism, and a fluctuation in spot-price levels translates directly into predictable changes in individual behavior. The marginal cost of a certain behavior is equal to the marginal benefit to this behavior in increasing utility. Perfect competition requires perfect information, i.e. that all agents have access to the same explicit knowledge and the same known uncertainty.

In this situation, there is no role for firms, or any other coordination of behavior not based on the price mechanism. Neoclassical economics is thus biased against non-market organization – it must always be the result of some kind of market imperfection. Coase (1937) showed how the situation could change if one took into account the fact that it is costly to act on the market. The transaction costs of acting on the market could in some instances make it more efficient to coordinate in firms rather than through the price mechanism.

In each market transaction, an agent will incur costs when gathering the necessary information for determining the market price. If two or more agents engage in repeated transactions, it will be mutually beneficial to sign a contract whereby the future price is determined, since this will lower future transaction costs. A firm is thus a contract between two or more individuals with the purpose of lowering transaction costs. However, coordination within the firm will also be costly, and therefore there will be a point where the marginal gain to firm size will be equal to the marginal coordination cost. Coase's theory of the firm thus provides both a rationale for the existence of firms and for why they will not grow infinitely large.

The transaction cost approach in neoclassical economics has been developed by e.g. such economists as Arrow (e.g. 1964, 1975, 1985) and Williamson (e.g. 1971, 1979, 2000) among others. Together with the principal-agent approach in corporate governance, it today forms a general contract approach to understanding economic behavior.

2.2.1.2 Corporate governance

According to the mainstream view, "[c]orporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment" (Schleifer and Vishny, 1997, p. 737). This is another way of formulating the principle-agent problem, first popularized by Berle and Means (1932). The problem is this: a principal, usually an investor-owner, hires an agent, usually an entrepreneur-manager, to manage a venture that has a potential positive payoff. Ex ante, the principal and the agent sign a contract that stipulates the goal of the venture and the division of payoffs between the principal and the agent. Then the principal leaves the agent to manage the venture. However, left to herself, the agent has an incentive to renege on the contract by e.g. shirking or by accruing non-monetary payoffs to herself that lowers the value of the venture and that transfers payoffs from the principal to the agent. The principal, anticipating this behavior, tries through different means to align the incentives of the agent with her own incentives, e.g. by different contracting arrangements or by monitoring the behavior of the agent.

Jensen and Meckling (1976) showed that, given transaction and monitoring costs, different solutions for financing firms should be considered first-best options. Equilibrium is reached when the marginal cost of writing a contract and monitoring the agent is equal to the marginal cost to opportunistic behavior on the part of the agent.

2.2.1.3 Contracting and bounded rationality

The principal purpose of contracting, both for the existence of firms and for aligning incentives of principals and agents in corporate governance, is to limit the freedom of discretion of the involved parties. This purpose can also be described as an attempt to move away from tacit knowledge towards explicit knowledge and from genuine to known uncertainty. Terms that are negotiated in a contract are explicit, and the response to future uncertain outcomes can be formulated in advance. The perfect contract thus extinguishes all discretion on the part of economic agents, and makes their behavior perfectly reactive. In other words, the purpose of contracting is to move towards a situation with perfect information, which in turn makes a Pareto-optimal solution possible within the neoclassical framework.

More recently, economists have acknowledged the fact that humans have limited cognitive ability, and that this puts a limit to how complex contracts they can write (Williamson 2000). The growing conclusion is that the consequence of this so-called bounded rationality is that contracts necessarily will be incomplete. Therefore, bounded rationality implies large possibilities for opportunistic behavior, if this opportunism cannot be curbed through other means. If individual discretion cannot be curbed through contracting, more developed monitoring schemes have been suggested to deal with opportunism and to lower uncertainty.

Within theory, attempts have been made to formulate bounded rationality in order to make it fit into the neoclassical framework. However, although there seems to be a somewhat limited understanding of this, it is in fact impossible to capture bounded rationality within a mathematically derived framework. The reason is that if humans are not omnipotent, genuine uncertainty will always exist. And genuine uncertainty by its very nature cannot be captured and formulated mathematically or in other language.

2.2.2 The Austrian school of economics

The Austrian school traces its origin to the work of Carl Menger in the late 19th century, and includes such economists as Ludwig von Mises (1998) and Friedrich Hayek (1945). Although having had far less academic impact than the mainstream neoclassical school, the Austrian school continues to be an important inspiration in economics.

Based on the explanatory framework used in this thesis, the starting-point of theory is the acceptance of tacit knowledge and genuine uncertainty. If it is acknowledged that not all knowledge can be made explicit and transferable, and that not all uncertainty can be assigned a probabilistic outcome, living behavior by definitions needs to be goal-directed on an individual level. Knowledge and information is filtered and processed with the goal at hand as the reference point, and behavior is not reactive in relation to input, it is proactive in relation to intention.

Also, the existence of tacit knowledge means that the price mechanism is understood differently from in neoclassical economics. Since tacit knowledge cannot be transferred other than through the resulting behavior on the part of an agent, the notion of perfect information and the corollary Pareto-optimal perfect competition becomes problematic. Information and knowledge is not only needed ex ante in order to act on the market, it is arrived to ex post through the behavior of agents acting on the market. The price mechanism does not require perfect information to function; it produces an aggregate of information, based on the input of all individuals who act on the relevant market. Hayek (1945) shows how the existence of knowledge that is not freely transferable will make a centrally planned economy a logical impossibility.

The argument on intentionality and genuine uncertainty also runs the other way. If individuals are not omnipotent, and continuously create and receive knowledge on the external world through acting, every situation will be unique, and there will always be an element of genuine uncertainty concerning the past, the present and the future in every social interaction. The economy is thus an open system where individuals have to act not only purposefully, but also creatively, in order to reach whatever goals they might have. The Austrian school defines and entrepreneur as an individual that can overview and foresee present and possible future means of interaction, and that can create value by devising more efficient or novel means of interaction, or by offering a new innovation or product that others have a use for. Entrepreneurship thus becomes a function of both the spatiotemporal location of the entrepreneur, the knowledge she possesses and her possibilities for overview and anticipation of other people's behavior (Kirzner, 1997).

An important result of purposeful individual behavior within a world of genuine uncertainty is that social outcomes on an aggregate level often occur without the explicit intention of any single individual or group of individuals. Among the many unintended consequences of social interaction, Hayek (1952) identifies the spontaneous orders that are the intended consequence of no single individual, and yet form systematic structures. One such spontaneous order is language. Hayek traces the origin of spontaneous order to the inherent traits of individuals, combined with the effects of social interaction.

The Austrian school, through its starting-point in non-transferable knowledge and genuine uncertainty, has continuously forwarded criticisms towards neoclassical economics. It accuses neoclassical economics of trying to use the tools of science improperly, since the mechanical interaction between individuals that are the result of modeling them as mathematical functions makes it impossible to depict creativity and entrepreneurial behavior. The Austrian school itself, on the other hand, has been criticized for lack of quantifiable measurements, and the resulting difficulty in testing hypotheses.

2.3 Jaquesian theory[3]

Similarly to the Austrian school, Jaquesian theory takes its starting-point in a world of genuine uncertainty. However, by formulating a quantitative measurement for how well individuals are able to deal with uncertainty in order to engage in future-oriented goal-directed

[3] Although there are minor differences, all of Jaques later main works contain the same overarching theoretical structure. The references to Jaquesian theory in the remainder of this section , as well as the rest of the thesis, are based on Jaques and Clemens (1991), Jaques and Cason (1994), Jaques (1996) and Jaques (2002). For the reader that wants to delve deeper into the theories of Elliott Jaques, "Requisite Organization" (Jaques, 1996) is most suitable in order to get the full account of Jaques' conclusions on organization. "Life and Behavior of Living Organisms" (Jaques, 2002) gives the best account of the model of the individual, and the theory on non-human organisms.

behavior, the theory allows for increased precision when making predictions on individual behavior and the outcome of social interaction. Based on a model of the individual, Jaques formulates a normative theory for how firms should organize, that he labels Requisite Organization. In the following, the Jaquesian model of the individual will be described, followed by an account of Requisite Organization. Also, the somewhat limited comments that Jaques provides concerning corporate governance are presented.

2.3.1 The individual

As has already been discussed when describing the framework of the Austrian school, a world of genuine uncertainty implies that an agent needs to engage in continuous goal-directed behavior in order to survive. Continued existence hinges on setting future goals to get things that the individual needs. In order to reach its goals, the individual needs to process information and make inferences on the world, and it needs knowledge of the world and skills to act successfully. Since the individual at any given point in time can only process a limited amount of information, it will need a reference-point according to which the information is valued. This reference-point is provided by the wants and the needs of the individual, or in short by its volition.

2.3.1.1 The function for work

Jaques depicts an individual as an integrated system continuously engaging in goal-directed, or intentional, behavior. For it to act successfully, it needs three interacting faculties:

1. Values/Commitment
2. Knowledge/Skills
3. Capability

Values/Commitment are the motivation, wants and desires of the individual, and are a function of how much a certain goal is valued, and how likely it is judged by the individual to be reached. Knowledge/Skills are all the inherent and learned representations of the world and behavioral repertoires that aid in working towards a goal. Capability is the ability of the individual to process and organize available knowledge and information in order to make logical and causal inferences on the state of the world that are needed to solve problems and make decisions.

Jaques defines work as “the exercise of judgment and discretion in making decisions in carrying out goal-directed activities” (Jaques, 2002, p. 266). Work is thus something that an individual is continuously engaged in at all times, and is a function of Values/Commitment, Knowledge/Skills and Capability:

Work = F (Values / Commitment, Knowledge/Skills, Capability)

2.3.1.2 Capability

The individual in Jaquesian theory differs from how it is depicted in neoclassical economics due to the existence of genuine uncertainty and the corollary need for information processing in reference to individual volition. In neoclassical economics, individual behavior can be perfectly determined in a mathematical function, since with access to perfect information there will be no need for individual, creative judgment. As described above, this is also why the concept of bounded rationality becomes so complicated in a neoclassical approach.

The Austrian school, in its description of entrepreneurial behavior, comes closer to the Jaquesian account. However, in Jaquesian theory, all individuals must continuously engage in work, i.e. in individual decision-making and problem-solving. Therefore, all individuals are continuously engaging in entrepreneurial, or creative, behavior, as defined within the Austrian school.

The notion of Capability, which is novel to the Jaquesian account and which makes it different, if not in underlying logic, then in descriptive precision, to the Austrian school's account, makes it possible to differentiate quantitatively between different levels of complexity in work, and the corollary different requirements in Capability levels put on individuals in order to successfully perform that work.

2.3.1.2.1 *The time-span of work*

All work performed by a goal-directed individual must by definition be divided into separate tasks, one task for each goal. Furthermore, whenever an individual tries to solve a task, it estimates how long the task is expected to take to solve – it plans the task. This planning requires a certain use of Capability, or decision-making and problem-solving. Since any individual is simultaneously engaging in solving multiple tasks with different expected completion times, it will at all times be engaged in work.[4]

Jaques has found that the complexity of work is directly correlated to how long the task is planned to take. This conclusion hinges on the fact that in a world of genuine uncertainty, longer time-spans of tasks imply more degrees of freedom, and the need to take into account more parameters when making a decision.

4 It is important to note that this planning, decision-making and problem-solving is not accessible to consciousness – it is in Jaques' words an ineffable working-process. What are accessible to consciousness are only the results of decisions already made. The process of reaching decisions is so complex and fast that it would be impossible to follow through self-awareness.

Jaques defines Capability as the length of the longest task that an individual can plan and solve independently, given that it is Committed to do so and has access to the necessary Knowledge/Skills. This does not mean that the individual will necessarily be successful in solving the tasks, but that it has the necessary Capability to overview the estimated task completion time, plan a course of action and follow through given that no overly unfavorable conditions suddenly and completely unexpectedly appear.

2.3.1.3 Orders of complexity and levels of processing

Since the length of a planned task is measured on a time-axis, and since Capability is defined as the ability to successfully perform work and solve tasks with certain completion times, both the complexity of work and level of Capability are possible to measure on a ratio scale. The implications of this possibility for measurement when conducting research will be discussed at greater length in the methodology section. Here it is instead necessary to show how a certain Capability level correlates to how an individual orders and processes information and knowledge.

2.3.1.3.1 *Orders of complexity*

All living organisms need to create representations of the world when processing information and making decisions. The representations themselves, or the bits of information used, increase in complexity from the simplest representations created by pre-verbal animals to highly complex abstract representations employed in decision-making by some humans. Jaques differentiates between these categories of representations as orders of complexity. For the purposes of this thesis, the two orders of complexity most commonly found among adult humans, the third and the fourth, are the most important.

1. *First order of complexity*
   Here-and-now tangible entities. The concrete pre-verbal representations used by animals and infants to make sense of the world.
2. *Second order of complexity*
   Intangible entities and collections of tangible entities. The concrete verbal representations used by children to make sense of the world.
3. *Third order of complexity*
   Categories of intangible entities. The abstract representations used by most adult humans to make sense of the world.
4. *Fourth order of complexity*
   Categories of categories of intangible entities. The conceptual representations, or categories of abstractions, used by some adult humans to make sense of the world.

2.3.1.3.2 *Language and consciousness*

Human infants are born with a Capability level at the first order of complexity. As the infant grows older it matures, and will at first employ words at the first order of complexity that are used to signal present inner and outer states of the world. Around the age of three to four, the child will normally mature into the second order of complexity, being able to use real language to make representations of not only the here-and-now, but also other potential worlds, such as the past, the future and other places. As the awareness of the present is coupled with the awareness of other potential worlds, the child becomes aware of its own awareness. Jaques describes this as the origin of consciousness.

Throughout childhood and adolescence, the child matures in the second order of complexity according to the levels of processing described below, and will at late adolescence or early adulthood normally mature into the third order of complexity, being able to handle abstract thought. This development has been described in great detail by Piaget (1952), and the similarities between the implications of Jaquesian theory and Piaget's observations are large. An adult that does not operate on the third order of complexity is generally thought of as cognitively impaired. When an individual matures into a higher order of complexity, it will still have access to lower orders of complexity and can act on them at will when it is useful to work at these orders.

2.3.1.3.3 *Levels of processing and time-horizon of decision-making*

The order of complexity that an individual operates on determines the level of abstraction of the information that the individual uses to make judgments and inferences. However, for each order of complexity, there are four ways according to which the information can be processed. These four ways correspond directly to the four logical operators, formulated by Boole (1859). For each order of complexity, the level of processing determines how complex the causal inferences are that the individual uses to make decisions and solve problems. As in the case of orders of complexity, an individual that has access to e.g. cumulative information processing at the third order of complexity will also have access to declarative information processing on this order as well as all four ways of information processing on lower orders of complexity.

1. *Declarative information processing*
   This processing has a disjunctive character, implying OR decisions.
2. *Cumulative information processing*
   This processing has a conjunctive character, implying AND decisions.

3. *Serial information processing*
   This processing has a conditional character, implying IF… THEN decisions.
4. *Parallel information processing*
   This processing has a bi-conditional character, implying IF AND ONLY IF decisions.

Every individual will at a certain point in time have a maximum potential Capability, at which it can work successfully, corresponding to the length of the longest task it can solve successfully. This Capability level corresponds to the time-horizon of decision-making that the individual operates with. An infant is born with a Capability corresponding to a time-horizon of several seconds, and will usually mature into a time horizon of a day or days at late adolescence. As the individual grows older, the time-horizon increases, also after the onset of adulthood. Jaques has found that the Capability level of an individual corresponds directly to the maximum order of complexity and level of processing that the individual can operate on. A smooth increase in Capability is thus coupled with a progression through discrete steps in terms of information processing.

Through extensive research, Jaques has come to the conclusion that Capability is an inherent trait that develops following a predictable

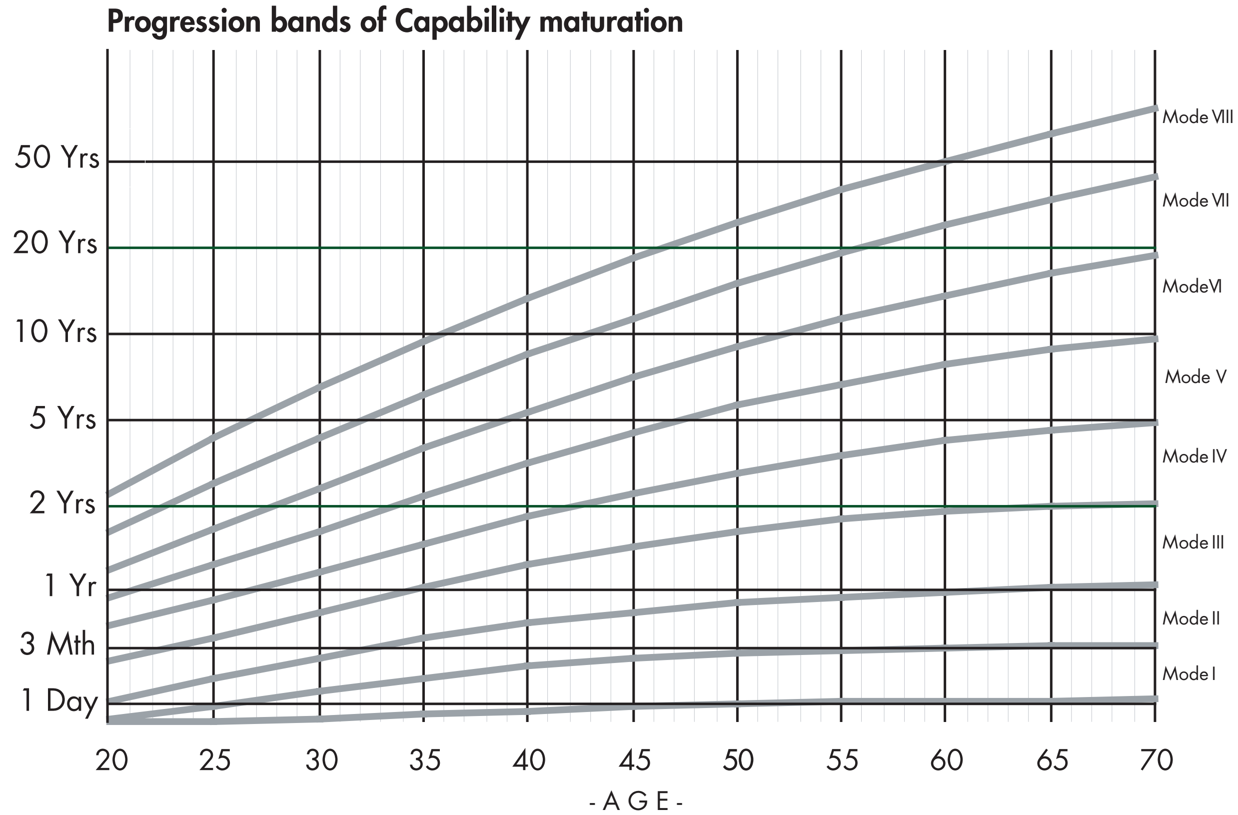

Figure 2: The maturation of Capability for different individuals

path, unless extremely adverse environmental conditions are present. It thus follows a path of maturation rather than accumulation or conditioning.[5] Since an individual has to move through all the successive levels of processing, the speed of maturation determines the end-state, at which the individual reaches its longest possible time-horizon of decision-making. This end-state is labeled mode, and is reached at the end of a normal adult life-span.[6]

In order to analyze behavior among adults, the levels of processing at the third and fourth orders of complexity are the most important. Jaques labels these levels of processing stratum levels, and they are described in greater detail here:

Stratum I

The individual engages in declarative information processing on an abstract level. It formulates causal claims by referring to separate abstract facts that are not explicitly connected. "A is true because B is true. A is also true because C is true. I can state other reasons why A is true". Capability is between 1 day and 3 months. Roughly 40 % of the adult population is estimated to reach final maturation at this stratum level, i.e. they are Mode I.[7]

Stratum II

The individual engages in cumulative information processing on an abstract level. It formulates causal claims by referring to abstract facts which in unison will explain a fact, but which might not be sufficient in themselves to explain a fact. "A is true because B AND C AND D is true." Capability is between 3 months and 1 year. Roughly 40 % of the adult population is estimated to be Mode II.

Stratum III

The individual engages in serial information processing on an abstract level. It formulates causal claims by referring to abstract facts that through a causal chain will reach a certain result. "E is true because A is true, and IF A THEN B, and IF B THEN C, and IF C THEN D, and IF D THEN E." Capability is between 1 and 2 years. Roughly 7-8 % of the population is estimated to be Mode III.

5 The maturation of Capability, as described by Jaques, is an empirical observation. Jaques presents hypotheses on why different individuals mature at different speeds, but presents no solid biological evidence in support of the theory. However, he observes that different non-human species have different end-states at which they mature no further in terms of Capability. He makes the inference that an evolutionary mutation should have taken place at some point in time to allow for the vast increase in Capability found in humans in relation to other species.

6 There is no evidence to suggest that the distribution of potential Capability levels differs between different populations based on factors such as sex, race or ethnicity. However, actual applied Capability is a function of potential Capability, Knowledge/Skills and Values/Commitment, coupled with other institutional opportunities and lack of adverse conditions regarding the possibility of finding work on a certain level. This might serve as an explanation why most individuals who currently work in roles that require high levels of Capability are still mainly found in a fairly small portion of the population.

7 The distribution of mode within the population according to Jaques (2002). The mathematically inclined will notice that the shares do not sum up to 1. The reason is that Jaques estimates that roughly 10 % of the population will not mature into the third order of complexity.

Stratum IV

The individual engages in parallel processing on an abstract level. It formulates causal claims by referring to parallel causal chains that are interdependent. “F is true because A is true, and IF A THEN B, and IF B THEN C, but C is true IF AND ONLY IF Z is true. Since X is true, and IF X THEN Y, and IF Y THEN Z, Z is true, so C is true. IF C THEN E and IF E THEN F, so F is true.” Capability is between 2 and 5 years. Roughly 1 % of the population is estimated to be Mode IV.

Stratum V

The individual engages in declarative processing on a conceptual level, using categories of abstractions in making causal claims. It has understanding of the interdependencies of abstractions within a system, and can make causal claims on the whole system by reference to other systems that are dealt with independently. “The overall nature of A makes it likely that B will not have an overall impact. C, however, is a different story. On a surface level it might seem irrelevant, but if one examines the underlying principle...” Capability is between 5 and 10 years. Only about 1 % of the population is estimated to mature into the conceptual, fourth order level of complexity, of which most are Mode V, and increasingly fewer individuals are of higher Modes.

Stratum VI-VIII

The individual engages in increasingly sophisticated information processing on a conceptual level. The time-horizon matures above 10 years and encompasses several decades as stratum levels increase.

2.3.1.4 Uncertainty and determinism

At this point, it might be appropriate to reiterate the underlying assumptions behind the definition of Capability. The reason why Capability is important for an individual is because the future is fundamentally uncertain, but the individual still needs to create a hypothesis of how it might turn out in order to successfully solve tasks, survive and prosper. In contrast to a machine, a living organism is an intentional being, and drives itself forward according to the direction of its own volition. If it cannot plan ahead, but merely reacts to outside stimuli, it will not survive. Indeed, it will not be alive. Capability levels thus do not determine whether or not an individual will solve a certain task with a certain time-span. It merely sets a limit to what the individual can successfully aspire to do on its own. Capability does not determine outcomes. Still, it can be helpful in estimating how likely an outcome is, and can therefore be used to make predictive observations.

2.3.2 Requisite Organization

As has already been stated, a methodologically individualist approach starts with defining the nature of individuals, and goes on to examine the implications on a social level when these individuals interact. Given that the model of the individual captures its most important and signifying traits, the resulting inferences provide a theoretical foundation for understanding social processes.

From the onset, Jaques' research has been geared towards making sense of organizations and creating conditions where they could work better. The theoretical and empirical inferences on the nature of individuals are thus used to create normative statements on how to organize. Given the nature of decision-making and the distribution of Capability within the population, Jaques argues that there is a natural tendency within any social setting for hierarchies to develop. Although he does not make that connection, Jaques' notion of hierarchies corresponds to the spontaneous orders described within the Austrian school. The Jaquesian conclusion can be contrasted with the bias against organization found in neoclassical economics. Jaques' labels his contribution to organizational theory Requisite Organization to signal that, given human nature on an individual level, a certain logic is required when organizing due to the order of things.

2.3.2.1 Roles and individuals

Any organization will be comprised of the structure according to which different roles are defined, and the individuals who fill these roles. In most cases, there will be at least some discrepancy between the formal structure of delegation and the real structure in terms of how the individuals in the organization actually work. The purpose of Requisite Organization is to find a situation where the overall purpose of the organization, as expressed by the owners and executed by the head of the organization, is aligned with the organizational structure, and where the individuals filling the roles defined in the structure have the right qualifications to successfully solve the tasks of the roles. In addition, the system of delegation should be such that it allows for overall optimum productivity according to expressed strategy. In short, the goal is to have the right person in the right place doing the right thing.

Since a role can be measured and differentiated according to the time-span of the longest task, and since individuals differ in levels of Capability, and thus according to what time-horizon they are able to operate with, it becomes possible to match roles and individuals. The question then becomes how the roles should be interconnected to reach optimum results.

Jaques does not propose a single organizational type that will serve every situation. Instead, he argues that the organization has to be structured according to what purpose it is supposed to serve. However, he still contends that there is one organizational type, the Managerial Accountability Hierarchy (MAH), which is most purposeful in many of the instances when humans set up formal organizations. Another popular form of organization that Jaques describes in somewhat greater detail is the Association.

2.3.2.2 The Managerial Accountability Hierarchy

The MAH will here be described as an ideal type, to be used as a reference when examining real-world organizations. It exemplifies a logic for organizing that Jaques contends needs to be taken into account to reach optimum organizational efficiency. The MAH is the kind of organization that is found in most firms and corporations, as well as public bureaucracies and military organizations.

According to Jaques, the underlying rationale for organizing hierarchically is that individuals differ in Capability levels. An individual with a higher level of Capability has, given that it has the right Knowledge/Skills and Values/Commitment to perform the assigned work in a role, an ability to work on a higher level in the organization. The reason is that it can plan tasks with a longer time-span, and that it thus can coordinate the work of others who are operating on a lower level of Capability. The result of this vertical division of labor is increased productivity for all individuals concerned. The individuals on a lower level are able to jointly work on tasks that are longer and more complex than they could have devised themselves. The individual on a higher level will be able to oversee the production of more than it could have produced on its own, and will gain access to the problem-solving and decision-making of subordinates on tasks that they might solve better, due to possible differentiated distributions of Knowledge/Skills and Values/Commitment.

According to Jaques, the most efficient manager-subordinate relationship is found when roles are defined according to stratum levels, and when the stratum levels correspond to organizational layers. In this situation, the subordinate will feel that she has a real manager, since the manager due to her longer time-horizon will be able to coordinate the work of the subordinate so that it fits in with the overall purpose of the organization.

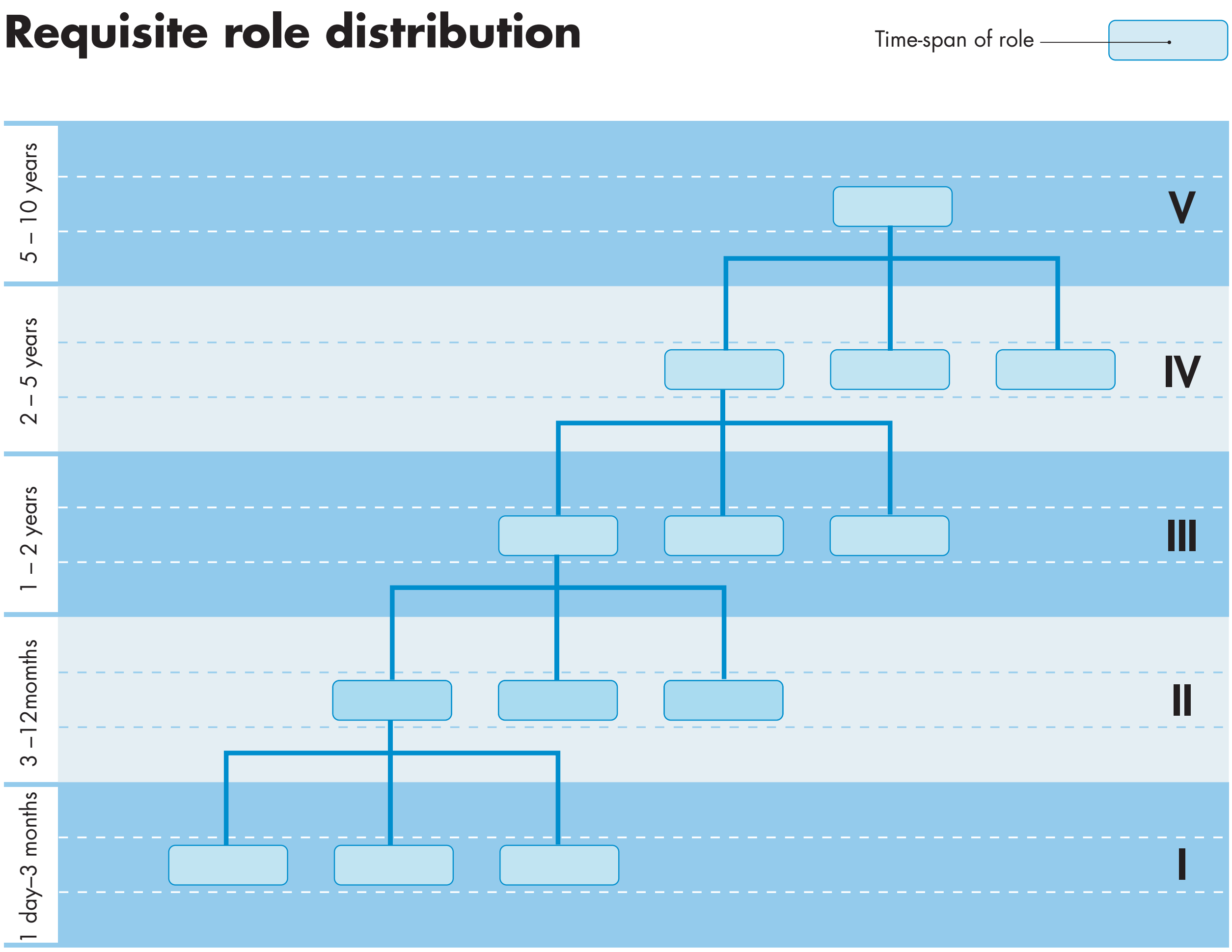

Figure 3: When organizational layers correspond to stratum levels

On the other hand, if there are too many layers, subordinates will not feel that their manager contributes with guidance and direction – she will not be a "real manager". Instead, Jaques argues that the individual in the role on the next higher stratum level will be seen as the real manager. If there are not enough layers, both manager and subordinate will suffer. The manager will feel that she has to give too detailed instructions, and that she is "pulled down". The subordinate on the other hand will feel that the guidance she is given is too loosely formulated, and provides too many degrees of freedom, making it difficult to know exactly what tasks to solve.

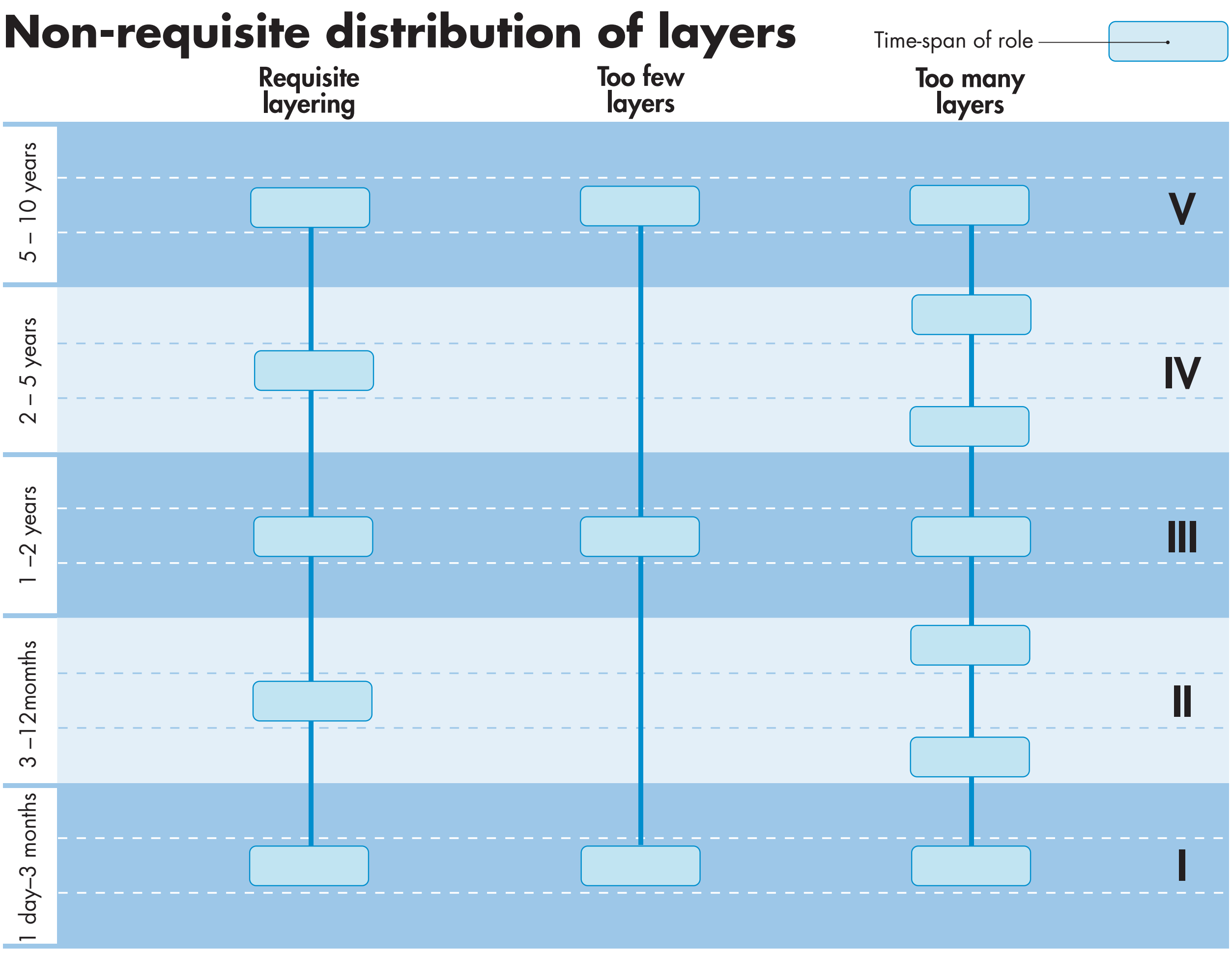

Figure 4: Too many or too few layers

In all these instances, successful organization hinges on both having the right structure, with organizational layers corresponding to stratum levels, and having individuals who have the Capability levels necessary to operate on the assigned stratum levels. If an individual is placed in a role on a level where she has an insufficient level of Capability, productivity will tend to suffer as a consequence since the individual will have difficulty solving assigned tasks. The result will tend to be that the manager will have to perform part of the subordinate's work, which will impede the productivity of the manager and might cause frustration. On the other hand, if an individual is placed on a level below the stratum level at which it is able to operate successfully the individual will most likely outperform in the short run, but might become under-stimulated in the long run, with decreased productivity, boredom or exit possible consequences.

From the point of view of the subordinate, having a manager with insufficient Capability for her role will result in lack of meaningful coordination. Since the manager and the subordinate are operating with similar time-horizons, the manager will not be able to coordinate the tasks of subordinates according to a longer time-span of decision-making. With a manager and a subordinate operating on the same level, it might be possible to develop a functioning work environment, depending on such factors as personality fit. When a subordinate is working for a manager with a lower stratum level than the subordinate herself, there are large risks of frustration, however. The subordinate has access to a longer time-horizon, and therefore has a greater ability to see longer-term consequences of the manager's decisions than the manager herself. However, she lacks the mandate to act on this foresight.

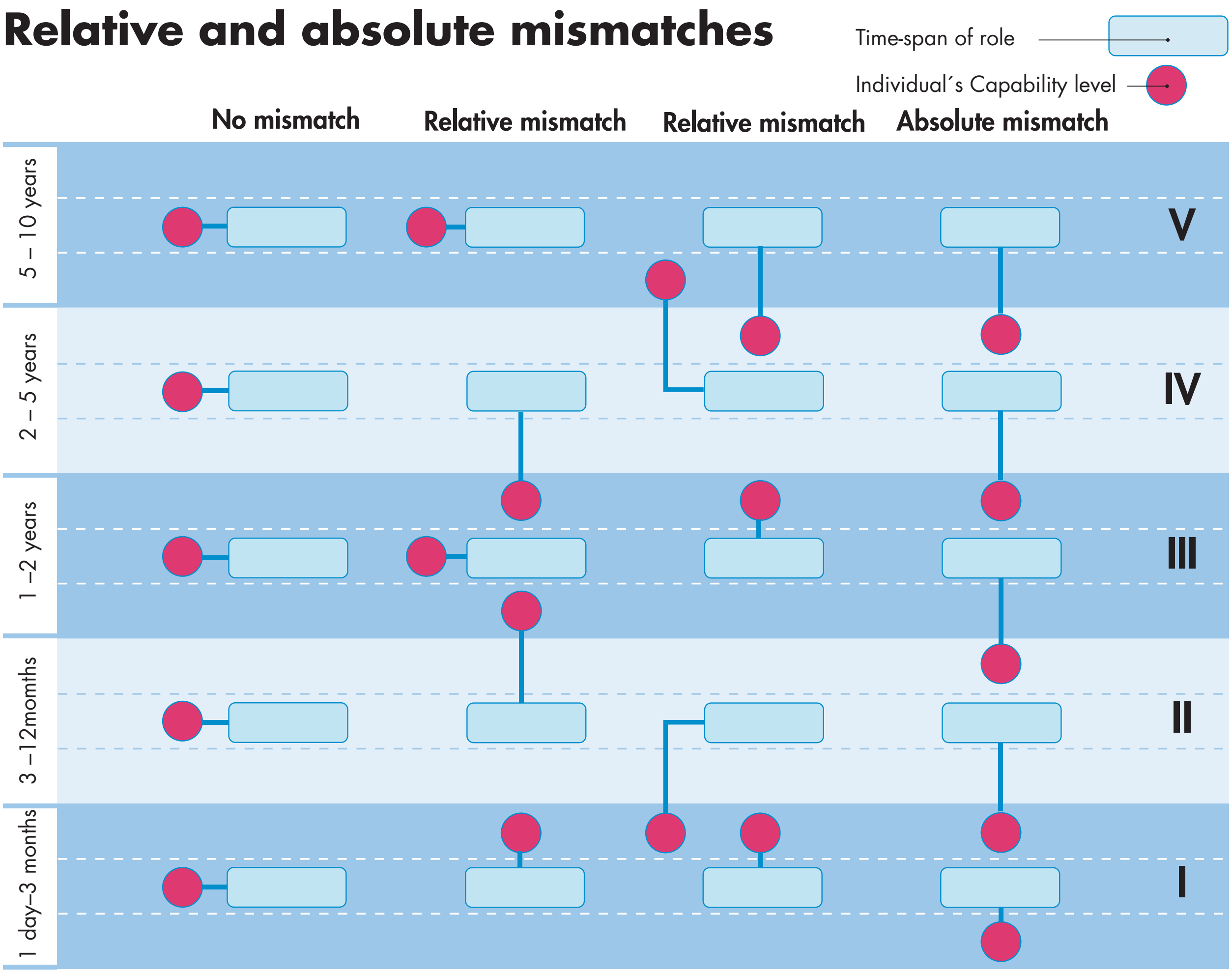

Figure 5: Instances where roles and individuals are not matched

In general, both relative mismatches and absolute mismatches will tend to have a negative effect on organizational performance. Mismatches between managers and subordinates can cause frustration, politicking and stress. However, mismatches in absolute levels directly affect the possibility of realizing tasks that are imperative for organizational success. Management operating on too low a level will over time have difficulty realizing organization strategy. The problems will tend to become most pronounced on the top level, e.g. having a CEO in a firm that is not right for her role. Jaquesian theory also predicts that having a CEO whose level is too high can cause strain. The primary reason should be relative mismatch. However, over time, there could be an increased risk that CEO productivity falters due to lack of Commitment.

Since the required Capability level is a necessary but not sufficient precondition for successfully filling a certain role, Capability on its own cannot perfectly predict long-term success in a role. In addition to the contributing factor of how the role is organized, the individual needs the right Values/Commitment and Knowledge/Skills to solve assigned tasks. However, Values/Commitment is at least to a point a function of how the role is organized, and might change as circumstances changes. Knowledge/Skills on the other hand, can be changed through accumulation or conditioning in education or training. However, since Capability is an inherent trait, it cannot be changed by outside circumstances or conditioning, and it therefore at any given point in time sets a limit to the complexity with which the individual can work.

Although by no means exhaustive, the following table gives examples of possible roles at different stratum levels:

Table 1: *Work-roles at different stratum levels*

Stratum level	Time-span	Roles
I	1 day – 3 months	Shop clerk Factory worker Bus driver
II	3 – 12 months	Foreman First-line manager Small shop manager
III	1 – 2 years	Department manager Unit manager Department store manager
IV	2 – 5 years	General manager Factory manager Large department store manager
V	5 – 10 years	CEO of single-unit company Business unit president Specialist vice president in corporation
VI	10 – 20 years	Executive vice president in corporation CEO of company with multiple units
VII	20 – 50 years	CEO of large corporation

2.3.2.3 Accountability and trust

Since a firm is operating in a world of genuine uncertainty, maximum potential productivity is found when all individuals are employing their full Capability in work. This allows for maximum discretion, problem-solving and decision-making on all levels in the firm, and creates the best possible conditions for handling changes in the organization or the environment. However, at the same time, this use of discretion on all levels also increases the possibilities of opportunistic behavior, as identified in the principal-agent problem.

Jaques argues that humans have inclinations for both opportunistic and greedy behavior on the one hand, and trustful and helping behavior on the other hand.[8] Given that this is the case, the trade-off between contracting costs and monitoring on the one hand and opportunistic behavior on the other hand identified within neoclassical economics is not a necessary outcome – it will only materialize when the overall work environment is not conducive to trusting behavior. Also, if a situation is reached when there is a real trade-off between e.g. monitoring and opportunism, the principal rationale for organizing in a firm has partly been lost, since the purpose of stratified organization is to use the maximum amount of Capability of every individual in the organization by allowing for discretion when making decisions and solving problems.

A necessary aspect of Requisite Organization is therefore to organize in ways that are conducive to the creation of trust within the organization. In addition to organizing and staffing according to stratum levels, Jaques argues that it is imperative that accountability is distributed in a certain way.

In the MAH, an individual is given the role of manager since she has a higher Capability level than subordinates. Managerial responsibility includes assigning tasks to subordinates, with expected completion times. Also, the manager is responsible for providing resources to the subordinates and for setting limits to their conduct. This in turn implies that a subordinate can only be accountable for doing her best in a given role, i.e. the subordinate can only be accountable for effort. It is the manager that is accountable for the results of her subordinates.

On every level in the organization, the same relationship between managers and subordinates must hold, according to the same logic. As will be discussed in greater detail below, this logic even affects the relationship between the CEO and the board of directors. This distribution of accountability for effort and results will give the manager

8 It can be argued that Jaques professes to a Voltairean view of human nature, as opposed to a Hobbesian or Rousseauean.

the right incentives not to take advantage of her subordinates, since it will be in her own interest to continuously follow the work of subordinates, providing guidance and direction. The result is, given that roles have been assigned and organized in accordance with stratum levels, increased trust for all involved parties.[9] Jaques argues against piece-rates and other incentive schemes that try to shift the accountability for results away from managers and to the person doing the work. The reason is that although efficiency might increase in the short run, albeit at a cost to quality, it will tend to cause a lack of innovation in the long run. An employee who e.g. devises a novel and more efficient way of working will have no incentive to share her finding, as cooperation is replaced with competition for individuals operating within the firm.[10]

2.3.2.4 Market and organization

With the concept of accountability, Jaques provides a rationale for how to differentiate markets from organization, and why the inside of an organization should not be viewed as, nor organized as, a market.

On a market, all agents are held accountable for results. When engaged in a market transaction, an agent is not required to take responsibility for, nor even inform herself of how the trading partner has gone about acquiring or producing the item for sale. This is the principal reason why markets are so efficient – the only thing a buyer and a seller need to agree upon is the price, and all other aspects of production or use are left out of the transaction. Also, if the buyer or the seller do not perform according to the transaction contract, they can be held accountable.

In a firm, and in particular the MAH, the firm itself[11] is responsible for results, and on the market, the firm, not the individuals in the firm, constitutes the trading partner. This can be described as a reason why the firm in many cases is properly labeled as the unit of decision-making when building economic models. However, from this it must not be inferred that the firm somehow becomes a separate goal-directed, decision-making entity. Only individuals can engage

9 It is interesting to note that, given a trustful environment, what is regarded as a cost in the neoclassical account of the principal-agent problem, i.e. monitoring, becomes a benefit, since it increases the effectiveness and productivity of subordinates in solving their tasks, given the existence of genuine uncertainty and the corollary impossibility of giving exhaustive directions ex ante.

10 An integral part of Requisite Organization that will not be developed at greater length in this thesis is the establishment of equitable payment structures. Jaques argues that in a MAH, there is one payment scheme, labeled felt-fair-pay, where all individuals in the firm will feel that they have been given just compensation in reference to each other. Given that individuals successfully perform assigned tasks in a given role, they should be paid in accordance with stratum levels, where a doubling of the time-span of the role roughly corresponds to a doubling of pay. For a stratum VI organization, this implies that the CEO should earn approximately 50 times more than individuals operating on stratum I. In one study, Jaques (2002 p. 239) finds a correlation of 0.86 between what people in a firm deem is just compensation and what the felt-fair-pay scheme would have predicted.

11 It could be argued that owners are in fact responsible for the actions of the firm. This becomes a question of law. In e.g. joint stock companies limited liability applies, making the firm itself the entity accountable for the actions of the firm. See note 20 for a further discussion of this issue.

in goal-directed behavior. This discussion will be developed in the methodology section.

2.3.2.5 The Association and governance

Except for the MAH, Jaques identifies and describes more thoroughly another type of organization – the Association. The principal difference is that an Association has members, not managers and subordinates, and that each member is held individually accountable. Associations include the members of a church, the partners in a partnership[12], members of a trade union and the shareholders in a company.

An Association operates by a system of governance, where the membership chooses a governing body, such as an executive committee or a board of directors. The governing body is also in charge of overseeing that the purpose for which the Association has been created is followed. If the function of the Association is to head a MAH, the board of directors must appoint a CEO to execute company strategy, as decided by owners and formulated by the board. The individual responsible for ensuring that the board of directors performs its assigned duties is the chairperson of the board, who is responsible to owners by appointment at the annual Shareholders' Meeting.

The relationship between the board and the CEO is not one of manager and subordinate in the Requisite Organization sense. However, the chairperson and the board is responsible for deciding company strategy, appointing a CEO to execute the strategy and evaluate the performance of the CEO in accordance with what has been assigned.

Except for making the distinction between the Association and the MAH, Jaquesian theory is relatively mute with regards to corporate governance. One of the purposes of this thesis is to further develop the theory of corporate governance, taking Jaquesian theory and empirical findings into account. The main focus will be on how the conclusions following from the principal-agent problem can be complemented by taking Capability levels of management, board directors and owners into account.

2.3.3 Research employing Jaquesian theory

Craddock (2004) offers an annotated bibliography on the research to date performed employing Jaquesian theory, as well as a discussion of possible related research and theory. In addition to the publications by Jaques, he lists 64 doctoral dissertations which directly employ

12 Partnerships include e.g. law firms and consultancies. Although each partner will have a support-structure of subordinates, each partner is also individually accountable for results, due to the special relationship between partners and clients. In larger partnerships, partners usually share subordinates, or the subordinates are assigned to partners on a project basis. This can explain the observation made by some that partners in a partnership tend to take limited responsibility for the work-flow and well-being of subordinates.

Jaquesian theory, as well as 300 articles in peer-reviewed journals. Most research has been conducted in the fields of psychology, sociology and business organization. In addition to validating the concept of Capability and how it corresponds to organizational stratification, a large body of research has been devoted to equitable pay structures. As has already been stated, the question of pay is not dealt with in this study.[13]

There has been little influence on the field of economics, although Craddock argues for the possible connections between Jaquesian theory and the concept of efficiency wage. In general, Jaquesian theory has had little impact on mainstream social science and organization theory. When contrasting Jaquesian theory to other disciplines in social science, which will be done next, it becomes clearer why the theory cannot simply be wedded to existing mainstream methodology – in many ways it would imply replacing other theoretical foundations for making inferences and conducting research with Jaquesian theory.

The author has found no researcher or theorist making the linkage concerning methodology with the Austrian school of economics. However, this theory section, as well as the following methodology section, in the author's view makes it clear that there are indeed close linkages, which should imply possibilities for future productive collaboration.[14]

13 Van Clieaf (2004) and Van Clieaf and Langford Kelly (2005) discuss corporate governance, and the relationship between required Capability levels and executive compensation. Although they use a slightly different terminology, their approach is clearly Jaquesian. They argue that payment levels should be linked to time-span of decision-making. Since the focus of this thesis is not on payment levels, but on other aspects of corporate governance, their conclusions are not further discussed in the analysis section. However, in the author's view, they convincingly point to a problem with current governance practices, and sketch a viable solution in line with Jaquesian theory.

14 On some level, it could be seen as somewhat ironic that this thesis tries to wed two theoretical frameworks that struggle on the fringe of academic discourse in their respective disciplines, and that stand in direct conflict with much of the respective mainstream theory. However, one could also understand the neglected position of these two theories precisely from the fact that they are in opposition, on methodological grounds. To quote Friedrich Hayek: "The discussions of every age are filled with the issues on which its leading schools of thought differ. But the general intellectual atmosphere of the time is always determined by the views on which the opposing schools agree. They become the unspoken presuppositions of all thought, and common and unquestioningly accepted foundations on which all discussion proceeds". Neither of the schools of thought who dominated 20th century social science – on the one hand neoclassical economics on the other hand different collectivist and structuralist approaches – are compatible with Jaquesian or Austrian theory. However, if the Jaquesian and Austrian frameworks can be combined into a unified theoretical framework, it would be easier to forward a comprehensive critique of established discourse.

3 METHODOLOGY

> "Just as man's physical existence was liberated when he grasped the principle that 'nature, to be commanded, must be obeyed,' so his consciousness will be liberated when he grasps that nature, to be apprehended, must be obeyed - that the rules of cognition must be derived from the nature of existence and the nature, the identity, of his cognitive faculty."
>
> *Ayn Rand*

Any methodology provides opportunities as well as constraints when studying phenomena. Since the purpose of building theory is not to take everything into account, but to choose those aspects of a phenomenon that are most important for proper understanding, this is in itself not a problem.

Since social interaction is a function of both individual behavior, or agency, and structure, properly social science methodology should be able to take both into account. This is especially true when the purpose is not simply to depict a social phenomenon, but also to recommend and implement social change.

In addition to testing the validity and developing the theory further, this thesis seeks to determine how Jaquesian theory might be implemented to change social structures. An additional purpose is to examine what kind of research methodology is most conducive to good scientific results when using Jaquesian theory in the analysis. This requires a proper understanding of how Jaquesian theory and methodology fits in with other approaches in social science.

3.1 Different approaches in social science

The following figure provides a useful way of analyzing different approaches in social science:

Knowledge of present states and the laws of nature allows for perfectly determining future outcomes	The unit of analysis: **THE INDIVIDUAL** Methodological individualism	**SOCIAL WHOLES** Methodological collectivism
YES *Materialism*	Neoclassical economics	Marxism Structuralism Post-structuralism
NO *Libertarianism*	Austrian school of economics Jaquesian theory	

Figure 6: How different approaches in social science relate to each other

In order to understand the above distinctions, and why there is no school of thought in the lower right corner, it is necessary to examine in somewhat greater detail what the different terms imply.

It has already been stated that the difference between methodological individualism and collectivism is found in the unit of analysis. The individualist approach starts out by defining what traits of individuals are stable, regardless of social setting, and how these traits lead to certain social outcomes when individuals interact. The collectivist approach starts out by defining a social whole as the unit of analysis, and examines how this collectivist concept impacts social interaction and individual behavior. In the case of Marxism, the concept of class is defined and assumed to imply certain characteristics that affect how individuals interact.

The distinction between materialism and libertarianism hinges on the concept of knowledge, and is thus closely related to the discussion concerning knowledge and uncertainty in the theory section. Materialism states that if one has knowledge of the current state of the world, and of the laws of nature, one will be able to perfectly predict future outcomes. Materialism is thus closely related to physics and science, where an outcome follows by mechanical necessity, given the current state of the world and the laws of physics.

Libertarianism, on the other hand, states that due to individual volition and intentionality, it will never be possible to perfectly predict future outcomes. Volition is a subjective fact, and cannot be made objectively transferable. Therefore, even if one had knowledge of the location of all matter in a system containing living organisms, and knew all the laws of physics, the future would still be indeterminate since one had not taken volition into account.[15]

Hayek (1952) argues that the fact that living organisms display intentionality makes it impossible to use the methods of science and physics in order to create a social science. We cannot predict future social outcomes merely by observing the present, the way we can predict that an item will hit the ground at a certain point in time if we can observe it falling. When attempting to predict future social outcomes, we instead have to take the intentionality of the individuals present into account when building a theoretical model. In practice, this does not have to be a problem for social science, since humans

15 Whether or not this implies that humans have a "free" will becomes a question of definition. Living organisms are continuously engaging in goal-directed behavior, which means that they are continuously displaying will, or volition. They are not free to choose whether or not they want something, either they do or they do not. However, even though will is not free in the sense that an individual can choose to disregard it (it becomes a logical impossibility since a choice is also an act of will), it is fundamentally subjective, in that it cannot be determined by outside stimuli. The direction of volition changes in relation to changes in inner and outer states, and volition can even be extinguished by killing a living organism. But volition cannot be transferred from one subject to another, in the sense of one individual gaining access to someone else's will , or controlling it. Individuals can be controlled, but not their volition.

have an acute ability to imagine what it would be like to be in a certain situation, and to draw inferences based on this imagined scenario. However, this also implies that there is a limit to the understanding one can form of a specific social situation given by one's own cognitive and imaginative abilities. Thus, if a human would encounter e.g. an individual from another species with vastly more developed cognitive faculties, it could not predict the intentionality of that individual, nor the outcome of its behavior, only by observing it.

3.1.1 The limits of methodological collectivism

If individual volition is a subjective fact that affects social interaction, but that cannot be made objectively transferable, materialism is false and materialist approaches to understanding social behavior will be incomplete in explaining social outcomes. Furthermore, since methodologically collectivist approaches by definition have to be materialist, this in turn implies that they also necessarily will be incomplete.

The reason why methodological collectivism implies materialism comes from the nature of social wholes, or structuralist or collectivist concepts. In order to make sense of the world, humans create concepts in language to guide behavior. From a Jaquesian viewpoint, this first happens at the second order of complexity among children, and concepts then become increasingly complex at higher orders of complexity. However, these concepts are artifacts of human behavior – tools to make inferences and causal claims on the nature of the world. The principal reason why several individual agents can agree on the meaning of a certain concept depends on the one hand on the practical importance of having a common language and on the other hand on the fact that humans in many ways are similar, with similar experiences and perceptions. However, the concepts do not exist independently of the individual agents using them. They are not free-standing organisms that act purposefully.

If one or several individuals find a concept useful for making sense of the world, this concept can have very real consequences for social interaction. Racist ideology and unequal treatment based on skin color is one obvious example. However, a theorist that starts by taking a certain concept as a priori given and proceeds to build a theory on how this concept determines behavior, will encounter two problems. First of all, it will be impossible to reach an unequivocal definition of the concept in question, since it does not exist other than as mental models to guide individual behavior. Second of all, by starting with examining how the concept affects individual behavior, it becomes impossible within the used methodology to examine and understand how the concept itself can be changed. If individual intentionality is not taken into account as an underlying rationale for why a certain concept is employed, it will only be possible to examine how structures determine individuals, and not vice versa.

Methodologically collectivist theories therefore by necessity become highly argumentative, irrespective of whether the aim is expressed differently, such as e.g. Marx' scientific socialism. Also, they must by necessity view the individual as a tabula rasa, a blank slate, which is conditioned and determined by outside stimuli. Neoclassical economics, which is also a materialist approach, comes close to this blank slate model, since individual intentionality is simply modeled in a perfectly reactive utility function.

However, if the goal is to develop an approach in social science that takes account of individual intentionality and the creativity necessary for functioning in a world of genuine uncertainty, it is necessary to move away from the blank slate model and depict the individual as possessing certain inherent and stable traits.

This is especially necessary in studies of business organization, when the purpose is to affect social change. If one uses e.g. structuralist or post-structuralist approaches, it will be impossible to make conclusions on why a certain structure should be changed, and how. Organizational change always has to start on the level of the individual, although this of course does not imply that all individuals in an organization have the same possibilities of affecting change. This becomes an important aspect of how implementation of Jaquesian organizational practices could come about which is discussed in the analysis section.[16]

3.2 Requirements of methodological individualism

Within a libertarian methodologically individualist approach to social science, it is imperative to have a theory of the individual. In order to make theoretical predictions, certain criteria should properly be met:

1. Clear, unequivocal definitions of important concepts.
2. Traits that are defined so that they can be compared between different individuals.
3. A model where differentiation of important traits leads to differentiation of behavioral outcomes.

16 If this limit to e.g. structuralist and post-structuralist methodology is not properly acknowledged by theorists and researchers, their contribution to the understanding of organization will be circumscribed. As in the case of other collectivist approaches, such as Marxism, they might even be inclined to come to the conclusion that since structures cannot be changed, a revolutionary development is the only way possible to affect real social change. ►

In the following, it will be argued why the Jaquesian model of the individual meets these criteria, and why especially the concept of Capability provides increased precision in comparison to e.g. the predictions of the Austrian school.

3.2.1 The two forms of time

Science deals with four dimensions, the three dimensions of space and time. Time in science is measured on a Time-Axis of Occurrence, where the actual length in units of time of certain phenomena is recorded.

Jaques proposes that an additional dimension, a second dimension of time, should be added in order to understand goal-directed behavior. He calls this the Time-Axis of Intention. Since at all times a living organism is engaged in goal-directed behavior, this organism will continuously form a representation of the past, the present and the future in order to guide behavior. The length of this representation in terms of time is given by the completion time of the tasks that the individual is engaging in, with more demanding work directly correlating to longer tasks on the Time-Axis of Intention. The maximum time-horizon at which the organism can operate is given by the current level of Capability.

THE 2 DIMENSIONS OF TIME

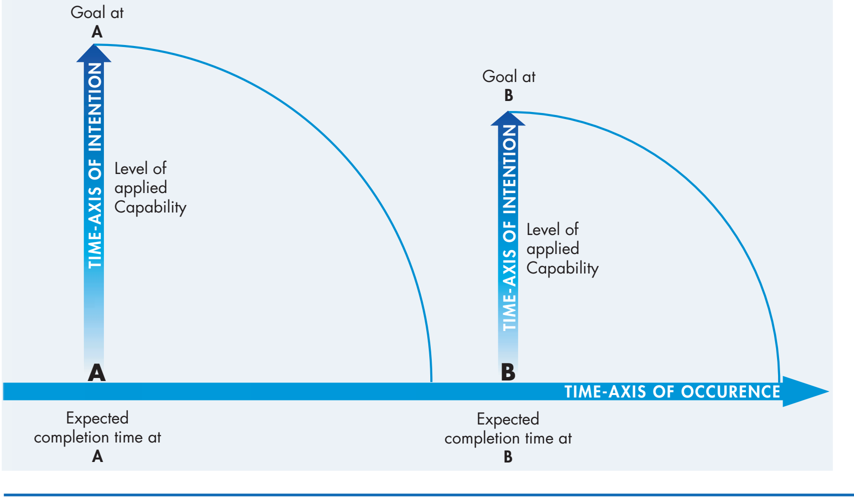

Figure 7: The two dimensions of time

Another possible outcome is that they proceed to the illogical conclusion of Bolshevism, i.e. that people are perfectly determined by structures, but that somehow a small elite, which they happen to belong to, has gained access to a deeper understanding of fundamental structures, allowing them to step outside of the materialist course of history to affect change. The cure to Bolshevism is of course to acknowledge that all individuals have the possibility of affecting structures, but that these possibilities differ, both due to the access of outside resources and due to inherent constraints on the level of the individual.

The Time-Axis of Intention allows for a measurement of how complex tasks an individual can aspire to solve successfully, given proper Values/Commitment and Knowledge/Skills. Since Capability is an inherent trait, it provides a parameter that is stable between social settings. Since it is clearly defined as a quantitative measurement on a ratio scale, it allows for testing of hypotheses and for comparability between individuals. Also, it allows for differentiation, both over time for a single individual, due to maturation, and between different individuals. This further increases the possibilities for hypothesis testing.

3.2.2 Science and art

Jaques argues that there has thus far been no real social science, and that attempts at social science have failed, since they have used the methodology of science, only working with four dimensions and thus failing to take intentionality into account. He traces the success of the scientific method to the use of clear and agreed-upon definitions of important concepts, and proposes that social science should also aim for a rigorous use of language.

Still, even with a scientific foundation on the level of the individual, the open-ended nature of systems containing living organisms implies that actual social interaction, including organization, cannot become a question of pure science. Instead, the social scientific model of the individual should guide in the art of organization, the same way as the science of biochemistry guides physicians in the art of diagnosis.

Thus, although Jaquesian theory in many ways directly corresponds to the theoretical foundations of the Austrian school in economics, they differ somewhat in aspiration. The Austrian school shows how systematic structures can occur as a result of social interaction, without being designed by anyone for that purpose. Language has already been named as one example of this phenomenon; hierarchical organization is another according to the Jaquesian model of the individual. However, although Jaques acknowledges these systems as spontaneous orders, he also argues that mankind should attempt to improve them through intended design. So, for example, is the system of interconnected definitions forming scientific language a development of ordinary language, with the purpose of gaining better understanding of the physical world. Furthermore, given a differentiated distribution of Capability levels, hierarchical organization should properly be understood as a spontaneous order. In this case, Requisite Organization is an attempt at improving on this order through intended design, albeit while taking the nature of individual humans into account.

3.2.3 How to measure capability levels

Had it not been the case that Capability can be accurately measured, Jaquesian theory could not aspire to move beyond the conclusions reached by other methodologically individualist libertarian theorists. However, it can be measured, with great accuracy.

In Human Capability (1994), Jaques and Cason conducted a controlled experiment where two different methods for measuring Capability were used. Jaques and Cason interviewed individuals working in a MAH. After establishing the time-spans of the various roles in the firm in question, they went on to rate the level of Capability of the individuals themselves in relation to the roles they filled. When individuals were asked to rate themselves, these measurements correlated with the ratings of their manager's manager with a coefficient of 0.96. The correlation with the rating of their manager was 0.95. and the correlation between the ratings of the manager and the manager's manager was 0.94. In general, given that the right interviewing technique is used, individuals who have worked together for a longer period of time tend to be able to rate each other fairly well.

In addition to this triangulation technique, Jaques and Cason conducted interviews with the individuals in the firm, where they were engaged in an engrossed argument concerning a complex question that they had some knowledge of and which they felt strongly about. When an individual argues for a cause, making causal claims and trying to solve a complex problem, it will, if engaged by the question, display the most advanced way that it can process information. Thus, it will be possible to determine both which order of complexity the individual is operating on, and which level of processing it uses. This in turn makes it possible to determine its Capability level. Jaques and Cason conducted independent ratings of the individuals in the study. The correlation between the average of the ratings of the individual, the individual's manager and the manager's manager on the one hand and the average of Jaques and Cason on the other was found to be 0.97.

Performing accurate ratings is an art, which can be developed through training but which is still difficult. Although a high accuracy can be developed, it is not something that an individual can automatically do with good results. However, the correlation coefficients between experienced raters are very high, in comparison to other types of tests, e.g. IQ tests or personality tests. This makes Capability a viable measurement parameter when conducting research.

3.3 Case study research

If someone is studying organization with the purpose of finding better organizational solutions, the preferred method could be seen as coming close to a physician trying to cure an illness. This, however, demands that several conditions are met:

1. The person needs to know how the organization ideally should work. Similarly a physician needs to know what a healthy person looks like.
2. The person needs to gather information about the current state of the organization, including symptoms of what is not perceived to be working well. This might include information on productivity and results, as well as personal accounts from the individuals working in the organization. Similarly, a physician needs to collect data on symptoms that the patient is experiencing.
3. The person needs an independent organization-neutral parameter that can be readily measured, and that is known to have an effect on organizational performance. Similarly, a physician needs to collect data on the patient that does not come from patient introspection, such as measuring the patient's body temperature or performing an X-ray examination.

Yin (1994) provides a thorough account of the rationale for doing case studies in social science. It should be used when making causal claims, such as answering "how" and "why" questions, in situations where the researcher has access to a large amount of data of different kinds and when it is difficult to draw clear boundaries between what data belongs within the study, and what data is irrelevant to making inferences on the studied phenomenon. Case study research is involved in making sense of highly complex events, often contemporary social phenomena. Although Yin does not explicitly make that connection, his account of case study research within social science comes close to how a physician treats a patient within the realm of medicine, as the allegory above alludes to.[17]

Furthermore, by applying Capability measurements and assuming that Jaquesian theory is valid, the case study researcher employing

[17] As an interesting side-note, Yin (1994 p. 16) finds that "[p]aradoxically, the "softer" the research strategy, the harder it is to do". Also, he states that good case study research is all about asking the right questions, and that "[i]f you are the type of person for whom one tentative answer immediately leads to a whole host of new questions, and if these questions eventually aggregate to some significant inquiry about how or why the world works as it does, you are likely to be a good asker of questions"(pp. 56-57). Although he does not make that connection, from Yin's account it seems likely that he thinks that good case study research requires access to the higher orders of complexity and levels o f processing accessible to individuals with high Capability levels. It could be argued that the controlled experiments made possible in science through the use of scientific language has made it "easier" to conduct good science than it is to conduct good social science, due to the difficulty in assigning proper boundaries to social phenomena and making accurate causal claims given the vast array of possibly important parameters.

Jaquesian theory gains access to a tool that corresponds to item 3 above, i.e. a diagnosis instrument. Also, again assuming validity of Jaquesian theory, Requisite Organization practices provide guidance in relation to item 1.

3.3.1 Meta-analysis

This study consists of five instances when the management consultancy ENHANCER worked with different firms, using the tools of Capability measurements and the recommendations of Requisite Organization to improve business performance. As such, it is a meta-analysis – it consists of five case studies of case studies. This adds an extra layer of difficulty when conducting analysis, and when evaluating reliability and validity of the study. In effect, first of all it needs to be made clear if the methods applied by ENHANCER provide reliable results that the consultancy can use for analysis. Second of all, it needs to be made clear if the information provided by ENHANCER is reliable, and if this information makes it possible to test the validity of Jaquesian theory to begin with. These are not insurmountable difficulties, but they must be acknowledged at the onset in order to that the research is done and presented in a proper way.

3.3.2 ENHANCER's methods

When working with a client, ENHANCER mostly uses the triangulation rating technique described above, which the consultancy refers to as Capability Match. In all five cases in the present study, the data collection that ENHANCER uses for analysis was done in the following way:

1. Interviews are conducted with the CEO and senior management, as well as at least one representative from the board of directors, usually the chairperson. The purpose is to establish the time-spans of the relevant roles in senior management, as well as for immediate subordinates. In some cases, other roles are also analyzed.
2. In the interviews, ENHANCER also establishes the Capability levels of senior management and immediate subordinates. This is done by establishing their time-horizons in relation to the time-span of their respective roles.
3. One or several group exercises are conducted with the CEO, senior management and the representative of the board of directors, where rating results are calibrated. Also, the longest task of the CEO, i.e. firm strategy, is established.
4. Using the longest task of the CEO as a reference point, a

proposal is made for how subordinate roles should be organized to fit with overall firm strategy.

5. The Capability levels of current management are compared to the requirements of the assigned roles, and recommendations for changes in staffing are proposed when there are perceived mismatches between individuals and structure.

At the end of 2004, ENHANCER had employed Capability Match in roughly 100 firms and established the time-span and corresponding time-horizon of over 2000 roles and individuals. This experience of working with Capability measurements and Requisite Organization at least on paper should imply familiarity with the used methods.

3.4 The study

Five cases were chosen out of the approximately 100 that ENHANCER had worked with when the study was made. As recommended by Yin (1994), the cases were chosen according to replication logic, meaning that each case should allow for both differentiation and comparability. Four cases involved small high-tech start-ups, and one case involved a medium-sized firm listed on the Stockholm Stock Exchange. The cases covered the time-period of the 1990s and early 2000s, with ENHANCER being hired some time during the years following 2000. In order to gain access to data, anonymity was promised, both to ENHANCER and to the representatives of the firms involved in the cases.

For each case, data gathering was conducted in the following steps:

1. Interview with the CEO of ENHANCER, to establish the background to the case, the main steps in analysis and the consequences of ENHANCER's work.
2. Study of available open-source data on the firm in question, such as Annual Reports, published articles and presentational information. A special focus was put on finding data on business performance, such as revenues, profits and in one case share price development.
3. Study of the background data from ENHANCER's analysis including time-span measurements of roles, Capability ratings and reports on recommended changes.
4. Interviews with the CEO (except for in the case of the American-based firm DELTA) or one of the CEOs when succession had taken place, a representative of the board of directors and in some cases an owner representative. The interviews covered the personal background of the individual, the his-

tory of the firm in question, the reason why ENHANCER was hired, how ENHANCER's analysis had been conducted, comments on proposed changes, the outcome for the firm and any criticism of ENHANCER's performance.

5. A follow-up interview with ENHANCER's CEO where the results of the preceding data analysis was discussed.

After the data collection was finished, accounts of the five cases were written down, and ENHANCER's CEO as well as other consultants were asked to read the accounts and provide comments. In a few cases, the accounts were revised, and the resulting case descriptions are presented in the thesis.

Due to the anonymity constraint, no more information than deemed necessary to allow for testing for validity has been provided in the descriptions. Furthermore, all firms and individuals have been given code names throughout the account, to make recognition more difficult. The end-date of data collection was set till December 2004, and no data on business performance or work with ENHANCER after that date has been collected. The set-up in effect makes it impossible without the explicit consent of involved parties to replicate the study with the same data. Replication would instead have to be sought by finding new cases.

3.5 Reliability and validity

The general validity of Jaquesian theory and the reliability of Capability measurements will be examined in the analysis. However, since the study is a meta-analysis, it is necessary to take into account the added difficulty in reaching good research results, given that a large amount of data comes from ENHANCER.

Since ENHANCER's recommendations for practical purposes corresponds to the recommendations provided by Jaquesian theory, the validity question is best answered in tandem with the general test for validity. Even if it is acknowledged that organization is an art, and that therefore different conclusions on how to interpret a specific situation are possible, even with the same theoretical starting-point, in practice this does not pose any significant problems in the present analysis.

The reliability of the data provided by ENHANCER and others, on the other hand, needs to be evaluated. The following questions cover the main risks with the current research set-up:

1. *How objective is ENHANCER?*
   Of course, ENHANCER has a general interest in presenting results that are in line with Jaquesian theory, since the consultacy's business model is to commercialize Capability measurements and Requisite Organization. On the other hand, ENHANCER also has a responsibility to its clients to provide accurate measurements and recommendations. Given that ENHANCER works with the assumption that Jaquesian theory is valid, this should in general not be a problem in the present cases. However, on the level of choosing what cases to examine, the question becomes more complicated. The current five cases were chosen in a dialogue with ENHANCER since they provide clear results. In other cases, the relationship between Capability measurements and resulting business performance might not be as clear-cut. Of course, this might not in itself refute the theory, since other factors besides Capability levels also impact business performance. Still, it does pose a potential problem for the external validity of the study, even if the five chosen cases show significant results.

2. *Who is interpreting?*
   Since the case analysis has been done in dialogue with ENHANCER, there are of course risks involved, such as preconceived notions on the part of the author being formed at the onset of analysis that then focus attention in certain directions. However, the fact that there are Capability measurements available makes this problem more manageable. This, however, of course hinges on the actual Capability measurements being accurate. The fact that the measurments are done according to a method of self-assessment in the relevant firms makes this problem smaller, but only to a point. Still, the fact that earlier studies have shown high inter-rater reliability (Jaques and Cason, 1994), and that overall the rating results are accepted by the involved parties should serve to ensure that this problem becomes less significant. In addition, the author, although no expert, has had some training in performing ratings. The results found by ENHANCER were in all cases where comparisons could be made in line with the observations of the author.

3. *How does the fact that the end results were known by the author before the onset of the analysis affect the interpretation in the thesis?*

In any competitive business environment, uncertainty is widespread. A number of parameters will tend to affect outcomes and business performance. This is why managers need high Capability levels to begin with. In hindsight, a certain course of events will always seem more coherent and "necessary" than before it actually takes place. This is a problem that all historical research will struggle with. However, in the present case, the purpose of the study is not to determine whether or not Capability levels of management determined business performance, but whether or not if affected it. Therefore, as long as there are clear signs that there was at least an element of causality between performance and Capability levels, this should be enough to address the validity question. By virtual necessity, some factors that were important in determining the outcome in each case will have been left out of the account, but this will not in itself hurt the purpose of the thesis, unless these factors effectively cancel out any possible effect of Capability levels. If this is the case in the present study will be discussed in the analysis section.

4 CASE DESCRIPTIONS

> "Under normal conditions the research scientist is not an innovator but a solver of puzzles, and the puzzles upon which he concentrates are just those which he believes can be both stated and solved within the existing scientific tradition."
> *Thomas Kuhn*

The cases are presented as narratives, preceded by a short description of ENHANCER, the most important firms and the interviewees. All identities have been hidden and all firms and individuals given code names. These names are used throughout the description, as well as in the following analysis and discussion. A minimum of analysis is provided within the case descriptions, and in principle, all views presented are those of the interviewees.

4.1 Companies and interviewees

ENHANCER – The focus of the case study, Swedish-based management consultancy employing the methodology of Eliott Jaques and Requisite Organization.

PE FUND – Large Swedish-based Private Equity fund, former owner of ENHANCER and involved in many technology start-ups.

VC FIRM – Swedish-based Venture Capital firm working together with PE FUND and co-managing some of its holdings.

VENTURE CAP – Swedish-based Venture Capital firm engaged in technology start-ups.

ALPHA – Small Swedish-based consultancy working with e.g. sales training programs and e-learning.

BETA – Small Swedish-based firm selling software tool for allocating work hours in organizations and companies in the public and private sectors.

GAMMA – Small Swedish-based firm selling mainly hosted Voice-over Internet Protocol (VoIP) solutions, geared towards call centers and Small and Medium-sized Enterprises (SMEs).

DELTA – Small US-based firm selling a software team decision-making tool designed to enhance the output and productivity of meetings.

OMEGA – Medium-sized Swedish-based firm noted on the Stockholm Stock Exchange, selling a generic platform for adding software service applications to Telecom Operators (Telcos).

4.2 Interviewees

CEO of ENHANCER – Founder, CEO and largest owner of ENHANCER.

TECH MGR – The manager in charge of technology investments at PE FUND.

EXTERNAL CEO – New CEO at ALPHA, commencing work in 2000.

IM of VENTURE CAP – The investment manager of VENTURE CAP in charge of the holding of ALPHA.

CEO of BETA – New, externally recruited CEO of BETA, hired ENHANCER to conduct ratings.

INDEP DIR – Independent director at the board of directors of BETA. Did not hold an ownership stake in BETA.

CEO of GAMMA – Founder and co-owner of GAMMA.

IM GAMMA – Investment Manager of VC FIRM in charge of the holding of GAMMA.

IM DELTA – Investment Manager of VC FIRM in charge of the holding of DELTA.

SECOND CEO – CEO of OMEGA, had developed a close partnership between ENHANCER and OMEGA.

Chairman of OMEGA – Chairman of the board of directors at OMEGA, had prior relationship with the CEO of ENHANCER.

4.3 Background ENHANCER

In the spring of 1998, the founder and current CEO of ENHANCER met with Elliott Jaques while living in the US. He got intrigued by Jaques' findings, especially the combination of role definition and Capability measurement that made it possible to match roles and individuals. While still in the US, he started to sketch a business plan for how to commercialize Jaques' findings in a profitable way.

Returning to Sweden in the fall of 1998, he set up ENHANCER as a management consultancy together with a few former colleagues and recommended individuals. ENHANCER targeted both senior management in companies and active owners such as venture capital companies that would have an interest in optimizing the performance of their companies. However, although the founders had originally thought that it would be fairly easy to gain acceptance for Jaques' methodology and find customers, it soon became evident that it was difficult to package it in an attractive way.

ENHANCER had been partly financed by PE FUND, a large Swedish Private Equity (PE) player. PE FUND saw the opportunity to get a better return on investment and to gain a better understanding of how to develop venture capital practices by introducing ENHANCER's methods in their holdings. However, it was very difficult to convince the venture capital partners and the portfolio company presidents to buy services from ENHANCER. Initially, it was even difficult to have them go through time-span analysis at no cost.

As is often the case when starting a new company with the purpose of introducing a new product or concept, it took ENHANCER some find to find a viable business model. At the same time as the consultancy was beginning to show better results through offering a more attractive product portfolio, the dot-com bubble burst and the following business downturn in 2001 struck. Since consulting services are usually the first to be cut in a downturn, as they are part of discretionary spending, and since ENHANCER was still a relatively new and untried player on the market, the years following 2001 were quite difficult.

In 2004, ENHANCER was restructured, and the CEO and founder ended up with the majority of the ownership. PE FUND terminated its ownership stake in the firm. It was perceived to be easier for PE FUND to recommend firms to use ENHANCER's services if the fund did not at the same time own a share of ENHANCER, since this setup might create the impression that PE FUND was promoting a firm in its portfolio, rather than recommending sound business practices. A number of consultants started expanding the firm again, this time more experienced and with new ideas on how to package the product offering, as well as with a greater understanding of the importance of finding the right customers to allow for successful implementation.

During 2004, ENHANCER grew fairly quickly, both in terms of revenue and personnel, with several junior and senior consultants agreeing to join the firm in the fall of 2004. At the end of the year it looked like ENHANCER was aiming for a more successful and prosperous future. At the end of 2004 ENHANCER had worked with approximately 100 small, medium-sized and large companies, and measured the time-span and corresponding time-horizon of over 2000 roles and individuals. This work had provided a significant body of experience.

4.4 ALPHA

4.4.1 Historical background

ALPHA was founded in the early 1990s as a small consultancy with a focus on training of personnel in sales and services roles. In the middle of the 1990s, the firm changed its strategy by starting to offer an e-learning package in addition to the previous instructor-led teaching package. In 1998, a simulation program for sales representatives was launched, and was initially met with positive feedback.

The general business environment and the ease of acquiring external financing made the management decide to expand the firm's product offering and market presence in the late 1990s. In a financing round in the fall of 2000, the firm was able to attract about SEK 60 M from VENTURE CAP, a venture capital firm, and from two large corporations. However, as a requirement, the financiers demanded that the firm hire a new CEO from outside of the firm, EXTERNAL CEO.

EXTERNAL CEO was at that time working abroad. He had earlier been a member of the board of directors in ALPHA. When he arrived at the firm, he realized that the three founding owners, who still held management and board positions in the firm, had greatly exaggerated the firm's potential. ALPHA had requested financing to launch a large-scale international sales effort of a new e-learning platform.

However, at the time EXTERNAL CEO arrived, the programming of the platform had not even started. Also, the firm had already opened sales offices in both the UK and the US without having a viable product, except for the sales simulations program.

4.4.2 Emerging conflict

Only about two months after EXTERNAL CEO arrived, the dot-com bubble burst. Instead of heading an international expansion, which he had been hired for, EXTERNAL CEO became in charge of downsizing the firm and cutting costs. In early 2001, he also launched the product development work of the new e-learning platform. During 2001, he hired a new sales manager and a new business development manager. The firm increased revenues, from 7 M in 2000 to 11 M in 2001, but it was not enough to cover costs. In the beginning of 2002, one of the three founders, who had worked as a sales representative in the US, was forced to leave the firm. He had sold for SEK 65 k in two and a half years. The firm's overall personnel had by then shrunk from 30 employees, at the arrival of EXTERNAL CEO, to 19 employees.

Of course, the failed international expansion and poor results fueled pessimism and resentment in the firm. Over time, a conflict emerged between the founding owners on the one hand and EXTERNAL CEO on the other hand. The conflict became worse after the third founder had to leave ALPHA, and in the spring of 2002, calls were made in the board by the founders for removing EXTERNAL CEO. There were also other signs of strain in senior management.

4.4.3 Enters ENHANCER

The Investment Manager (IM) of VENTURE CAP in charge of ALPHA, who had a contact with the CEO of ENHANCER, decided to hire ENHANCER to conduct a rating of the CEO and senior management in the summer of 2002. At that time, the CEO situation had become increasingly difficult to manage, and the IM was fairly certain that the CEO would have to go. Still, he wanted ENHANCER's evaluation as a second opinion, and furthermore hoped that the general seniority and business experience of ENHANCER's CEO could work as a catalyst in solving the conflict.

In June 2002, the CEO of ENHANCER conducted interview sessions with EXTERNAL CEO, the sales manager and the business development manager. He then had the IM of VENTURE CAP and the chairman of the board conduct second opinions on the ratings provided by the interviewees. The results of the ratings were non-conflicting.

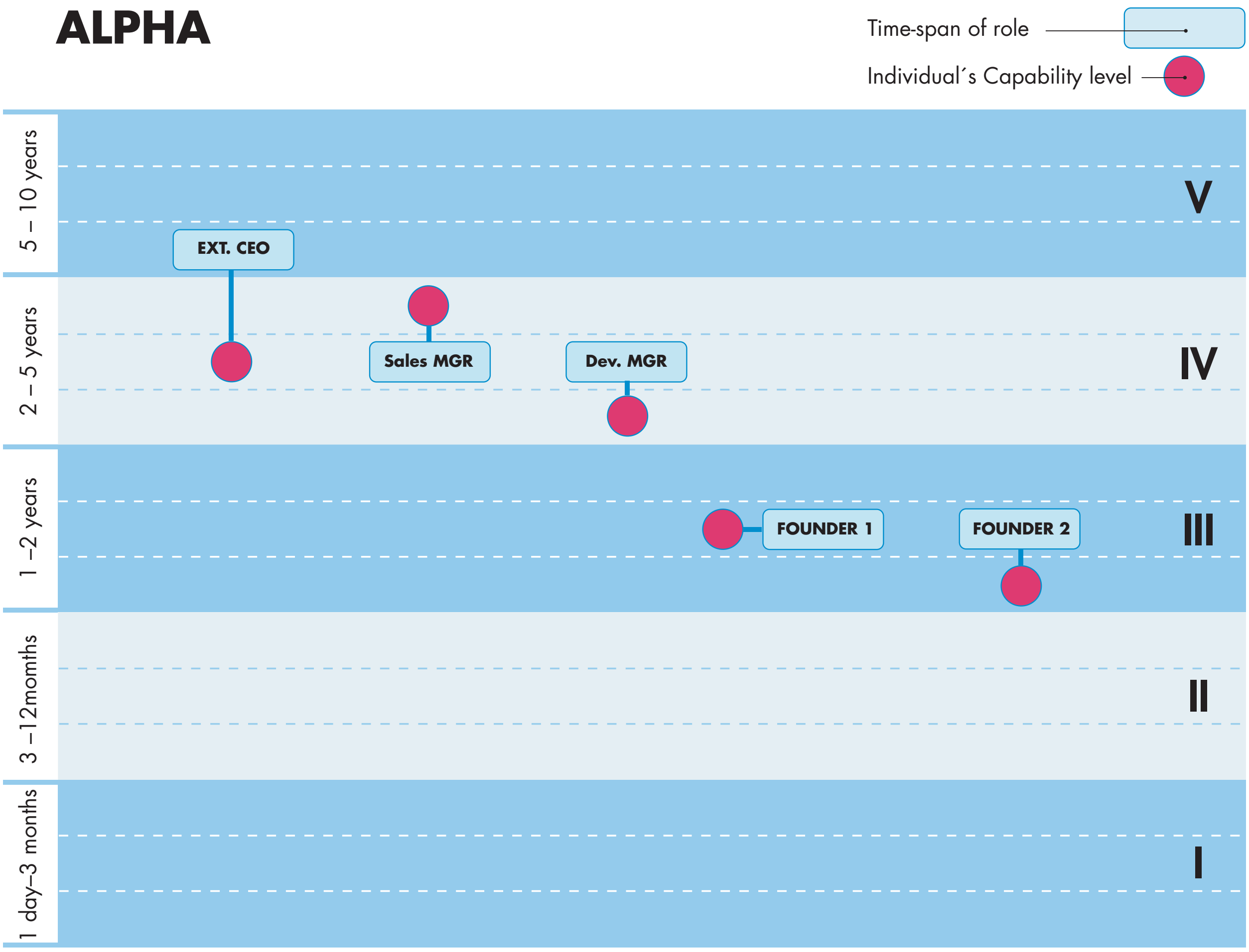

Figure 8: Rating results in ALPHA

ENHANCER found that EXTERNAL CEO was stratum IV, together with the externally recruited sales manager and business development manager. Of these, the sales manager was younger and had a somewhat higher Capability than EXTERNAL CEO, giving him a higher Mode. These three individuals were perceived to be able to work as a management team. However, due to EXTERNAL CEO's current position and to the fact that the firm ideally be managed by a CEO at stratum V, given the need for quick growth and expansion, it would be advisable to recruit a new CEO. In the meantime, ENHANCER argued, the sales manager might be better suited to take the CEO position. The two remaining founders were both stratum III, and it was perceived that they could not overview the strategic positioning and current predicament of ALPHA to a satisfactory extent.

Furthermore, ENHANCER found problems with the focus of sales efforts. The developed e-learning platform was a more complex product than ALPHA's older products. It was also geared towards larger customers. Therefore, the sales cycle was longer than for ALPHA's other products, and the sales staff, which was mainly on stratum II and III, except for the sales manager, were not estimated to be up to the task of selling this new product. ENHANCER recommended that the CEO and the sales manager together focused on sales, and that some of the junior sales staff be acquitted.

4.4.4 The outcome of the conflict

ENHANCER did not report its conclusions directly to EXTERNAL CEO and management, but to the IM of VENTURE CAP. However, EXTERNAL CEO received some, albeit limited, coaching from ENHANCER's CEO, recommending him to move the two founders from reporting to the CEO to reporting to the sales manager. The IM of VENTURE CAP decided to proceed with the plan of removing EXTERNAL CEO, and offered him a position as chairman of the board. The externally recruited sales manager became the new CEO. However, during the time of reorganization, the third founding owner, who had been forced to leave the firm, decided to file a lawsuit against ALPHA, arguing that he had been forced to leave on the wrong grounds.

VENTURE CAP decided against trying to recruit a new external CEO. It was mission impossible; no person of sufficient caliber would want to take the job, given that the firm was in such a bad shape. There was a plan in place to refinance the firm, clean the balance sheet and let it go back to the owners. However, one of the other external financiers decided to cut losses, and instead, the owners agreed to let the firm default. This happened in the summer of 2003, and what was left of ALPHA was returned to the original owners. EXTERNAL CEO left his position as chairman of the board, and the sales manager and new CEO and the business development manager that had joined in 2001 also left the firm. It returned to selling mainly instructor-led teaching programs on a smaller scale, much the same business it had been in before the expansion in the late 1990s.

4.4.5 Comments on ENHANCER by interviewees

4.4.5.1 EXTERNAL CEO

When ENHANCER conducted its rating of management, the situation in the firm had already become very infected. EXTERNAL CEO agreed with the main results found by ENHANCER, and had found the process helpful. However, he had not been informed that he had been rated as having an insufficient Capability level for the role of CEO. The ratings had shown that the founders, who wanted him out, did not have a superior view on the appropriate future of the firm. EXTERNAL CEO acknowledged that he was not the person to order the study, but he still found the feedback from ENHANCER helpful and had hoped that he would have had received some more coaching than he did. Still he had no criticism of the way the rating had been conducted, and also believed that ENHANCER's method held weight. He had respect for the notion that talent and Capability was important in being a good manager. However, it was also necessary to have the right knowledge and social skills, as well as the right motivation, in order to be a good executive.

4.4.5.2 The IM of VENTURE CAP

The IM thought that ENHANCER's rating had gone well, and found that it was helpful both as a second opinion in deciding on future management and as a catalyst in solving some of the conflicts at the firm. However, it was not possible to follow ENHANCER's most important proposal of recruiting a new CEO, since the firm had been poorly managed for too long prior to the rating.

The IM acknowledged that ALPHA most likely would have been in a lot better shape, and that it might not have defaulted, had a CEO with the requisite Capability at stratum V been hired already in 2000. Had ENHANCER participated in a management Due Diligence (DD) already at that time, perhaps ALPHA could have been saved? After all, its sales revenues had been increasing ever since 2000 despite the general business downturn, albeit not at a quick enough pace to cover costs. Sales for 2002 had been SEK 10 M, and 13 M for 2003. In total, external investors had lost SEK 60 M, out of which VENTURE CAP had contributed with approximately SEK 17 M. This was a significant loss.

The IM had been briefed quite extensively by the CEO of ENHANCER on the usefulness of its methods. Initially, he had been somewhat skeptical, but had come to realize the applicability of the concept more and more. However, he still felt that the value proposition from ENHANCER had been somewhat limited, and that ENHANCER would benefit from trying to operationalize also other important parameters, such as Commitment, Skills and Knowledge, in its DD.

The IM argued that the most important factor in a technology start-up, even more important than the technology itself, was good management. According to the IM, it was usually not as difficult to evaluate founders of a firm since they had a track record that could be compared with what VENTURE CAP deemed was necessary in order to spawn fast enough growth to warrant external financing with the possibility of a profitable exit. It was more difficult, however, to find external management that had the right level. The IM was positive that ENHANCER, if it could package its offering somewhat more attractively, had a potentially very successful product.

4.4.5.3 The CEO of ENHANCER

Although he was not dissatisfied with his personal contribution to ALPHA, he found it to be a failure that the firm could not be saved. EXTERNAL CEO, in addition to lacking the right Capability level, also lacked the necessary instinct for success. He was too reactive and did not take charge properly. The CEO of ENHANCER deemed it probable that the firm might have survived with a different leadership earlier on. However, the presence of the founding owners made management more complex and most probably added significantly to ALPHA's problems. Given that they lacked in terms of Capability and did not have the right strategic outlook, their active ownership hurt the firm.

4.5 BETA

4.5.1 Historical background

In the late 1980s, a department head at a large Swedish hospital had trouble retaining personnel due to low wages and a lack of flexibility in allocating work hours. He sought a partial solution by designing a computer program to handle the allocation need together with a colleague from another hospital. In 1993, the two colleagues founded BETA to start selling the software solution on a larger scale.

Throughout the 1990s, the firm expanded in both revenue and personnel, focusing mainly on sales to the Swedish public sector, although some private sector contracts were also secured. The overall growth in the economy made the business prospects look favorable, and BETA opened a second office in the late 1990s.

After the burst of the dot-com bubble in 2001, the situation soon went out of hand. Sales plummeted, and BETA was left with a large cost base that could not be covered by revenues. The owners, now comprising the two original founders as well as two PE funds and two unions, decided to find a new CEO. One of the two PE funds was PE FUND, who held a smaller stake in the firm. It had outsourced the administration of the holding to VC FIRM, a venture capital firm that took ownership responsibility but that had to get acceptance from PE FUND in order to invest.

4.5.2 New leadership

In May 2003, a new CEO of BETA was hired. He had an international background, and had participated in bringing a large Enterprise Resource Planning (ERP) provider to the Swedish market in the late 1990s. At the time he started working, BETA had roughly 30 employees and was losing in the order of SEK 700 k a month. The CEO initiated a cost-cutting program, moving the firm to new offices. He also gave notice to around 10 members of personnel.

The CEO perceived the product to be very complex, in fact more complex than the general applications found in ERP solutions. He realized the reason why the sales staff at BETA had earlier targeted mainly the public sector; due to procurement legislation, the only thing that was needed was to write a tender, which most often was aimed at offices and units on the local level. This made the sales cycle fairly short and the sales process simple. However, the actual product had possibilities of supporting work hour planning in much more complex and large-scale organizations than could be found in the public sector. The CEO had great problems communicating this opinion to the sales staff, and started sales efforts aimed towards the private sector on his own.

Conflict in the firm soon emerged. The sales manager of BETA did not agree with the strategy chosen by the CEO and started obstructing his work, as well as fueling resentment among the sales staff. The CEO answered by hiring an outside consultant to retrain the sales staff through team building and workshop exercises. He perceived that, in order to sell to large corporations, the sales staff had to be capable of being on talking terms with the HR manager, taking a partnership role. This demanded longer sales cycles and an ability to perceive and anticipate the demands and needs of higher level corporate managers. The retraining efforts continued, but to no avail. The general economic downturn had made the previously targeted customer segments unwilling to buy BETA's product, and the sales staff did not succeed in redirecting sales efforts successfully. In fact, the only person that was able to sell in the firm was the CEO himself.

4.5.3 Standoff

The conflict grew worse and resulted in the sales manager demanding that the CEO be acquitted, and that a new CEO be recruited. Due to Swedish labor laws, the CEO had some difficulties handling the conflict by simply firing the sales manager. Also, even though the cost base was shrinking, BETA was not making any money, and it was somewhat unclear to the board of directors and the owners exactly who to side with in the conflict. The sales manager was a senior member of management and had been in the firm for longer than the CEO, and the sales staff in general was loyal to him.

The CEO had, when starting at BETA, participated in an ENHANCER briefing for all CEOs of companies in VC FIRM's portfolio, but had at that time opted for not using ENHANCER. He perceived the fee to be too high for a firm of BETA's size and financial position. However, in the beginning of 2004, the CEO of ENHANCER got informed by VC FIRM of the developments that had taken place in BETA, and decided to approach the CEO of BETA again.

4.5.4 Enters ENHANCER

After some negotiation, it was decided that ENHANCER would conduct a management audit and development session, which included a Capability rating of the management team and sales staff. One of the founders of the firm, which was also on the board of directors, was picked by BETA's CEO to give a second opinion. ENHANCER interviewed both the CEO and the founder, and then went on to conduct interviews with the sales manager and the members of the sales staff. In 7 out of 8 cases, they agreed exactly on the rating.

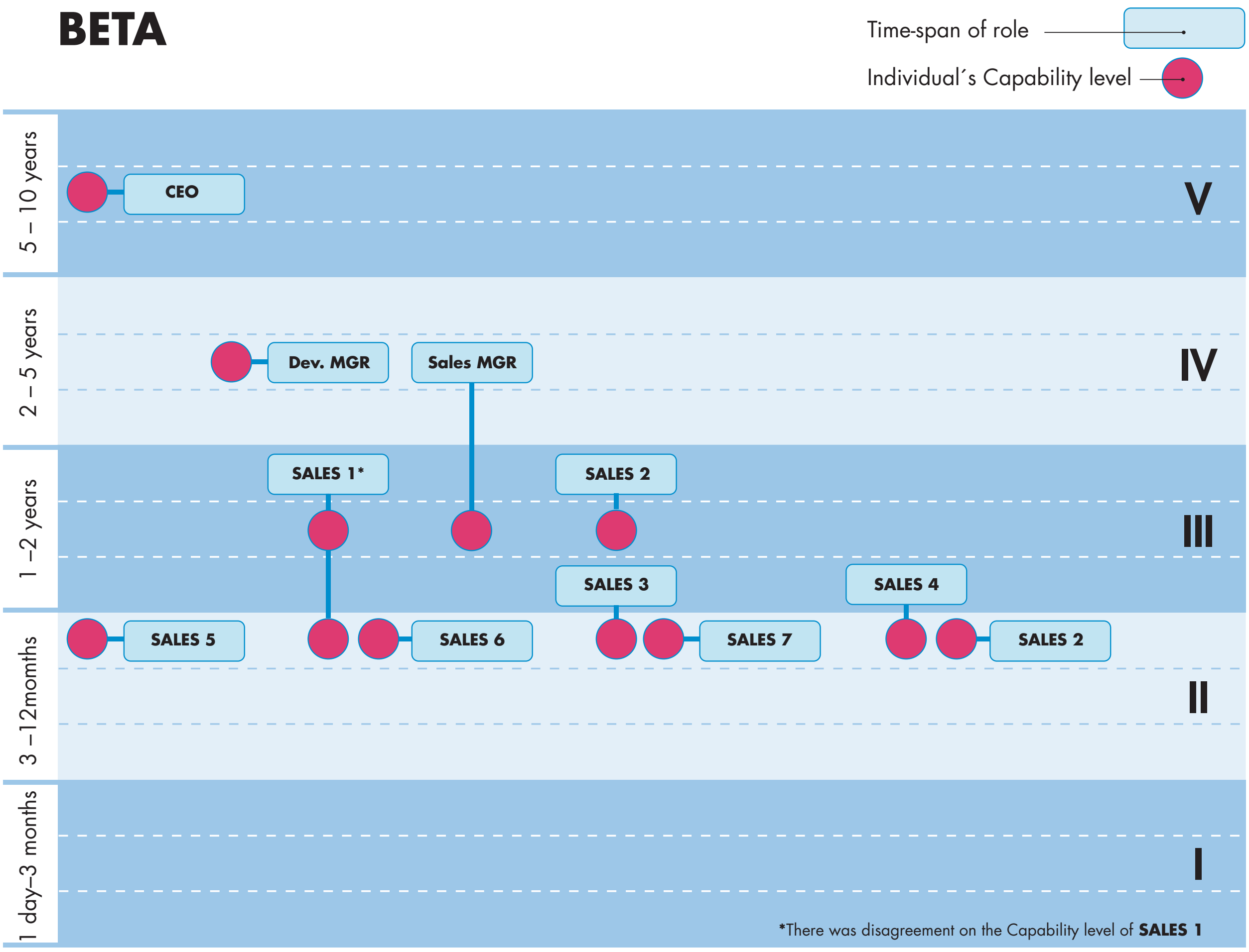

Figure 9: Rating results in BETA

ENHANCER's conclusion, which was only communicated to the CEO and the board of directors, was that the CEO was, with one exception, the only person in senior management with the right Capability needed for the assigned role. Due to the complex product offering and the long sales cycle, it was perceived that the CEO should be on a conceptual order of complexity, implying at least a Capability at the stratum V level. The CEO indeed was rated as having this Capability. The sales manager, on the other hand, was rated at stratum

III, together with some other members of the sales staff. Most of the sales staff, however, was rated at stratum II. The business development manager, on the other hand, was rated at stratum IV, which was considered to be a Requisite level.

The CEO of BETA felt that the results of ENHANCER's rating validated what he had already perceived intuitively, so they did not come as a surprise. Still, the information was useful in communicating with the board of directors, and after the results were presented and discussed, it was decided that a solution should be sought were the sales manager, together with others in the sales staff, would be helped to continue their careers elsewhere.

In this process, two new independent non-executive directors without ownership stake were also added to the board of directors. One of them, INDEP DIR, the CEO of a communications consultancy, had earlier experience from working with ENHANCER. He had participated in a rating as member of senior management in another firm, and had been found to be stratum VI. Upon commencing his role as director, he interviewed the CEO and senior management of BETA, and came to similar conclusions that were reached by ENHANCER in terms of Capability levels.

4.5.5 The future of BETA

In the end of 2004, the strategy agreed upon by the CEO and the board of directors was to find an exit opportunity for BETA to a larger player in the process consulting or ERP segment. VC FIRM and PE FUND both stood behind this decision. The CEO of BETA had removed most of the old management team, and the conflict had settled. He perceived that most of the remaining personnel were content with the working situation in the firm, and that they were ready to aim for the future. Also, BETA had moved from losing money every month to making about SEK 400 k per month. The CEO had found a new sales manager that he perceived had the right qualities. He had decided to acquire a second opinion from ENHANCER, which validated his judgment on the new sales manager as being stratum IV. Still, it was difficult to increase revenues, since the CEO had too many things on his table, and was still short on Requisite management capacity. This also made it more difficult to dress the firm in order to get a good price in an exit.

The INDEP DIR had a different view than the majority of the board on the future strategic prospects of BETA. He did not see any current large realizable value in the firm, and did not expect an exit within any reasonable time to command a good price. Instead, BETA should expand and redirect its strategic thrust. He perceived a future, prosperous BETA as a consultancy with a very valuable software tool. The software solution was in itself very powerful, but the only way to secure high and persistent revenues would be to work on a consultancy basis with customers. By shifting the pricing model away from the solution itself and towards strategic implementation and after-sales services, the full potential of the solution could be reached, and revenues could increase substantially. If the current owners still wanted an exit, this could then command a much better price.

INDEP DIR had faith in BETA's CEO and thought that he could follow through on this type of strategy, given proper support by the owners and board of directors and sufficient resources. He had himself conducted strategy workshops with the CEO, with good results. However, for this change to take place, the owners had to broaden their horizon, and the board of directors had to be replaced. INDEP DIR did not think that the current board had the strategic overview to coach the CEO through such a strategy. However, since INDEP DIR himself did not own a share of the firm, it was unlikely that he would push too hard for his proposal, given the expected resistance from the current board.

4.5.6 Comments on ENHANCER by interviewees

4.5.6.1 The CEO of BETA

The CEO of BETA was the person that decided to hire ENHANCER in the first place, and therefore had no reason for a priori resistance to the method used. The fact that the results of ENHANCER's rating validated his own intuitive view served to make him even more positive to the approach. However, what had taken him almost a year to conclude on an intuitive basis, ENHANCER could establish within a clear framework with less than a week of analytical work, without having any greater insider knowledge. This made the CEO conclude that the tool, when applied correctly, could be extremely powerful in boosting change processes and turnaround management. Although he had some minor criticisms, such as the cost of the rating for a small firm and some of the initial sales efforts from ENHANCER, in general he was pleased with the process as well as the outcome. At first, when being briefed on ENHANCER in May of 2003, he had been somewhat skeptical, but had later come to wholeheartedly embrace the Capability concept. He made a reference to athletics – no matter how much you practice; some people just have a talent for some sports. Why would it be any different in management? He had started to apply the Capability thinking in his general management approach, and expected to continue to use ENHANCER's services in the future.

4.5.6.2 INDEP DIR

The independent director of the board had also come to view Capability as a fruitful way of thinking about managing complexity. He also made a sports reference and talked about the importance of identifying talent, no matter within what field. He had further comments on the application of ENHANCER's methods regarding the governance of firms in general. In BETA's case, he claimed that the firm was in need of new ownership, or at least a better functioning board with directors of sufficient Capability to successfully coach the CEO. In order to accomplish this, the board should be made smaller and have higher Capability directors that could employ a more strategic approach.

Speaking of the general applicability of ENHANCER's method, he saw great use for it, and was prepared to hire ENHANCER himself in the right circumstances. However, he voiced some criticism as to the packaging of the product. When ENHANCER briefed the board of directors, ENHANCER's CEO took an insufficient amount of time to explain the general methodology and theoretical background of the results. Although he partly blamed the differing quality of the board directors, he claimed that more of them could have been made to understand the implications of the results from ENHANCER's analysis, had the presentation been longer and more detailed. Now, he reckoned that about half of the board actually understood the relevant concept and the importance of the results.

4.5.6.3 TECH MGR

The head of technology investments at PE FUND, TECH MGR, was somewhat, although indirectly, involved in ENHANCER's work with BETA. The IM of VC FIRM had accepted the conclusions and recommendations made by ENHANCER and he was also supporting the current majority view that BETA should be sold to a larger, established player. The reason he agreed with this strategy was that he perceived it to be difficult for BETA to take full advantage of its product in the current setup. Also, it would be a good way for PE FUND of securing at least a modest payback to its investment. TECH MGR planned to use ENHANCER when a buyer of BETA had emerged to integrate BETA into the new owner more easily and successfully.

4.5.6.4 The CEO of ENHANCER

The CEO was pleased with the outcome of the work for BETA, although he felt a slight frustration because of the fact that BETA's CEO had waited for almost a year and almost lost his job before coming to ENHANCER. He had full confidence that BETA's CEO was up to the task of turning around the firm, but had not been greatly involved in the development of the exit strategy. ENHANCER's work for BETA had been fairly limited in scope. However, it had come at a critical point in time for the firm's development, making it a pivotal contribution to the survival of BETA.

4.6 GAMMA

4.6.1 Industry background

GAMMA was a small firm in the Voice-over Internet Protocol (VoIP) software business. It was incorporated in 2001 when the founders bought a software platform from a firm that had defaulted. In the end of 2004, it employed 17 people, including the CEO.

VoIP was at that time by many considered to be one of the main growth areas in telecommunications for the coming years. Through VoIP, it would be possible to run all telecommunications (audio, video, data) through the same network and services could be added as software solutions, without requiring large continuous investments in hardware. However, many Telecom Operators (Telcos) and Telecom Equipment Manufacturers (TEMs) had, in the years preceding 2004, lost large amounts of funds in unsuccessful VoIP ventures. Also, there was reluctance among large established Telcos in providing the service, since it would reduce the usage and income of already established communication networks, where large amounts of money had already been invested.

There were at the end of 2004 no clear industry standards in the VoIP sector, and uncertainty loomed large as to the future setup and profitability of the business. Although most players expected VoIP to become dominant eventually, there was great difficulty in predicting when this shift would take place and what would be the dominant standard, making most large players reluctant to act. Thus, the market for VoIP providers was still mostly fragmented.

4.6.2 The product

GAMMA could provide both premises-based and hosted solutions through its platform, but had decided to focus on hosted solutions. With a hosted solution the end-user would simply connect through a Local Area Network (LAN) to a Telco or another service provider, and the demanded service content would be provided as a software application. This would in turn greatly lower the need for hardware investments on the part of the end-user in comparison to premises-based solutions. Through providing a hosted solution, GAMMA believed it could improve cost effectiveness and increase customer care simultaneously for both its customers and end-users.

GAMMA saw its competitive advantage in providing hosted solutions for SME end-users. By successfully providing solutions to call centers, GAMMA had shown that its platform was robust even for the most demanding end-user. Also, the solution allowed for fairly easy scalability and applications required to provide solutions regardless of customer were estimated to be fairly easy to develop.

4.6.3 The firm

Due to its product offering, GAMMA could get along with a small staff. Roughly half of the firm was engaged in product development, and a third in sales and marketing, including the CEO, who also held the sales manager position. Most programming and other labor-intensive work was outsourced, e.g. to India. GAMMA was owner-managed, although two smaller financing rounds had left two Private Equity funds as co-owners. The founders of the firm mainly came from a large Telco and a large TEM and were around 40-50 years of age, providing them with experience and business contacts in the relevant technical field.

Historically, sales efforts had been targeted mainly to the Baltic Sea region. Call center solutions had been sold since 2001 and hosted solutions since early 2004. GAMMA had worked with a wide range of customers. This had provided a positive cash-flow ever since the firm's incorporation, and a profit-making business. Still, the efforts had been time-consuming and somewhat dispersed, with mixed results.

4.6.4 Current strategy

Due to the dynamics of competition and the pace of technological developments, GAMMA considered the coming 18 months being pivotal for the firm's future. However, the firm was suffering from a shortage of funds needed for future expansion. It had become evident that the past strategy of a vide variety of product offerings and customer types was too time consuming, given the resources of the firm. Also, due to the expected market developments it was important that GAMMA's product reached a large customer, since it could be expected that a few standards for VoIP would gain the lion share of the market during the following years, through the logic of path dependence.

In the fall of 2004, GAMMA therefore decided to go through with a third financing round. The added capital would be used to fund an international expansion, either through licensing to a few large players, or through exiting to a single player. It was assumed that the industry background and contacts of the management team would facilitate an exit. Either way, it was held that the only realistic way of reaching a large end-user base was by piggy-backing on the expansion of one or a few large players, as they made the necessary investments and strategic thrust into VoIP.

4.6.5 Enters ENHANCER

PE FUND, which was one of the PE funds holding a small stake in GAMMA, approached ENHANCER to conduct a management DD of GAMMA. The head of technology investments, TECH MGR, was interested in GAMMA's product offering, but was uncertain if management was up to the task and if it was properly committed to an exit strategy. TECH MGR had cause for concern, since the fund had already lost large amounts of money in failed VoIP ventures.

However, due to the fund management strategy employed, PE FUND did not manage the ownership stake in GAMMA itself, but had outsourced it to VC FIRM, using a similar set-up as the one for BETA. VC FIRM's IM in charge of GAMMA, IM GAMMA, (different person from the IM in charge of BETA), who also was a member of the board of directors in GAMMA, had recommended PE FUND to go through with the further investment. PE FUND was contemplating whether or not to expand from a fairly modest ownership stake, consisting of a few percent, to buying as much as roughly a third of the firm. TECH MGR decided that PE FUND would not invest any more money without first using ENHANCER to conduct a DD of GAMMA's management.

However, GAMMA itself was to pay the fee for the DD to ENHANCER. This caused resentment on the part of GAMMA's CEO, who considered the firm to already be short on funds even without paying expensive consultant fees. IM GAMMA, who had already recommended PE FUND to go along with the increase in ownership stake, was also resentful. He was somewhat familiar with ENHANCER's methods but not convinced of their applicability. Also, he felt that PE FUND had discarded his business judgment by calling for an independent DD. Furthermore, he had come to identify with GAMMA and felt that the firm did not have the funds to pay the fee.

4.6.6 ENHANCER's DD

ENHANCER used the CEO and another senior consultant for its DD. It interviewed the CEO to get a rating of senior management, and then received a second opinion from the chairman of the board of directors. The results of the interviews were in all important aspects aligned. The CEO was also asked to rate himself, and although he was somewhat unclear, his answers were clearly in line with the chairman's rating.

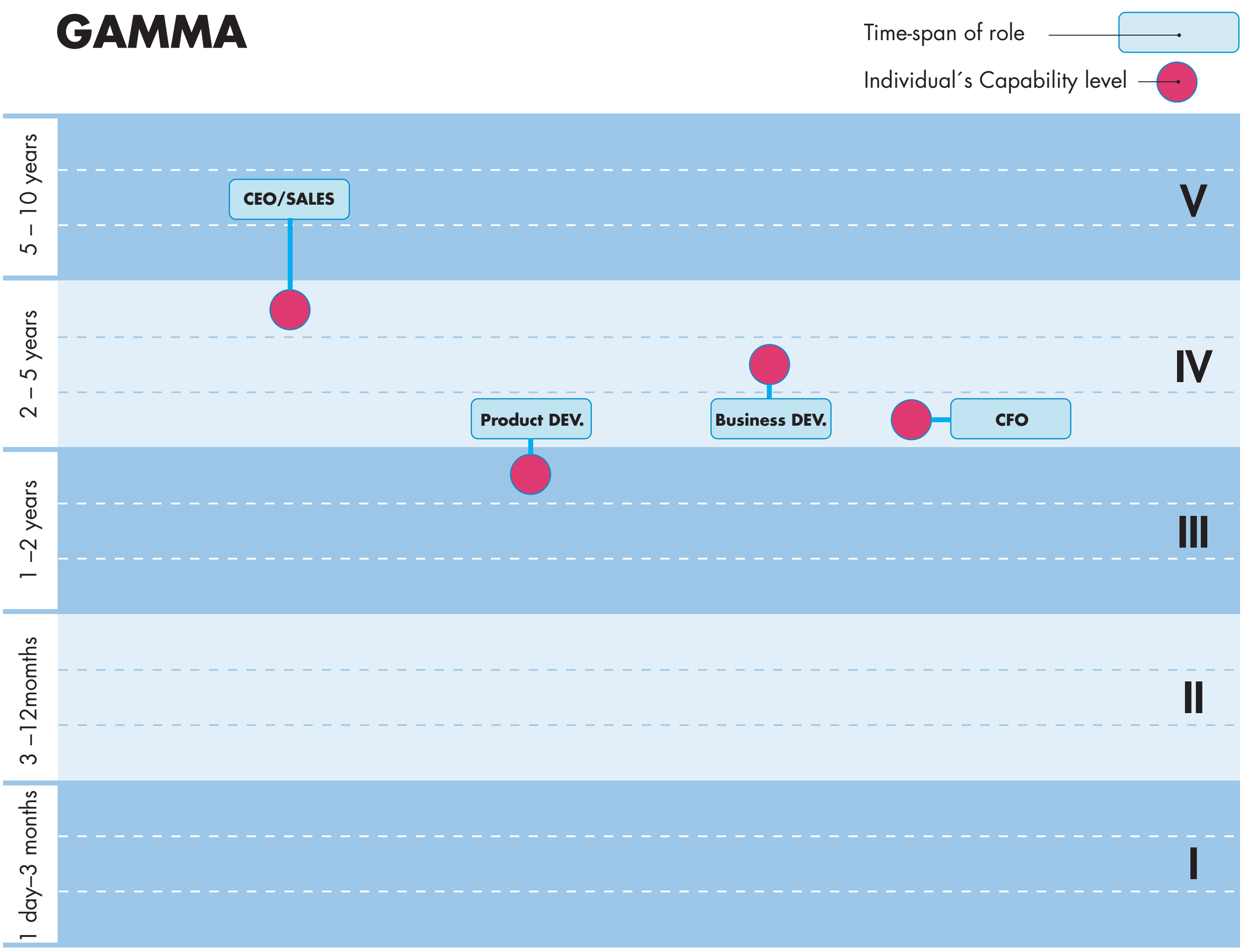

Figure 10: Rating results in GAMMA

The CEO and senior consultant of ENHANCER then went on to perform a SWOT analysis of GAMMA, with the participation of the CEO and senior management, including the non-executive chairman, as well as owner representatives. With the SWOT analysis at hand, ENHANCER identified the three most important objectives, including priority areas, as well as the preferred next step. ENHANCER thought that the SWOT analysis went well, and perceived that the participants were overall content with the performance. It went on to provide a report of its findings.

ENHANCER, in its written report, agreed with the main conclusions that GAMMA had drawn from its current situation. Since it was a small firm and couldn't control the market development, it would have to find some kind of strategic co-operation with a bigger, important player. This was especially important since there was a perceived window of opportunity of about 18 months during which GAMMA would have the time to act, before being overrun by the developments of competitors.

However, in order to do this, the management of GAMMA would have to be able to anticipate the demands and opportunities of the strategic partner or buyer. It would have to have management that could comfortably communicate at the right level of decision-making at the strategic partner. This was especially important since GAMMA had already engaged in discussions with a large TEM, but with limited results to show.

Although it was not explicitly stated in the report, ENHANCER perceived that the CEO of GAMMA would have to be at least stratum V, i.e. on the conceptual order of complexity, in order to manage the decision-making on the level where GAMMA wanted to negotiate. This in turn implied that the current CEO was not up to the challenge, and would have to be replaced. A good solution would be for the current CEO to step down and instead assume full-time responsibilities for sales, and then recruit a new, external CEO. This was also the recommendation given to TECH MGR at PE FUND. In addition, the stratum level of the Vice President (VP) for Product Development was considered to be too low. However, this was not considered to be the strategically most important problem at the time, given that the product had shown itself to have good potential.

4.6.7 Results of the DD and the future of GAMMA

TECH MGR had largely anticipated the results provided by ENHANCER, and had in effect merely ordered GAMMA to go through with the DD in order to get a second opinion. After receiving the results from the DD, he went on to demand that GAMMA change its CEO and chairman in order for PE FUND to increase its ownership stake. Also, he did not accept the valuation of GAMMA provided by management, and demanded that they lower their valuation of the firm for PE FUND to enter. However, TECH MGR did not communicate directly with GAMMA, but with IM GAMMA. The IM, however, did not share TECH MGR's view on the subject, and tacitly sided with GAMMA on the issue, recommending that they hold out for another bid.

VC FIRM was not satisfied with the DD, and neither was GAMMA. When a senior consultant from ENHANCER presented the conclusions to GAMMA's CEO, the atmosphere quickly turned sour. GAMMA's CEO accused ENHANCER of only presenting views that were already known to the firm, without adding value. The CEO of ENHANCER was the person who had negotiated the conditions of the DD with GAMMA's CEO, and due to lack of communication between the CEO and the senior consultant, a misunderstanding occurred on what to report. In addition to not adding value the GAMMA's CEO did not find the written report to be professional enough.

In the end of 2004, PE FUND had still not increased its ownership stake. IM GAMMA and the CEO of GAMMA were in agreement that the proposals from ENHANCER had not added value, and GAMMA was in the process of finding another external investor. At the same time, GAMMA searched for a new sales manager, but with a lack of funds it was somewhat difficult to provide competitive compensation. It seemed that the firm had entered something of a Catch 22.

4.6.8 Comments on ENHANCER by interviewees

4.6.8.1 The CEO of GAMMA

The CEO of GAMMA, when interviewed, explained his dissatisfaction with ENHANCER's method. He understood the general implications of the model, but claimed that it was better suited for large, mature corporations with a set organizational hierarchy. He was quick to declare that he did not have anything against the method per se, but that he thought that it had been used in an improper setting. He had personal experience from large corporations, and understood how the method could be useful under those circumstances. However, in a small start-up, one did not have time to be very strategic and always look far ahead, since there were so many immediate things that had to be dealt with. He also questioned the way that ENHANCER had reached its conclusions on time-spans of the roles in senior management. He said that it had been obvious that ENHANCER wanted him to state that the time-spans should be long, and that he answered accordingly. However, he himself was not convinced of the importance of long time-spans at this stage in the firm's development.

It was clear that the CEO felt somewhat limited as to what he could say when being interviewed, since he was at the time still engaged in the financing process. He also stated that he was careful with how he expressed himself, since he valued the relation with PE FUND. He was under pressure not to burn any bridges, but it was clear that he was not pleased with the way the process had been handled.

4.6.8.2 IM GAMMA

The opinions of the IM largely mirrored the opinions of GAMMA's CEO. He also disagreed with the response from PE FUND, and thought that their offering was too aggressive and that their proposed valuation was too low. He felt that PE FUND had destroyed their relations with GAMMA, but that the IM himself still had good relations.

He stated that ENHANCER's methods did not work well for smaller companies. Things were made worse since GAMMA felt pressured to pay for the DD by PE FUND. The management was already upset before the process began. Also, to base the conclusions of the management DD on what came out from the interviews with the CEO and the chairman was not serious, since both could be wrong. When adding that the whole process was too quick and that the written report was not professional enough, the overall impression was not good. When asked why the results from ENHANCER's work with BETA, which was also managed by VC FIRM, had been so positive in comparison to the results from GAMMA, he blamed the poor timing and the hostage situation perceived by GAMMA management.

4.6.8.3 TECH MGR

As already alluded to above, the TECH MGR of PE FUND had already anticipated the results from the DD, and therefore had no complaints with the outcome of the analysis. He had also not immediately perceived that the process had resulted in problems and conflict. It was not until he opted for using ENHANCER for the DD of DELTA (see below) that he realized the resistance from VC FIRM. However, due to his continuous contacts with the CEO of ENHANCER, he claimed to know that ENHANCER suffered from problems with how to package the method and the results.

He acknowledged the general problems with doing DDs, especially management DDs, in the venture capital business. IMs tended to perceive outside opinions as a threat, since there would always be a risk that these would counter personal judgments. In the case of IM GAMMA, TECH MGR saw it as pretty clear that the IM himself lacked sufficient Capability to deal with the problem at hand. ENHANCER had been involved in rating the management team at VC FIRM, when they took over a holding from another venture capital firm working for PE FUND that had been responsible for mismanagement (see the ownership history of DELTA below). In this rating, IM GAMMA had been found to be at stratum IV. This, in TECH MGR's view, made him improper to deal with the overall complexities of the ownership role. He had many other qualities, to be sure, but lacked in this respect.

4.6.8.4 The CEO of ENHANCER

Although, in hindsight, the CEO of ENHANCER was less than pleased with the outcome of the work with GAMMA, at first he had not perceived any general problems. The rating done together with GAMMA's CEO and chairman had gone smoothly, and so had the SWOT analysis and the following discussion. Therefore, it had come as somewhat of a surprise when the negative response from GAMMA came. However, it pointed to a general problem with the setup. Although the CEO acknowledged that the actual presentation of the result, including the report, had not been of the highest standards, the main problem had been that GAMMA had felt cornered. It was difficult to explain the reason for the DD to them, since they were in fact not the ones wanting it in the first place. Furthermore, when the results pointed towards the inadequacy of the CEO, it was not surprising that he chose a defensive strategy rather than accepting the result. PE FUND, which had ordered the DD in the first place, was pleased with the result, whereas GAMMA, which had to pay for it, was not.

4.7 DELTA

4.7.1 Historical background

DELTA was founded in the middle of the 1980s as a spin-off from research conducted at a large US university by two professors in behavioral sciences and computer science, respectively. The business idea was to maximize the output from meetings, since it was perceived that traditional meetings were not conducive to optimum decision-making processes. The professors designed a computerized team decision-making tool. After a few years of having a large computer manufacturer as the sole customer in the late 1980s and early 1990s, the firm expanded its customer base and perfected the tool for usage in a LAN environment. With the aid of personal terminals, a meeting leader could pose questions to meeting participants and use the tool to organize input in a meaningful way. A continuous feedback process between leader and participants would provide a larger and better output than what could be expected from a traditional meeting.

In the middle of the 1990s, DELTA had roughly 60 employees and a yearly turnover of about SEK 70 M. At this time, a Swedish venture capital firm, whose holdings were taken over by VC FIRM in 2003 due to mismanagement, stepped in and provided financing to the firm. As internet became more developed, the firm opted for creating a second generation web-enabled version of the original product towards the late 1990s. At the same time, a new CEO was recruited. The firm commenced work on the new web-enabled product in the end of 2000, and decided to outsource product development and programming to an Indian software company, INDIAN CO.

The new CEO was not up to the task of running the firm in a profitable way. To this was added the general downturn in the economy, especially in the dot-com sector. In addition to this, INDIAN CO, in charge of developing the new product, ran into difficulties. It was initially agreed that INDIAN CO would deliver the finished product in October 2001, but when the time for scheduled delivery came, they were far from finished. To cover the cost of the delay, a new financing round took place where PE FUND, through the venture capital firm that later channeled its holdings to VC FIRM, participated. After the round, PE FUND held 30 % of equity and had contributed SEK 24 M.

However, INDIAN CO continued to delay the delivery, and in the summer of 2002 the company openly admitted that they had reached a dead end with their proposed solution, and that they had to start over. It was now decided that delivery would take place at the end of 2002. However, they once again reneged on their promise, and after visiting INDIA CO in August 2003, representatives from DELTA realized that the delivery could not be expected any time soon.

DELTA was now suffering from decreased sales due both to the general market downturn and to the relative obsolescence of their product. In the fall of 2003, DELTA technicians managed to reverse the code for the new product, and the board decided to launch what they had, irrespective of the fact that they had not paid INDIAN CO. It was hoped that the new product would increase revenue and save DELTA from default.

4.7.2 VC FIRM takes over

At the end of 2003, prospects for DELTA were bleak, but not non-existent. The old product had been very popular, and over the years DELTA had served around 1000 customers, 40 % of which came from the US government, mainly the military. Although the product was old, some sales were still made, and the firm still gained some revenue from service agreements etc. During the fall of 2003, mainly due to large government procurements at the end of the US fiscal year in August, the firm broke even. Roughly around the same time, VC FIRM had taken over the management of the DELTA holding from the previous venture capital firm. It was decided that VC FIRM would not abandon the investment, but stay to see what could be done.

In March 2004 a DD was conducted on DELTA, ordered by VC FIRM. It concluded that DELTA lacked most of the necessary elements needed for success. The 12 persons left of personnel where scattered around the US in 5 different states. DELTA did not know what its product was, what the value proposition was or towards whom it was geared. It lacked a sales strategy, marketing and branding, staff, competence and leadership. No real CEO was in place. However, it had a potentially very good product that was scientifically based and had a long history and previously satisfied customers. The DD suggested that DELTA would aim towards strategic partnership with process consultants, as well as direct sales of the new products. However, in order to do so, new management and a competent sales staff with experience from strategic sales efforts had to be recruited.

During this time, the IM of VC FIRM, IM DELTA (different person from the managers in charge of GAMMA and BETA), had been in contact with an old American business contact that was doing turnaround management. This contact, NEW CEO, in May sent in a formal proposal to VC FIRM that he was prepared to conduct a three- week strategic review of DELTA's business prospects for a fee of USD 10 k (SEK 75 k). If he found the business prospects to be favorable, he would agree to step in as the new CEO of the firm, with the aim of increasing the revenues of the firm five-fold and preparing it for an exit within 12-24 months at a price of roughly USD 10 M (SEK 75 M). NEW CEO conducted the review and decided he thought that DELTA had a future. VC FIRM and PE FUND agreed to let him step in as CEO of DELTA.

The expected success of the new web-enabled product had not presented itself during the first half of 2004. It suffered from some problems and was too different from the old tool for experienced users to feel familiar with it. DELTA suffered from severe liquidity problems already in the summer of 2004, and NEW CEO suggested a two-phase financing round in order to stay afloat until a new version of the web-enabled product, different in most aspects from the version already launched with the reversed code from INDIAN CO, could be launched. In the meantime, NEW CEO established a list of necessary tasks to be performed in order to reorganize and make the firm profitable. PE FUND agreed to pay USD 250 k (SEK 1.8 M) in July as the first half of the new financing round. If the second half of the round were to take place, PE FUND would come to hold 60 % of the firm. IM DELTA strongly recommended the move. With the new money, NEW CEO moved the firm to a single address, and recruited new experienced consultants that could occupy positions in senior management. Also, most of the old personnel were acquitted. The end of the US fiscal year provided important revenues, but the firm still had a liquidity problem and was waiting for the launch of the new product in October.

4.7.3 Enters ENHANCER

TECH MGR at PE FUND had liked what he saw concerning the developments at DELTA after VC FIRM had taken over administrating the holding and especially after the recruitment of NEW CEO. However, the fund had already sunk a large amount of money into the firm. He wanted to be sure, and therefore opted for sending over the CEO of ENHANCER and a member of the board of one of PE FUND's holdings to conduct another DD of DELTA and of NEW CEO as well as his newly recruited management team. IM GAMMA felt frustrated by the lack of confidence showed by TECH MGR, but TECH MGR was afraid that the IM had become too emotionally attached to DELTA. The board director was given the task of evaluating the financial situation and the business opportunities of DELTA, and the CEO of ENHANCER was sent to evaluate management and DELTA's business opportunities.

Both decided to recommend payment of the second half of the financing round. Although the financial situation was not ideal, it seemed that the risk of default had greatly diminished. Initial reviews of the new product had been very positive, and NEW CEO had made great strides in reactivating old accounts and finding new customers. ENHANCER's recommendation was that the CEO of DELTA be stratum V in order to ensure simultaneous management of product development, branding, partnership and sales efforts. NEW CEO was rated at stratum V. Also, both the Chief Technical Officer (CTO) for IT and the head of customer operations where rated at stratum IV. These three promised to provide a strong management troika.

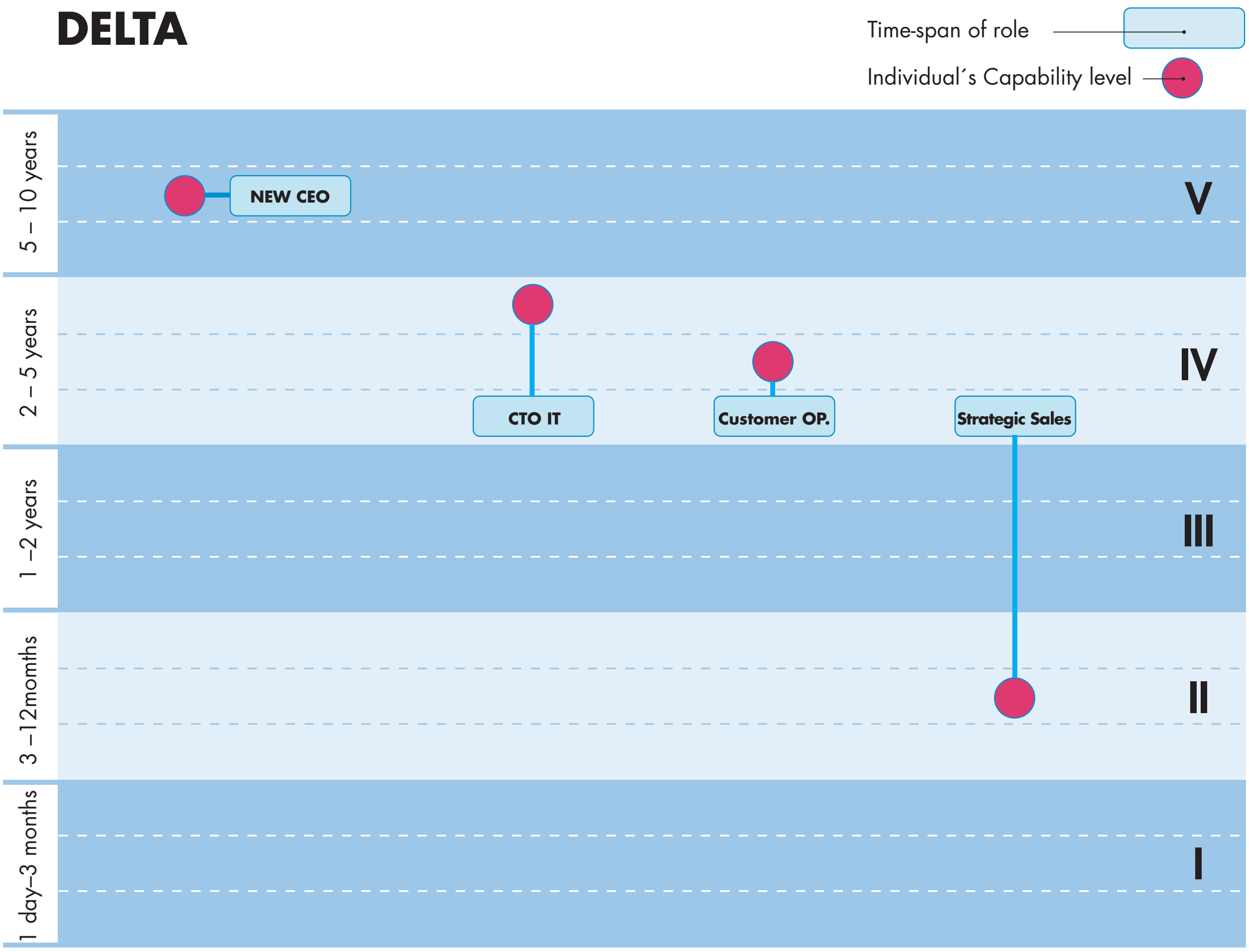

Figure 11: Rating results in DELTA

However, ENHANCER found DELTA to be lacking in sales. The head of strategic accounts was stratum II. However, in order to find strategic partnerships and to reach larger customers, it would most probably be necessary to recruit a sales representative at stratum IV. NEW CEO, when confronted with this information, explained that he shared ENHANCER's view, but that he had been forced to keep the current set-up since a new sales manager had not yet been found. He was, however, aware of the problem and used the person in question accordingly. ENHANCER recommended that a number of key account representatives, all preferably at stratum IV, were recruited and stationed throughout the US, all reporting to NEW CEO. This could greatly increase market penetration and future revenue.

When both DDs validated the business judgment of IM GAMMA, he completely changed perspective on the need for ENHANCER's DD, and fully supported the method as well as the process and the result. It was in line with both the opinions held by himself and by NEW CEO. Due to DELTA's liquidity problem, PE FUND decided to immediately go through with the second half of the financing round. Also it was decided that a new chairman of the board of directors should be recruited.

4.7.4 The future of DELTA

At the end of 2004, the situation for DELTA had greatly improved. Infused with new management, and after finishing a restructuring process, the firm was prepared to increase revenues. The initial response for the new product was good, and the customer base was growing continuously, both through reactivation of old customer accounts and adding of new ones. Also, with the new product differing in important aspects from the product created by INDIAN CO, it seemed that there would be no great risk of legal repercussions due to the earlier turbulent product development. NEW CEO estimated that, by showing both growth and a positive result for 2005, DELTA could be ready for an exit already in the first or second quarter of 2006 at a value of around USD 10 M (SEK 75 M). Recruitments of a new chairman of the board and a new sales manager were on their way. It looked as if a firm that had been days away from default had been successfully turned around, after almost all hope was lost.

4.7.5 Comments on ENHANCER by interviewees

4.7.5.1 IM DELTA

The IM felt that ENHANCER's method to some extent was just common sense. Capability in this sense would just be a word for how an intelligent, ambitious individual works. However, the IM was quick to point out that Capability in itself did not predict how an individual would act, only what he could aspire to do. Talent was undoubtedly an important aspect of what makes a good manager, but equally important was self-esteem and humility. When asked why the DD with DELTA had gone so much better than the one with GAMMA, the IM answered that he believed that the timing had been bad in the case of GAMMA, and that it had been the wrong move for PE FUND to push GAMMA to do the DD.

4.7.5.2 TECH MGR

It had been obvious that IM GAMMA first had felt threatened when asked to work with ENHANCER. Part of the reason TECH MGR saw as simply a result of the questioning of his judgment, and part of it undoubtedly had to do with the problematic GAMMA DD. In the case of DELTA, however, TECH MGR perceived the work of ENHANCER to be flawless. He saw the inherent risk for ENHANCER in creating feelings of resentment with individuals in the position of VC FIRM's IMs. However, TECH MGR's opinion was that the reason that IM DELTA had been so much more favorable to ENHANCER in comparison to IM GAMMA was partly due to the fact that the managers themselves differed in terms of Capability. The rating conducted by ENHANCER of VC FIRM's management had found IM DELTA to be stratum V, one stratum level above IM GAMMA and at the same level as NEW CEO.

4.7.5.3 The CEO of ENHANCER

The CEO of ENHANCER was pleased with the outcome of the DD and had found it fruitful to communicate with NEW CEO. He had showed great interest in ENHANCER's methods and had requested additional background material on the theory. Also, he had taken the CEO's recommendation to have a number of key account representatives reporting directly to the CEO to heart.

4.8 OMEGA

4.8.1 Firm history

OMEGA was founded in 1990 by four colleagues from a large Swedish TEM. They thought that their corporation was focusing too much on developing new hardware for communications technology. Software, they assumed, would be more important in the future. Also, they saw major advantages with PC technology, and realized that through distributed networking, the technology would allow for effectiveness through scalability and low hardware costs.

OMEGA started with developing a system for coordinating fax traffic in semi-public areas, such as hotel lobbies, as well as other communication applications for the Swedish PTS. However, they came to realize that it was very difficult beforehand to judge what applications would in fact become successful. Also, they saw that service providers in general started from scratch when developing a new application. They decided to develop a generic platform to which new applications could be added over time. By doing this, considerable time and resources could be saved in adding new applications to a telecom system, and the system allowed for easy scalability. By using an open architecture and non-proprietary hardware and software resources, additional cost-effectiveness could be accomplished.

Work on the platform commenced in 1993, and focused efforts started in 1995. In 1996 OMEGA was ready to launch the new platform. OMEGA had been very scarce on funds throughout the development period, and had not been able to pay salaries to all founders. The original CEO of the firm, FIRST CEO, was replaced by one of the other founders, SECOND CEO, as CEO of OMEGA in 1997. SECOND CEO had held management positions in other companies during the first seven years of OMEGA's existence, including a period working in the US.

The period from 1996 to 2000 saw a large growth in revenue, and the firm doubled in size each year, employing 260 people at the end of 2000. Internationalization efforts came with the launch of the new platform, and in the end of the 1990s, OMEGA had a market presence throughout Western Europe. Its main customer segment was Telcos. OMEGA was listed on the Stockholm Stock Exchange in 1999 and soon after conducted an issue that would eventually save the firm from default. OMEGA had made an acquisition in the Open Voice segment for SEK 30 M, and decided to seek financing from the stock market. It opted for trying to get SEK 40-45 M, to cover restructuring costs. However, due to the general frenzy among investors regarding telecom companies, OMEGA found investors willing to provide a total of SEK 1.5 B in funds. For this reason, the firm opted for making an emission of SEK 300 M in March 2000. This also resulted in no individual stock owner holding more than a few percentage points in the firm, with the largest single ownership stake being less than ten percent.

4.8.2 Emerging trouble

At the same time, SECOND CEO was considering the next management step. The chairman of the board, who had been with the firm since the start, suggested that they should find a new CEO. The firm had grown fast and costs had not been held back to a sufficient degree. SECOND CEO had the right entrepreneurial spirit and good sales skills, but he perceived himself to be lacking somewhat in administrative talent. It was decided that he should be replaced by an external CEO. THIRD CEO, who had previously held a position as VP of a Telco, started in 2000 with the task of consolidating past success and making the firm leaner to increase profitability, while at the same time fostering further international expansion. However, soon after he started, the telecom market plummeted.

THIRD CEO did not succeed in getting sales growth, given the suddenly worse new market conditions. Sales increased, from SEK 176 M in 1999 to 265 M in 2000, but this was short of expectations. SECOND CEO, in order not to encroach on the credibility of THIRD CEO, had been given the task of developing a product management unit within the firm, as well as developing the US market. He and FIRST CEO, who also held a senior management position in the firm as VP of sales and market development, where starting to get worried.

In 2001, OMEGA secured a high-margin OEM-contract with a TEM, worth SEK 100 M. This made the revenues for 2001, in total SEK 330 M, seem good to an outside observer. However, it was a one-time deal, and in actuality OMEGA did not have a sufficiently stable customer base to cover the cost structure. FIRST and SECOND CEO, who did not feel that THIRD CEO was making the necessary adjustments given the new market circumstances, approached the board of directors.

4.8.3 Enters ENHANCER

The chairman of the board of directors had known the CEO of ENHANCER for quite some time and had even participated in a briefing by Elliott Jaques in Stockholm organized by ENHANCER in the late 1990s. The board decided that ENHANCER was to conduct a rating of all positions in the firm in order to establish any disparities between assigned roles and Capability of management and personnel. This work commenced in the late fall of 2001 and was completed in early 2002. It was found that FIRST and SECOND CEO were both stratum V, whereas THIRD CEO was stratum IV. The VP for sales, who had been recruited in 2001, was also stratum V. The VP for delivery and engineering was mid stratum IV and the CFO was borderline stratum III/IV.

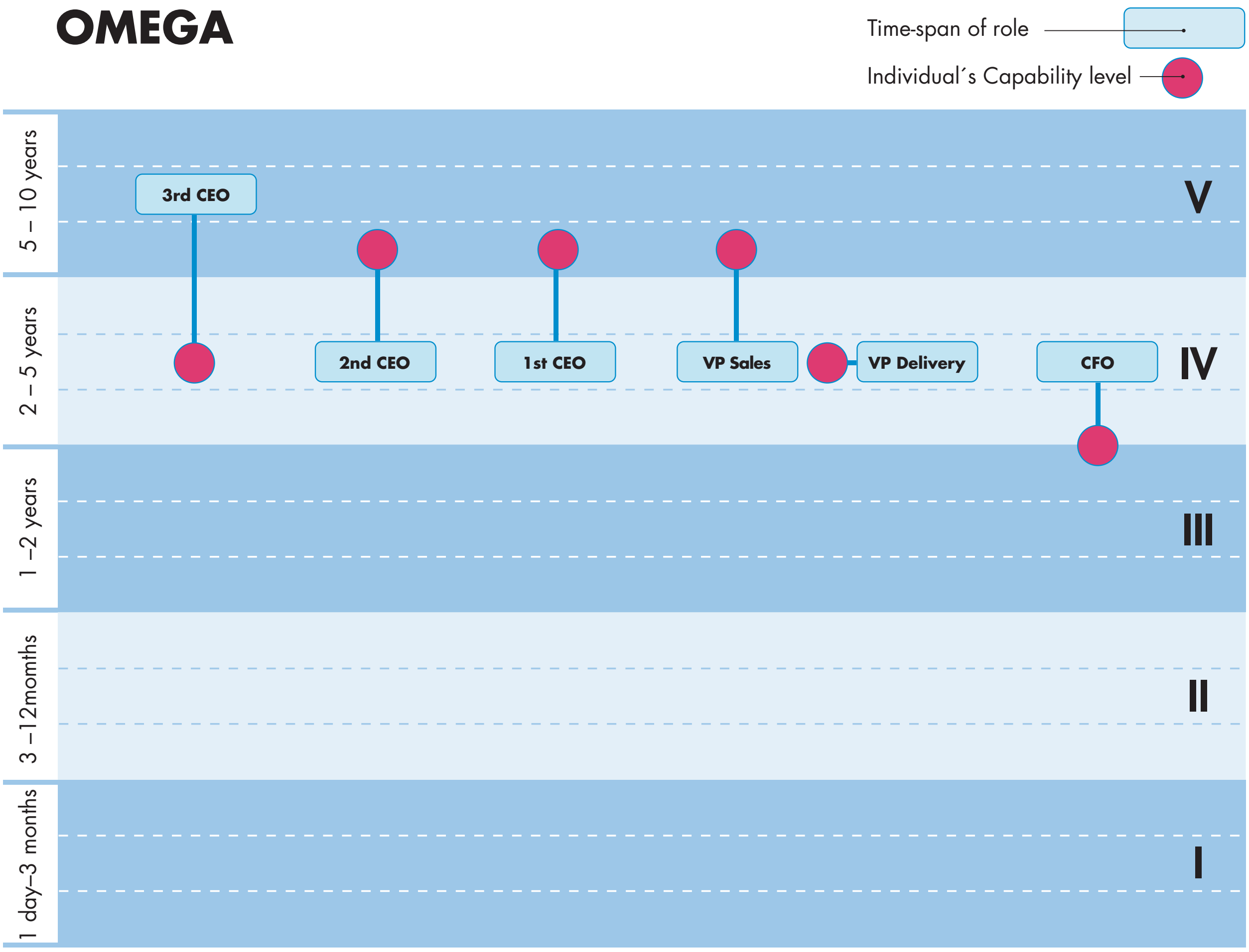

Figure 12: Rating results in OMEGA

After the rating was done, the board of directors decided to change CEO, and asked SECOND CEO if he would be interested in taking back his previous position. He was hesitant at first. However, he came in contact with the CEO of ENHANCER, and found that with the aid of ENHANCER's methodology, they could reach a common language on what had gone wrong and should be done. THIRD CEO left the firm, and SECOND CEO came back to head OMEGA. In the process, the VP for delivery and engineering, who had been close to THIRD CEO, also left the firm. Due to the technical nature of the work, it was difficult to recruit an outsider to the vacant position. SECOND CEO opted for giving the job to a person with a long history in the firm and who knew the product inside out. However, ENHANCER recommended they choose another person for the job, since this person had been rated as stratum III. Given the difficulty in finding a person with the right technical competence, SECOND CEO chose to disregard the advice.

ENHANCER also recommended that OMEGA change its CFO, who had been rated as borderline stratum III/IV. It was felt that the difference in Capability in senior management would cause obstruction and slow down the decision-making process. However, SECOND CEO, who had worked closely with the CFO before, felt he needed him and was confident that he was capable of filling the role.

4.8.4 Continuous work with ENHANCER

In the summer of 2002, ENHANCER was hired by SECOND CEO to conduct a SWOT-analysis and help senior management in developing a business plan. Also, the CEO of ENHANCER coached SECOND CEO in his management position. The most important result of this exercise in SECOND CEO's view was in addition to the result in itself the questions it posed on how to manage successfully and what answers could be provided by thinking in terms of Requisite Organization. When SECOND CEO came back, a conflict had been in the making for quite some time between FIRST CEO and the VP for sales. Initially, SECOND CEO had though that proper management simply entailed giving each subordinate correct instructions and then let them execute independently. However, by looking at the firm from a Requisite Organization viewpoint, the CEO of ENHANCER helped him realize that the two positions were naturally encroaching on each other, due to their interconnectedness. Therefore, the new task given was for the two managers to, whenever they had a conflict, decide exactly what the conflict was about and then go to the CEO, who would decide on an appropriate course of action. This lessened the need for negotiation between the managers and lowered the risk for conflict.

Furthermore, the SWOT-analysis and business plan helped the CEO focus on an appropriate formulation of business objective and strategy. Given OMEGA's size, complexity and ambition, it was necessary that the firm decide on a goal that should be reached within 7-10 years, i.e. the task of a stratum V CEO. This goal, in turn, was then to be communicated at all levels in the firm. This would provide a strategic direction that would make sure that the strategy was kept alive within the firm.

It was decided that OMEGA should aim for revenues at the year 2010 of SEK 2 B, and that all efforts and decisions should be made with this reference point in mind. The CEO, when interviewed in the end of 2004, felt that this goal had been of enormous importance in guiding management. It was concrete enough to provide a clear reference point, and yet not so rigid it caused too much focus on quantitative measurements. Due to time and resource constraints, it was never possible to have enough quantitative information to completely guide decision-making. However, the strategic goal helped in qualitative measurement and evaluation of different possible development paths, and thus made sure that decisions were made in the right time frame.

4.8.5 Continuous restructuring

In the year of 2002, revenues dropped to SEK 211 M, with a loss of SEK 95 M. However, at the time when SECOND CEO returned to the position of CEO, revenues for 2002 had been projected at SEK 150 M, implying an even greater loss. This would have pushed the firm close to default. With the return of SECOND CEO, a cost-cutting and restructuring program had been initiated, coupled with an increased focus on sales efforts. The large issue in 2000 provided some insurance against the severe liquidity problems that otherwise would have emerged, given the difficulty in getting external financing due to the rough market conditions prevailing in 2002. 2003 became the best year to date, with revenues of SEK 344 M. OMEGA had then grown to employ 275 people. The firm expanded internationally with sales offices opening up in several European countries, as well as the US, South America, the Middle East and Southeast Asia. Several new customers were found. Also, an acquisition of a UK firm was made, and with it, the senior management team was strengthened with a new VP for marketing that came from the UK firm. He was rated by ENHANCER to be stratum V.

The VP for delivery and engineering, who had been appointed against the recommendation of ENHANCER, was suffering however. He had been briefed on ENHANCER's methodology and found it to be important and helpful. He also found himself in a situation of increasing pressure, and did not feel he was up to the task that he had been given. He did not participate actively in senior management decision-making, preferring to take a passive role. In the spring of 2003, after showing signs of stress for a long time, he came to SECOND CEO with the solutions to his problems. He had found his own replacement.

It had earlier been found by ENHANCER that the support structure for the delivery department was understaffed and had problems. OMEGA had bought a small firm that had defaulted, and the CEO of the firm had been kept on a consultant basis, to work with the problems in the delivery department. The pressured VP had seen him in action and decided he was the right man for heading the department.

The CEO of ENHANCER recommended OMEGA to hire the CEO of the defaulted firm, since he was rated as stratum V, which was considered to be overall suitable given the complexity of the role and the stratum levels of the other members of management. The old VP went back to his previous role, relieved of not having to take senior management responsibility.

4.8.6 Changes in 2004 and the future of OMEGA

Sales continued to increase in 2004, albeit at a somewhat slower pace than had been hoped. Another change in senior management also occurred. In the summer of 2004, SECOND CEO finally decided to remove the CFO. As ENHANCER had warned, he had been a continuous cause of conflict within senior management. He took a defensive position and it was felt among the others that he was dragging down the discussion. ENHANCER found three candidates, and recommended the youngest and most inexperienced of the three, since he had the highest Capability and highest Mode. He was rated at stratum V. Although he had the weakest resume, SECOND CEO convinced the board of directors that he should be hired. According to SECOND CEO, he had been a success in the role from day one.

As time passed, SECOND CEO felt more and more frustrated with the board of directors. He felt that he did not get enough coaching and support. In the beginning of the 1990s, when the firm had still been small and lacking in experience, it had performed an important mentoring role. However, as the firm grew, the board became more and more passive, more preoccupied with not making the wrong decisions than helping in strategic development. SECOND CEO felt that the board was too "democratic" and tactical, that the directors made decisions that made sure that they could blame the CEO if something went wrong, but take credit for what went right, rather than actually coaching on a strategic level. SECOND CEO had a dream scenario with a small board consisting of a few directors of sufficient Capability to be able to coach, one or more of them preferably holding a large personal stake in the firm, and having a history of displayed entrepreneurial talent and personally accumulated wealth.

The chairman of the board, on the other hand, had a very different picture of the board's composition and work. He also had experience from sitting on a number of other boards of companies of similar size. He praised the fact that there were members of the board that held personal stakes in the firm, and felt that the board was doing a good job guiding management. He pointed towards a general problem with entrepreneurially led companies, who he felt had management that was sometimes too emotionally involved with the firm to make rational judgments and cutting losses in time. However, he was pleased with the work of the present management, and the fact that the firm still was not profitable he felt was due to the fact that it had established a large and expensive support structure that it now had to grow into in order to cover costs.

At the end of 2004, OMEGA seemed to be heading for a better future, and had been saved from serious difficulty and risk of default by a management change that had been made before it was too late. It was forecasted that OMEGA would turn profitable in the first quarter of 2005. The share price, which had hit its low-point at SEK 5 in October 2002, was traded at SEK 29 in December 2004. However, there were signs of conflict opening up between the management and the board, and frustration on the part of the CEO.

4.8.7 Comments on ENHANCER by interviewees

4.8.7.1 SECOND CEO

SECOND CEO had been greatly influenced by the methodology that ENHANCER worked with and had nothing but good things to say about it. He claimed that senior management used terms borrowed from Requisite Organization in their everyday discussions, and that it helped a lot in decision-making. It had also been helpful to keep close contacts with ENHANCER and using its services whenever important personnel changes where considered. SECOND CEO also had a close relationship with the CEO of ENHANCER, and felt that he received good coaching from him.

One thing continued to be complicated, however. He understood and agreed on his role as arbiter in situations of conflict between members of senior management. Although the potentially disrupting conflict between FIRST CEO and the VP for sales had been defused, both these individuals had strong willpower and strong opinions, and he often found himself in a situation where he had to make decisions on what course of action to take. However, although he felt that he should take more of an authority position, usually he felt more comfortable trying to negotiate a decision with the other two. This was, he felt, not completely in line with Requisite Organization, but it was what he felt was right.

Also, SECOND CEO sometimes felt that there were rhetorical difficulties with the Capability framework. Although he believed it was accurate, the notion of talent for management was sometimes difficult to communicate. There was no problem in senior management, there nobody felt threatened. However, he felt that it was more complicated to be open about it when speaking with personnel farther down in the organization. He felt that there was a risk that some people confused a lower Capability level with stupidity, which would be very unfortunate.

4.8.7.2 The chairman of the board

The chairman of the board found ENHANCER's methods to be generally helpful, and was pleased with the firm's contributions in the case of OMEGA. He had not been involved in the continuous work that ENHANCER had performed together with SECOND CEO and senior management, but it had been clear that ENHANCER had been important, both in pinpointing the problems with THIRD CEO and acknowledging the qualities of SECOND CEO and convincing him to go back to his old role.

In general, although Capability was an important factor to take into consideration, the chairman felt that ENHANCER, and especially its CEO, sometimes overemphasized the importance of Capability in relation to other necessary qualities, such as knowledge and social skills. This caused ENHANCER to sometimes oversell its own methodology, making some potential customers wary.

4.8.7.3 The CEO of ENHANCER

OMEGA was one of ENHANCER's true success cases. Not only had ENHANCER been instrumental in saving the firm from potential default by getting THIRD CEO out on time and finding a proper replacement in SECOND CEO, it had also managed to establish a long-term partner relationship with the firm. The personal relationship with SECOND CEO had also been very rewarding, and had helped ENHANCER in further developing its own product offering.

Although the CEO had initially perceived OMEGA to be a stratum V firm, he had during the years of working with the firm come to have a different opinion. Given the complex product offering, and the level of decision-making that OMEGA had to approach in order to get long-term sales contracts with large corporations, he now believed that OMEGA could be grown to becoming a stratum VI corporation. Already, there were 6 stratum V individuals in senior management, which was in itself a great strength. Furthermore, although his performance had been good, SECOND CEO had shown signs of increasing frustration with the board, and also felt that it was difficult to take a clear management role towards the other members of senior management. The CEO of ENHANCER suspected that SECOND CEO was considering stepping down from the role as CEO. In this case, ENHANCER would try to help OMEGA recruit a stratum VI CEO to head the firm. Although he admitted that this could be difficult, given the overall low frequency of stratum VI individuals in the population, he did not expect it to be impossible.

The CEO of ENHANCER had some sympathy for SECOND CEO's growing frustration with the board. Although he had no formal ratings to back his claim, he suspected that the overall level of Capability was higher in senior management than it was on the board. When OMEGA had started out, the seniority and business experience held by board directors had been useful in facilitating growth. Also, since this was 15 years back, the level of Capability in the founding management team had been lower than it was now. Since the members of the board of directors on average where older and more experienced, most of them most probably did not have as high a Mode as the members of senior management. This meant that it would only be a question of time before senior management would start outgrowing the board. It might be the case that this process had started.

5 ANALYSIS AND DISCUSSION

> "From the fact that people are very different it follows that, if we treat them equally, the result must be inequality in their actual position, and that the only way to place them in an equal position would be to treat them differently."
> *Friedrich Hayek*

In the following section, each of the four research questions will be answered in turn. However, since the questions are interconnected, the answers will in important aspects touch upon each other. References to other parts of the analysis will be made when necessary.

5.1 Testing the theory

To explore the validity of Jaquesian theory, and examine whether or not there is reason to pursue the other research questions, the first research question needs to be answered:

1. *Does Jaquesian theory provide valuable insights on how to forward successful business practices in order to reach good business performance?*

After discussing some features that are common to all cases, the cases will be analyzed in turn. A general discussion on the validity of Jaquesian theory follows.

5.1.1 General features affecting all cases

All the cases in the present study share one important feature; they all involve start-ups or young companies. This in turn implies that they are trying to grow, and that they to varying degrees lack the stabilizing effect of clear and established procedures, a loyal customer base and a proven product. This lack of stability is a major reason, coupled with the need to find a successful business model, why most start-up fails.

Furthermore, the time-period examined is somewhat unique, since it covers the growth and subsequent burst of the dot-com bubble, which greatly affected all involved firms. In each case, the firm had to readjust from a situation of irrational exuberance on the part of investors and demand projections that went off the chart, to a situation when in was extremely difficult to access external capital, and when overall market outlooks had turned bleak.

However, for the purposes of this thesis, these features provide an important advantage for answering the research questions. Although there will be a demand on absolute Capability levels of the CEO and managers due to the overall business model, if a firm is to be successful in the long run, various sources of inertia might diminish the effects of lacking management in the short run. Established structures and a good market outlook decrease uncertainty, and make it easier to manage. If on the other hand structures and procedures are lacking, and if the firm has to adjust to radical changes in the competitive environment, the importance of management decision-making increases correspondingly. Thus, for the purpose of testing Jaquesian theory, the unusual circumstances present in the chosen cases makes a test for validity easier.

5.1.2 ALPHA

The outcome in the case of ALPHA is overall in line with theory. Given the ambitions of ALPHA when the financing round was made and during which it was decided that EXTERNAL CEO should step in, ENHANCER's conclusion that the CEO should be stratum V seems correct; the combined work of overseeing the developing a new product, setting up an international sales structure and organizing a support structure involves several processes, each of which with time-spans of over 2 years. Successfully coordinating these processes implies tasks of above 5 years. When instead a stratum IV CEO was recruited, Jaquesian theory predicts what also occurred; the CEO did not succeed in turning the firm around and making it profitable.

The situation for EXTERNAL CEO was further complicated by the ownership structure, and the insufficient Capability levels of founding owners. From a corporate governance viewpoint, it could be argued that the CEO was given a virtually impossible assignment when he had to work with active owners who did not hold the required Capability levels to overview the relevant time-span of firm strategy. However, it is in general not necessary for an individual to be able to conceive of a course of action himself, in order for him to agree to it if someone else proposes it. Had EXTERNAL CEO been right for his role, it is not impossible that he had been able to convince the founders of what needed to be done.

Since EXTERNAL CEO was not right for his role, and since this was becoming increasingly clear long before he was replaced, it is interesting to note that this did not cause the board to act sooner. Especially the IM of VENTURE CAP could be questioned for not earlier removing EXTERNAL CEO. Part of the reason can most probably be found in the ownership structure; venture capitalist funds seldom hold majority shares in investment objects, since this can cause incentive problems in relation to founding entrepreneurs. This also implies that a fund needs to negotiate with other owner interests, rather than being able to act on its own. If negotiation is necessary, it is more likely that a decision will be made only when it is obvious that it has to be made. In the case of ALPHA, it came too late. It is also interesting to note how the IM used ENHANCER in this regard; he had already anticipated the result of the rating, but could use the quantitative measurement that ENHANCER provided to give credence to his judgment when negotiating with other owners.

Although it is always difficult to make counterfactual arguments, the conclusions of the IM of VENTURE CAP that ALPHA probably could have been saved, had a proper management DD been performed already when EXTERNAL CEO was hired, do not seem unrealistic. Throughout the years following the burst of the bubble, ALPHA continued to have growing sales, albeit not at a sufficient speed to cover costs. If the IM is right, this provides further evidence for the importance of having the right Capability in senior management in order to maximize chances of business success. Furthermore, the IM did not have any obvious reason to defend Jaquesian theory when making his claim, the way that e.g. the CEO of ENHANCER would.

5.1.3 BETA

The outcome in the case of BETA is overall in line with Jaquesian theory. The overall result of BETA's strategy in the late 1990s, including targeting smaller units and the public sector, was short sales cycles with corresponding relatively short time-spans for the members of the sales staff.

This situation provided a steady stream of revenue, as long as the economy in general was performing well and providing good tax revenues with which to finance public sector procurement. However, the abrupt change caused by the burst of the dot-com bubble could potentially cause large problems with revenue if this scenario had not been anticipated by the CEO and senior management. This is what happened in the case of BETA.

Given the situation that BETA faced when the new CEO entered, it is not likely that the firm had survived with a CEO that did not correctly analyze BETA's predicament and could propose a viable alternative business model. If one assumes that the new CEO's analysis of the potential of the product was correct, which the subsequent performance improvement seems to indicate, ENHANCER's conclusion that the time-span of firm strategy required a stratum V CEO should be correct. Developing and adjusting solutions that can be integrated on a strategic level in a customer company implies coordinating several processes, each of which is over 2 years.

The case of BETA illustrates a phenomenon that is common for firms engaging in Business-to-Business (B2B) sales – that the length of the sales cycle is often underestimated. If a firm sells a product that needs to be integrated with a customer's existing procedures and systems, the sales staff needs to understand the customer's current structure to anticipate how the product can improve the customer's business. The sales staff thus needs to develop long-term partnerships with a customer. In Capability terms, this implies that the sales manager, or key account manager, ideally should be on the same Capability level or at least not more than one level lower than the partner in the customer company. The sales situation and subsequent conflict in BETA validates this theoretical prediction.

As in the case of ALPHA, productive active ownership and guidance from the board was mostly lacking in BETA's case, at least before the arrival of the two independent directors. This made ENHANCER's contribution important, since it provided a clear framework with which to understand the current situation. Although INDEP DIR questioned whether or not all board directors had grasped all the consequences of the provided explanatory framework, it was integral in making the board side with the CEO in the conflict with the sales staff. Assuming that ENHANCER's conclusions were valid, it is interesting to note the effect of providing clear and quantitatively measurable ratings of roles and individuals to guide decision-making.

5.1.4 GAMMA

The outcome in the case of GAMMA does not provide a clear-cut validation of Jaquesian theory. However, the case does not run counter to theory, and it also entails a few interesting aspects with regards to the effect of Capability levels on social interaction.

The period of study is too short to provide data on the final outcome for GAMMA. At the end of 2004, the future of the firm was still uncertain. Still, ENHANCER's conclusion that the CEO of GAMMA should be stratum V seems accurate. Although the perceived window of opportunity was seen as roughly 18 months both by senior management in GAMMA and by ENHANCER's consultants, ENHANCER was correct in arguing that this was not the time-span of the CEO. An industrial exit would require that the CEO of GAMMA could overview the business model of the acquiring company and assist in developing company strategy in the field of VoIP. Given the magnitude of possible changes in the telecom sector with the advent of VoIP, coupled with the industry history of past failed ventures, this task would put very high demands on the CEO, and warrant that he operated on a conceptual order of complexity, i.e. at least stratum V. Thus, although the outcome for GAMMA was still not decided at the end of 2004, the lack of success in finding a strategic partner at least provides some evidence in favor of theoretical predictions.

The main problems that ENHANCER encountered were not due to a failure of using Jaquesian theory, but the setup under which ENHANCER was hired. TECH MGR, who had requested the management DD to begin with, was satisfied with the results, and found them to be in line with his own predictions. The problem was rather one of implementation, with the setup causing the CEO and the IM to feel sidestepped, and with their integrity put into question.

The finding that the VP for Product Development was not operating on a sufficient level, but that the product still in ENHANCER's view proved to be adequate could be seen as evidence against the predictions of Jaquesian theory. However, although the author did not acquire enough information to back this claim, it is at least possible that the quality of the product had little to do with the Capability level of the current VP if it had mostly been developed by the defaulted company whose product GAMMA bought in 2001.

An interesting aspect of the case is the relationship between IM GAMMA from VC FUND and the CEO of GAMMA. Both were rated as stratum IV, which from a Capability viewpoint should increase the possibility that they could develop a cooperation that was seen by both as rewarding, based on an agreement of the relevant context for the company. From this viewpoint, it is also worth noting who IM GAMMA chose to be loyal to. He was hired to work on behalf of TECH MGR to maximize the value of PE FUND's investment. Despite of this, he chose to side with GAMMA's CEO, even when this implied that PE FUND was not able to convince GAMMA's founding owners of agreeing to a lower valuation of the company. It is possible that IM GAMMA's behavior was due to opportunism, if financing by another investor could entail potential payoffs to the IM himself. However, it is at least tentatively possible that the shared vision for GAMMA between the IM and the CEO was partly to blame, and that this caused IM GAMMA not to work in the best interest of PE FUND. If this was indeed the case, it illustrates an additional aspect of the possible effects of Capability level distribution in social interaction.

5.1.5 DELTA

The outcome in the case of DELTA is clearly in line with Jaquesian theory. There was no rating result available for the new CEO that took over in 2000, but the combined effect of CEO succession, the general business downturn and the failed attempt to develop a new web-enabled product brought down a previously successful firm and pushed it within days of default. That PE FUND chose to change the IM due to perceived mismanagement added to the difficulty.

However, once a new IM was chosen with a Capability level sufficient to be able to coach a stratum V CEO, things quickly changed. Given how close DELTA was to default, it is highly unlikely that the firm would have survived without NEW CEO. And NEW CEO would not have been given this position, had it not been for IM DELTA.

ENHANCER's rationale for why the CEO of DELTA needed to be stratum V is similar to the recommendation given in the case of BETA, and the conclusions seem accurate for similar reasons. Again, it was the case of coordinating several processes, each with a time-span of over 2 years. Also for DELTA, understanding the consequences of long sales cycles in order to create the right sales structure was key. In this regard, ENHANCER's recommendation having several stratum IV key account representatives can be seen as a way of using Jaquesian theory for making conclusions regarding organizational set-up that might not have been made without access to the theory or Capability measurements.

Given how poorly DELTA had been managed prior to when NEW CEO came in, it is doubtful if the firm could have been saved, had it not been for its loyal customer base and potentially strong product offering. Still, it was necessary that a CEO of sufficient caliber stepped in for this opportunity to become realized. This validates the conclusion on the importance of having the right CEO in place.

Furthermore, Jaquesian theory would predict that when a manager hires his own subordinates, he is most likely to attract individuals on one stratum level lower than himself. This is also what happened when NEW CEO took over DELTA; the subordinates he brought along were stratum IV, neither lower nor higher.

It is interesting to compare the good working relationship between IM DELTA and NEW CEO with that of IM GAMMA and the CEO of GAMMA. In both cases the IM and the CEO developed a good working relationship. But in GAMMA, at least during the observed time-period, this cooperation did not significantly affect performance.

The firm even lost a chance for acquiring much needed capital. In the case of DELTA, however, the cooperation fairly quickly led to significant results and improved performance. Although other factors might have affected this outcome, it is worth noting the difference in Capability levels in the two cases.

5.1.6 OMEGA

The outcome in OMEGA provides strong support for the validity of Jaquesian theory. The first instance when ENHANCER was hired, i.e. to evaluate the Capability level of the externally recruited THIRD CEO, gives evidence on the importance of Capability. It could be argued that FIRST and SECOND CEO had an advantage to THIRD CEO in understanding where the firm was heading, since they had a long history and were familiar with the product. However, THIRD CEO had a background in a Telco, which was the principal customer type for OMEGA's product. This should have provided him with sufficient Knowledge to handle being CEO of OMEGA. Rather than being a question of a lack of Values/Commitment, or Knowledge/Skills, it seems probable that THIRD CEO lacked sufficient Capability to properly anticipate where OMEGA was heading and taking necessary measures to change the direction of the firm.

Furthermore, the other ratings made by ENHANCER proved to have predictive power. In both the case of the CFO and the VP for delivery and engineering, SECOND CEO eventually followed ENHANCER's recommendations, albeit after a significant delay. It should be noted that the problems that SECOND CEO experienced with the individuals in question are in line with what Jaquesian theory would predict – stress and too much pressure in the case of the VP for delivery and engineering, and defensive and obstructive behavior in the case of the CFO. The VP case is also interesting, since it illustrates the fact that people do not necessarily aspire to always get "bigger" and better-paid positions, if they are given the opportunity.

An additional aspect of the OMEGA case that is in line with theoretical predictions concerns SECOND CEO's experience of managing his official subordinates in top management. Although he correctly understood that a CEO according to Requisite Organization should provide guidance and make decisions in the case when subordinates were experiencing conflict, he preferred to take a negotiating role in relation to the other in top management. In effect, he did not feel that he was their "real" manager, which is what Jaquesian theory would predict, given that he, as the rest, was operating at stratum V.

From this view-point, the goal of the CEO of ENHANCER of finding a stratum VI replacement, in the case that SECOND CEO would choose to leave his position, makes sense. Given that OMEGA already had 6 stratum V individuals in top management, any CEO that could provide real guidance would according to theory have to be stratum VI. In this regard, Capability measurements provides for a new way of conducting growth strategy. It is common to think that a firm grows in size together with a CEO or founding owner, or that a new CEO is brought in once the firm has reached a certain size. In the case of OMEGA, ENHANCER's CEO instead sought to increase the revenue and size of the firm by first finding management on a certain level, and then letting them figure out how to make the firm successful. The examined time-period is too short to evaluate whether or not this is a viable strategy, although it does follow from the predictions of Jaquesian theory.

Since ENHANCER had worked longer with OMEGA than any of the other firms examined in the study, it had been able to implement some additional aspects of Requisite Organization. The most important of these was probably the exercise where the business plan and the longest task of the CEO were formulated. It is interesting to note how useful SECOND CEO found it to be to measure the time-span of firm strategy execution, and to use this as the reference point when delegating tasks within the firm. At least in the eyes of SECOND CEO, using time-span measurement to define roles made it easier to manage and to structure in accordance with firm strategy.

5.1.7 Relative and absolute Capability levels

In all examined cases, the predictions following from Jaquesian theory of the importance of both organizing according to relative levels of managers and subordinates, and absolute levels with regards to the demands of strategy, bear out. Although having managers and subordinates that operate on the same level in some cases did not directly cause significant problems, having stratum gaps caused conflict, as in the case of BETA. Furthermore, the case of OMEGA gives evidence on the problems of having a manager who is operating on a lower stratum level than subordinates. The importance of absolute levels is shown by the overall correlation between business success and CEO stratum levels.

The possibility of both making relative and absolute inferences is a direct consequence of using a ratio scale when conducting measurements and drawing conclusions. If Capability levels prove to have a significant impact on human decision-making, measuring Capability on a ratio scale thus provides for vastly increased precision in testing hypotheses in relation to employing e.g. an ordinal scale.

5.1.8 Some final comments on validity and reliability

In the studied cases, the validity of Jaquesian theory is supported by the facts. There are no examples where outcomes are clearly opposite to what one would expect from theory, and at worst it is in some cases unclear what factors where important for a certain outcome to occur. As has already been alluded to in the methodology section, the principal problem instead regards external validity – have the cases themselves been chosen in such a way that the importance of Capability is overestimated? Although there are of course risks in all studies of this kind, the risks in this particular study do not seem to warrant any special concern.

Even though the cases in some ways are similar, and interviews involve a fairly limited number of individuals, with some individuals being involved in several cases, problems that on a surface-level seem similar have different causes according to theory, which also bears out when change is proposed and measures taken. E.g. in ALPHA, BETA and OMEGA, members of senior management voiced concerns regarding the CEO. However, in the case of ALPHA, both the protesting managers and the CEO were rated to have insufficient Capability. In the case of BETA, the CEO was rated has having the right level, and the protesters an insufficient level. And in the case of OMEGA, the CEO was rated as having an insufficient level, and the protestors as having the right level. In the case of BETA and OMEGA, ENHANCER's recommendations led to increased business performance, whereas in the case of ALPHA too much time had elapsed for it to be possible to replace the CEO. It is also interesting to note that the only firm among the ones studied that actually defaulted was the one where the Capability levels were most lacking, which is in line with what Jaquesian theory would predict.

If it is accepted that the validity of Jaquesian theory is supported by the present study, except perhaps for the case of external validity which will always be somewhat difficult in a case study setting, it still remains to be decided whether the Capability ratings in general were reliable. Also in this case, there are no instances when Capability ratings were obviously unreliable, except for in the one case of BETA. Since the author had access to ENHANCER's reports, it was not possible for the consultancy to change ratings in response to developments in the firm in questions. In general, the high inter-rater reliability for Capability measurements found in e.g. Jaques and Cason (1994) is supported in the present study.

5.2 How implementation should come about

In the remainder of the thesis, arguments will be made assuming that the validity of Jaquesian theory is supported by the case data and analysis. Although the author judges that there is enough empirical support to draw this conclusion, a more skeptical reader will of course have to take this into account when evaluating the conclusions that follow. If the validity is assumed to be supported, the second research question requires answering:

2. *If Jaquesian theory proves valid, how should its recommendations be implemented?*

5.2.1 The importance of the CEO

In all the preceding cases, an important prediction of Jaquesian theory bears out – the CEO is the key individual in any firm or corporation. There are several reasons why this is the case:

1. *The CEO is responsible for solving the longest task in the firm.*
   The execution of firm strategy is the principal responsibility of the CEO. It is also the most important task in the firm, since it sets the direction in reference to which all other decisions in the firm have to be made. If the CEO due to lack of Capability or for other reasons is unable to formulate a clear strategy for the firm in question, all other coordination in the firm will suffer, and the potential productivity gains to organization will diminish.
2. *The CEO is the nexus between the Association of the owners and the employees of the MAH.*
   Due to the institutional set-up of an MAH, all communication between the owners and the firm will pass via the board of directors and through the CEO. Likewise, it will in general be difficult for subordinates to the CEO to communicate directly with the board or owners without the CEO being involved.
3. *In case of conflicts between subordinates, the CEO has the final decision-making responsibility.*
   All decisions in a competitive environment have to be made in real-time, and there is seldom enough time to gather all relevant information concerning an issue. Furthermore, the uncertainty of doing business will continuously lead to disagreements and potential conflicts springing up on different levels in the firm. These disagreements need to be

dealt with continuously, otherwise the work of the organization will suffer.

4. *The CEO will over time tend to attract and retain subordinates who operate at one stratum level lower than the CEO.*
   Although it is possible to find evidence to the contrary, the theoretical prediction from Jaquesian theory that the most beneficial management-subordinate relationship is found when there is one stratum level difference between the two tends to bear out in practice. This in turn implies that the stratum level of the CEO over time will affect the stratum level on all other levels in the firm.
5. *Any firm-wide change in structure and processes needs the support of the CEO to become realized.*
   If someone attempts to change key processes, or restructure the firm in major ways, it will in effect be impossible to make this happen without at least the tacit acceptance of the CEO. This is because processes and structures need to be aligned with firm strategy, which is the responsibility of the CEO. Also, the CEO is accountable for the behavior of subordinates. Furthermore, if any kind of conflict emerges within the organization regarding the new structure or process, it will work itself up to the level of the CEO.

It is possible to give additional reasons for the importance of the CEO, but these are sufficient for realizing that any implementation of aspects of Requisite Organization critically hinges on having at least the tacit support of the CEO. If this support cannot be secured, the CEO most probably needs to be replaced if any significant implementation is to be realized.

5.2.2 Who to work with

In general, since Requisite Organization not only involves implementing new structures, but also affects staffing decisions, implementation would seem to require at least the tacit support of an individual with a key position in the firm or corporation in question. For above-stated reasons, the CEO is one such individual. It could also be e.g. the chairperson on the board of directors, or in the final case an influential owner, who in case of conflict had the mandate to replace the CEO. This means that implementation is directly tied to corporate governance issues. This question will be discussed at greater length below.

In most cases, except for perhaps in the case of owners and to some extent board directors, it should tend to prove difficult to implement change in accordance with Requisite Organization while working together with an individual operating on a Capability level that is obviously too low. The reason is fairly simple – sooner or later, that individual will realize that further implementation will imply that the individual himself needs to be replaced. Also, even if this is not an immediate threat, the focus on people rather than structure might in itself be a cause for concern if the individual in question suspects that he has been over-promoted.

For above-stated reasons, the best person to work with when implementing Requisite Organization should be a CEO of sufficient Capability, or someone else in the firm working with the support of the CEO, such as e.g. the HR manager. Without the explicit support of the CEO, it should be possible to do implementation and conduct Capability ratings on at least lower levels in a larger corporation, by working together with e.g. the HR manager or a business unit manager. However, such work would always face the risk of being neutralized by decisions made higher up in the organization.

5.2.3 Rhetorical difficulties

In the examined cases, ENHANCER repeatedly faced criticism, but except for in the case of GAMMA, this criticism did not concern the analysis or the results. Also, as has already been stated, the problem with GAMMA could be traced to the setup when ENHANCER was hired. Given the importance of the CEO, as argued above, it should come as no surprise that when TECH MGR requested the DD it was seen as trying to infringe on the integrity of the CEO and the IM, respectively.

Rather than being a problem for theory, the criticism pointed to a difficulty for ENHANCER in how to package and present its methods and results. This problem was not limited to the examined cases; it had been a recurring problem from the start in 1998.

One possible reason for this difficulty is that measuring inherent levels of Capability for purposes of predicting behavioral outcomes in some instances could prove threatening. The obvious first question for anyone being briefed on the concept of Capability is probably "what level do I operate on?" If the individual does not like his own intuitive answer to this question, it might be enough to make him want to listen no further.

Another explanation might be that the reason why time-span and Capability should be important is not obvious to the person in question. In the present study, the answers provided by the CEO of GAMMA are one illustration of this possibility. It is also important to note that the failure to understand the applicability of time-span and Capability does not mean that the individual in question lacks in terms of Capability. Although the concept of Requisite Organization might be difficult to understand, this in the author's view probably more likely has to do with the individual holding preconceived notions on the nature of the world that run counter to the assumptions underlying Jaquesian theory, than with an insufficient Capability level for any given role.

In the case of ENHANCER, probably the most common criticism however stems from potential customers perceiving ENHANCER's sales communication to be too one-sided and deterministic. Although the existence of genuine uncertainty in all aspects of life is the underlying rationale for why Capability is a meaningful concept in the first place, this might be difficult to communicate convincingly.

When it comes to the general conclusions of Jaquesian theory, i.e. that a differentiated distribution of an inherent trait leads to certain social outcomes, one of which being a natural tendency for hierarchies to develop, this runs counter to the aspirations of some in society, and is arguably not in line with the ideology of political correctness. Except for the arguments already presented in the methodology section, a more thorough discussion of the political and social problems with an ideology that states that everybody can do everything, given proper conditioning and motivation, will take us beyond the scope of this thesis.[18] However, some comments concerning implementation on a firm level are still warranted.

In general, people will tend to know their own Capability levels fairly well. This is also one of the reasons why the triangulation technique for rating works so well. Given that an individual is satisfied with his work in a given role, Capability measurements in general should therefore not pose a problem in itself, irrespective of what level one is conducting the rating.

When it comes to communicating the importance of Capability across organizational layers, however, it might be slightly more difficult. At least this is the conclusion of SECOND CEO in OMEGA, who feared that communicating the importance of Capability to individuals operating on lower levels in the company might be cause them to confuse lower levels with stupidity.

18 An excellent and thorough account of the problems with the ideology of political correctness, and its underlying assumption that humans are tabula rasa can be found in "The Blank Slate" by Steven Pinker (2002). Although Pinker is not familiar with Jaquesian theory, his conclusions are definitely applicable.

On the one hand, this might simply be seen as arrogance on the part of senior managers. Hopefully, subordinates think that managers differ in some important way from themselves, making them more suited for performing management duties. Just because the work in a certain role does not involve long time-spans, does not mean that it is not important. On the other hand, SECOND CEO's worry points to a general problem with the way people tend to be evaluated – often, people are compared with each other, and not with the tasks that they have chosen to do or been assigned to. However, the concept of stupidity is logically impossible to understand when comparing individuals with each other. According to Jaquesian theory, what is commonly understood as stupid behavior could simply be seen as behavior where the time-horizon of the individual is not sufficient for the time-span of the task that the individual is trying to solve. Thus, it is as possible for a stratum VIII individual to be stupid as it is for a child operating on the second order of complexity. However, given that this distinction is generally poorly understood, it should be wise to make it explicit when rating individuals that they are rated in relation to a task in a role, and not to each other.

5.2.4 Structure and staffing

This conclusion on making comparisons, not between individuals but between individuals and roles, provides one important suggestion for how implementation could be made easier.

Requisite Organization provides a total system for setting the strategy of a firm and aligning structure and staffing as well as systems and processes to the strategy. The principal tools are time-span measurements and Capability ratings, coupled with a clear understanding for how trust-inducing structures are designed and accountability distributed. However, presenting it as a total system to a firm that already has one or several systems might be enough to make the process of implementing Requisite Organization seem too daunting to even try.

If instead a key decision-maker is identified and targeted, and implementation then is initiated by analyzing the current structure in terms of time-span, coupled with Capability ratings in relation to the measured roles, a strategic talent pool is created, coupled with a depiction of the present state of the organization. This situation analysis can then be used to propose structural changes at a speed that the firm can manage. Every time a new role is created, it will be possible, given the talent pool data, to decide whether or not it can be filled by an individual within the organization, or if external recruitment is necessary. Thus, by focusing on structure and only then on how the structure should be matched with individuals, the threatening aspects of reorganization could potentially be partially defused. The focus on structure is also more in line with how most people presently think of organizational change, and might therefore be easier to communicate. Also, it should become easier to make individuals compare themselves with roles, rather than with other individuals.

Finally, the concept of a Requisite accountability distribution is most probably more difficult to implement, and should therefore probably not be attempted early on in the process. Furthermore, it is not particularly meaningful if organizational layers do not correspond to stratum levels, and if roles are not matched with individuals with the right Capability.

5.3 Corporate governance

As has already been noted in the section on implementation, the relationship between a firm and its owners, through the work of the board of directors, has important implications for how the firm can be managed an developed. If the goal is to introduce Requisite Organization practices in the firm in question, the theory could also be used to better understand how well-functioning governance procedures should be designed. For the purposes of this study, this implies answering the third research question:

3. *How can Jaquesian theory be developed to provide insights on proper corporate governance relationships between business owners and managers, including the role of the board of directors?*

5.3.1 The board and the CEO

The recommendations of Jaquesian theory concerning the proper relationship between the board and the CEO have already been discussed in the theory section. The board is the governing body of the Association of owners, and is in charge of deciding on firm structure and evaluating the work of the CEO, not as a managerial arrangement but as a governance arrangement. This implies that the board should take an active role in appointing, guiding, coaching and directing the work of the CEO.

Finding the right CEO is notoriously difficult and significant time and resources are spent by boards and selection committees on evaluating candidates according to various dimensions. Although decisions of this magnitude demand that the selection process be formalized, in practice the process is often characterized by intuitive judgments, coupled with various kinds of rationalizations. Using the concepts of Values/Commitment, Knowledge/Skills and Capability implies the opportunity to move away from decisions made intuitively, and towards an explicit evaluation process that captures the significant aspects of a potential candidate.

Although by no means exhaustive, the following table lists certain traits that are commonly viewed as important for a CEO, and how they match with the Jaquesian model of the individual:

Table 2: CEO traits and their relation to the Jaquesian model of the individual

Preferred trait	**According to the Jaquesian model of the individual**
Assertiveness	Values/Commitment
Attracting talent	Capability and Requisite Structure
Communication skills	Knowledge/Skills and Requisite Structure
Consistency	Capability
Customer-oriented	Values/Commitment
Decisiveness/results-oriented	Values/Commitment
Drive	Values/Commitment and Requisite Structure
Enabler	Requisite Structure
Energy level	Values/Commitment and Requisite Structure
Follow-up	Requisite Structure
Following policy	Values/Commitment and Requisite Structure
Future vision	Capability
Independence	Requisite Structure
Industry know-how	Knowledge/Skills
Integrity	Values/Commitment and Capability
Judgment	Capability
Listening	Requisite Structure
Motivating others	Values/Commitment and Requisite Structure
Objectivity	Values/Commitment and Capability
Optimism	Values/Commitment
Pragmatic	Values/Commitment
Self-confidence	Values/Commitment and Requisite Structure
Sense of direction	Capability
Sense of urgency	Values/Commitment and Capability
Strategic	Capability
Team leader	Requisite Structure

CEO appointment is necessarily an important aspect of the work of the board of directors. However, board behavior that only extends to appointing a CEO is insufficient – evaluation of CEO performance demands an ongoing dialogue between board and CEO, to ensure that execution follows strategy. It is also necessary that the board has the proper strategic outlook to successfully handle succession. In all these instances, Capability levels of board directors and the CEO can have an effect on outcome.

5.3.2 Capability levels in governance relations

Assuming that the CEO of a firm has the right Capability level to handle his role, board directors should ideally be at least on the same Capability level, or perhaps even a higher level. The reason is that execution of firm strategy will be the longest task of the CEO, and thus the longest task in the firm. If the CEO is to be evaluated according to this task, it demands that the board directors have access to the same time-horizon as the CEO.

If board directors lack in this respect, several unfavorable outcomes are possible:

1. *The board becomes passive.*
   If board directors are operating on a lower Capability level than the CEO, the relationship between the CEO and the board might come to resemble a manager-subordinate relationship. The CEO has a longer time-horizon, and might be able to push through firm strategy without any real challenging input from the board. From a CEO view-point, this might seem advantageous, since the board is not limiting the discretion of the CEO. On the other hand, if the board has not been involved in developing firm strategy, responsibility for performance is solely in the hands of the CEO, which might be problematic in case a difficult situation unexpectedly appears. The risk of this situation coming about is probably greatest in the case where the CEO is also chairperson of the board.
2. *The board becomes overly risk-averse.*[19]
   If the board cannot overview the time-span of firm strategy,

19 The concept of risk is a common starting-point in entrepreneurship theory, especially in the neoclassical framework. Entrepreneurs are assumed to be more risk-prone, which is why they attempt uncertain ventures where pay-off is potentially large, but the risk of failure is also large. Although there might be some truth to this theory, Jaquesian theory would make another prediction. If individuals have different Capability levels, the notion of an objective risk level facing all agents in a neoclassical framework becomes meaningless. Instead, higher Capability levels allow for attempting to solve more complex tasks with longer time-spans. Thus, two individuals can be as risk-prone on a subjective level in reference to attempting to work at their maximum time-span in solving a task, such as starting a venture. However, to an outside observer one of them seems to be taking a higher risk, since he is working on a task with a much longer time-span. From this view-point, the only way to test willingness for risk is to compare individuals to tasks, and not simply comparing individuals to individuals.

it might have difficulty accepting development initiatives and investments where expected pay-back lies far into the future. This might make it difficult for the CEO to actually execute strategy, if necessary decisions with long-term consequences cannot be made. Although there are no rating results to support this conclusion, the case of OMEGA in the present study might be an illustration of this scenario. The board becomes preoccupied with covering its own back, rather than taking joint responsibility for moving the firm forward.

3. *The CEO is given the wrong strategic focus.*
   If the board does not see the full realizable potential of the firm, it might not decide on an optimal strategy. What constitutes this strategy will of course be difficult to ascertain, but the case of BETA in the present study is an example of how this situation might come about. It is directly tied to the argument above on risk-aversion.
4. *The CEO becomes alienated.*
   If the CEO does not get proper support, either from a passive board of from a risk-averse board, over time he might come to the conclusion that it is not possible to perform the task of CEO in the firm in question, and he might choose to leave.
5. *Succession will be more difficult.*
   If the board has alienated the CEO, it might be difficult for it to find a new CEO of the level necessary to successfully run the firm. First of all, it will not know what to look for, since the board itself cannot take responsibility for evaluating performance in accordance with strategy. Second of all, if a CEO has decided to quit, it is not improbable that conflict preceded the exit. If this is the case, the board might look for a new CEO that would not be as conflict-prone, making it more likely that it recruited a CEO on the same Capability level as board directors. This, in turn, could have potentially very damaging consequences for the firm, especially in the longer run, due to the importance of the CEO argued for above, and the effect of having a CEO that does not operate on a sufficient Capability level.

On the other hand, if the board is operating on a sufficient Capability level, chances of a positive and rewarding dialogue for both CEO and board should increase, and active governance on the part of the board will more likely not be seen as obstructive, but as a positive challenge.

Furthermore, CEO succession will most probably benefit. If a CEO is appointed that is not operating on a sufficient Capability level, it will be easier for the board to discover this on time. In several of the cases in the present study, the board failed to act, or acted too late, pushing the firm in question close to, or in the case of ALPHA, into default. Had the board been engaging in a continuous active dialogue with the CEO, these problems might have been dealt with earlier. Of course, CEO succession will always be a decision of the first order, and one that the board is wont to take unless it really has to. This will tend to explain why it will wait to act until no other option is available. Still, had the boards in the present cases been more active earlier on, many of the problems that appeared might have been dealt with more effectively. In the present cases, it is also interesting to note how well the Capability ratings worked in order to facilitate important decisions. If the Capability levels of board directors would also be made explicit, this might increase the possibility of evaluating the performance of the board. This in turn brings us to the relationship between the firm and owners.

5.3.3 Ownership and Capability

As long as no involved party has broken contracts or the law, the final responsibility for firm performance lies in the hands of owners.[20] In privately held firms, active ownership is not uncommon. In publicly held firms and corporations, often owners only engage in the running of the enterprise at the Shareholders' Meeting.

The discussion above on the importance of having the right Capability levels among board directors also holds for active owners. If active ownership is to be successful, the owners need to be able to overview the relevant time-span of the firm in question, otherwise their direction will fail to take account of the relevant time-span of strategy. If this is not the case, they would do better by selecting the right board directors, and then take a more passive role. In the present study, the case of ALPHA is an illustration of misdirected active ownership. The problem with finding the right directors might of course be

[20] As has already been mentioned, the fact that limited liability makes a joint stock company accountable for results, the way it is understood in the Requisite Organization sense, does not change this conclusion. An individual invests in partial ownership of a firm, and if the firm defaults without this being the result of unlawful action by any of the involved parties, the owner has nobody else to blame for his loss than himself. Although there have been attempts in the US at suing managers and board directors for mismanagement, this author would argue that the rationale behind these lawsuits is problematic at best. The competitive environment is, as has already repeatedly been stated, uncertain. Suing individuals who fail in this environment is hardly conducive to entrepreneurial behavior and willingness to run firms and corporations. The most likely effect, should these kinds of lawsuits become widespread, is probably that firms and corporations over time to a lesser extent, are publicly held.

similar to the problem for a board where directors have insufficient Capability levels of finding the right CEO.

Similarly, in a publicly held firm or corporation, it would be in the interest of all owners to choose a board at the Shareholders Meeting where directors have sufficient Capability levels, given that these could be made explicit.

However, from a principal-agent view-point, this kind of passive ownership, compensated by electing a strong board, should form at least some incentive problems between the owners on the one hand and the board and management on the other hand. Although it is probably not realistic to assume that directors and managers as a rule would engage in opportunistic behavior with regards to owners, there is certainly a risk that this could occur. Also, the risk should tentatively be somewhat increased if directors and the CEO operated on the same Capability level and if directors where chosen based on Capability rather than on personal ownership stake. From this view-point, firms and corporations with at least one large active owner with sufficient Capability to overview the time-span of firm strategy should therefore have the potential to provide higher returns to investors, all else being equal.

5.3.4 Incentive structures

Furthermore, using firm share price to create compensation schemes with the purpose of aligning incentives of management and directors to owners would probably not be a viable solution.

Actually providing managers and directors with an ownership stake in the firm might be a partial solution, especially if this was done under a contract where they would not be able to sell the shares until after a significant amount of time had passed. However, since such a scheme might not be seen as very attractive, it could be difficult to implement.

Compensation schemes tied to more short-term fluctuation of firm share price, on the other hand, would most probably be counterproductive to long-term business performance. Given the insider advantage of directors and managers, it would always be possible for them to manipulate e.g. firm assets or accounting data to increase the value of the firm when it was time to cash in on e.g. an option program. To the extent that this behavior distracted them from making the right decisions given long-term firm strategy, these compensation schemes should lower the future value of the company.

In general, letting short-term share price fluctuations be channeled back into firm decision-making should be detrimental to good management and long-term performance. Share-price valuation models conducted by e.g. fund analysts or investment bankers rarely employ the relevant time-span when studying a firm, especially if it is a larger corporation, where the time-span might be several decades. Furthermore, given that the distribution of Capability levels found by Jaques is correct, very few individuals will have the necessary Capability level to overview the relevant time-span of these corporations.[21] This implies that many of the individuals who buy and sell shares on the stock market do not employ the right time-horizon when evaluating firm performance or investment decisions. In addition, those who do will not only have to take into account what they consider is the proper valuation of a firm, but also the behavior of others acting on the stock-market. The result according to theoretical prediction is that there should be an element of gambling on the stock-market, with short-term fluctuations being a consequence of not only investment fundamentals, but investor psychology.[22]

This conclusion does not imply that the share price is irrelevant to firm performance or as a tool for evaluating management. In the long-run, share prices should tend to divert to a more "accurate" mean. Also, share price will be important in the case of e.g. leveraged buy-outs or hostile takeovers. But a decision on a take-over or buy-out will always be of the first order, and will therefore have to take not only investor psychology but also fundamentals into account, at least to a point.

When it comes to the growing size and importance of investment funds in the current stock-market, such as e.g. pension funds, their investment returns could according to this line of reasoning be improved by taking account of Capability in relation to investment objects, and also when making hiring decisions on investment managers. In the present study, the importance of having investment managers who operate on the right Capability level has been demonstrated. Although the present study could be used to make further recommendations on how to organize investment and private equity funds, it is not one of the research questions. Therefore, other than

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21 If they do, they are more likely to be engaged in running them than in studying them.

22 The over-reliance on share price as being somehow "accurate" by some theorists is probably a consequence of the neoclassical framework. However, from a starting-point of genuine uncertainty, the share price at any point in time is simply an aggregate of the future predictions of the individuals engaging in market behavior. It does not constitute the "true" value of the firm in question in an epistemological sense. Again, this does not in itself constitute a critique of markets – in many situations they are vastly superior to individual decision-making in aggregating information to facilitate social interaction. In a world of genuine uncertainty, no perfect solutions or Pareto-optimal equilibria with which to compare the present state of the world will exist. In the author's view, such attempts at aggregating utility rest on a mistaken understanding of reality.

the potentially useful conclusions that have already been drawn, this theme will not be developed further in this thesis.

5.4 Comments on methodology

The research design employed in this thesis has according to the author provided reliable results that support the validity of Jaquesian theory. However, even though the study was a success in this regard, there is still room for improvements of both research design and conduct. Also, performing this study provided inspiration for other possible research designs within the framework of Jaquesian theory. The following comments are an attempt to answer the fourth research question concerning methodology development:

4. *How should Jaquesian theory be used when performing research, and could the research methodology be developed to create better research results?*

5.4.1 The case study and the art of diagnosis

It proved useful to use the art of diagnosis as inspiration when designing the study and analyzing data. A diagnostic tool is useful if it allows for measurement and hypothesis testing and has a clear relationship with the variable one tries to affect. In medicine, this variable is patient health.

However, in organization theory, it is not as obvious what the preferred end-state is. An organization is not an organism, it does not have a life of its own and it does not express wants, needs or desires. Jaquesian theory has the advantage of starting out by examining what the preferred end-state is – in the case of business organization, it is the execution of firm strategy as decided by the owners through their representatives on the board of directors. Thinking in terms of diagnosis thus also makes it easier to appreciate why business organization has to be tied to corporate governance.

Given that it is appreciated that any application of Jaquesian theory has to start with deciding the purpose of the organization, the concept of Capability works well as a diagnostic tool. To restate the demands of methodological individualism as described in the methodology section, it is clearly defined and allows for both comparability and differentiation.

In addition to providing a useful diagnostic tool, the concept of Capability gives important input on how a cure to identified problems should come about through the normative account of Requisite

Organization. Again, the framework is in itself purpose-neutral; Requisite Organization cannot be employed until it has been decided together with representatives of the organization what the purpose of the organization is.

Although a diagnostic tool helps a physician in conducting analysis, it rarely gives clear answers on what treatment to put in. Therefore, the physician needs skills, experience and good judgment in order to provide successful treatment. This also holds for case study research within social science. Case study research will, irrespective of methods uses, always be an art, and a difficult one at that. Good methodology can therefore never replace the Values/Commitment, Knowledge/Skills and Capability that the researcher needs in order to display good judgment. It will be up to the reader to decide whether the present author has made a valuable research contribution in the current study.

Another important conclusion concerning researcher Capability levels ties to the discussion of Hayek (1952) in the methodology section on the impossibility of understanding the behavior of an individual with more developed cognitive faculties by observation alone. If a researcher is studying the behavior of an individual with a higher Capability level purely from the outside, it should according to theory be difficult for that researcher to make correct inferences. In fact, the researcher would have to engage the individual in question in order to gain access to the rationale of that individual's behavior, given that he would be interested in sharing it in the first place. This conclusion points to the need for caution when making inferences based on research where the behavior of individuals with presumably high Capability levels has been studied "objectively".

To conclude, the case study methodology is a viable way of employing Jaquesian theory when conducting social science research, given that it is used by a researcher with the right qualifications. It does not relieve the researcher of the need for sound judgment, but it provides an additional tool that helps in doing analysis.

5.4.2 Possible improvements

The case study approach employed in this thesis could be improved to provide even better research results in a number of ways:

1. *Working as a research team*
   Since Capability allows for high inter-rater reliability, data gathering and analysis could most probably be improved if

more than one researcher worked with the cases. However, this also demands that the Capability level of researchers is taken into account – fruitful teamwork is probably not likely if there are large discrepancies in Capability levels between researchers. If this is the case, it is probably better to work with a research leader and one or several assistants.

2. *Conducting independent ratings*
   Reliability of data could be enhanced if the researcher would perform ratings of involved individuals.
3. *Using a control group*
   It would be even easier to evaluate results if a control group was used where Capability ratings where made, but where no action was taken. However, if this would be the case, it needs to be taken into account that it might be difficult to evaluate performance in the control group, if the purpose of the organization is not established at the onset of analysis. Simply comparing two organizations will not do, since performance can only be compared to attempted strategy.
4. *Analyzing over a longer period of time*
   If ratings could be made at one point, and then the researcher could follow the firm in question, the risks of conducting historical analysis that this study has done could be dealt with.
5. *Testing multiple parameters*
   If other parameters that were though to affect business performance could be operationalized, the case study could test which had the highest predictive power. However, this hinges on finding a way of formulating these variables in a way that allows for measurement, comparability and differentiation, which has hitherto proved to be notoriously difficult in organizational studies.

5.4.3 Other research designs

Although the author perceived the case study approach to be useful for validating and developing Jaquesian theory, other possible research designs could also be used:

1. *Follow individuals*
   The researcher could choose a sample of individuals, rate them and follow them for a longer period of time. This would provide further validation of Capability progression, as well as give important insights to psychology. It would be especially interesting to conduct the study with two samples, one where the individuals in question where rated and

the result was communicated, and when where it was not. Presumably, knowing that one has a certain Capability level will have effects on subsequent behavior, but exactly what those effects are could be interesting to examine.

2. *Statistical inferences*
   Working with a larger sample, it would be possible to perform ratings of e.g. firm CEOs, and correlate rating results with business performance. However, it would have to be acknowledged that the error margin would be large. The Capability level would have to be matched to the time-span of firm strategy, and the study would have to control for e.g. board behavior, overall market conditions etc. Still, with a large enough sample and a long enough time period of study, results could prove interesting.
3. *Survey research*
   The effects of Requisite Organization practices could be examined in e.g. work enjoyment surveys, where results could be correlated to e.g. role-individual and manager-subordinate matching. One such study conducted in Sweden together with ENHANCER (Krüger, 2001) showed significant improvements when a Requisite Organization structure was implemented.
4. *Modeling*
   It has repeatedly been argued that Jaquesian theory hinges on acknowledging genuine uncertainty, and that this puts a limit to inference through the use of mathematics. However, given that this is properly understood, computer modeling where the population is differentiated could potentially provide additional inspiration when making inferences. The author is no expert at mathematics or computer programming, but conceivably there should be ways where aspects of Jaquesian theory could be partly modeled. However, it must be emphasized that this modeling can never provide a substitute to the judgment of the researcher. A computer cannot make inferences, it can only assist in making them.
5. *Other disciplines in social science*
   Although outside of the field of study of the author, research along Jaquesian lines already conducted in various disciplines show the potential for further study within a broader framework. Possible other disciplines include political science and history. In addition, Jaquesian theory could provide important insights when developing e.g. political theory. Given that Jaquesian theory is valid, Capability is

> integral to all human behavior, which also implies that knowledge of it should assist in better understanding of the human condition in general. Although this is definitely outside of the author's field of expertise, Jaques' account does not only encompass human behavior, but all living behavior, which in turn implies possible additional venues for research. However, determining the theory's possible applicability in other disciplines is not the purpose of this thesis.

One final comment when it comes to research design deserves mentioning, and that is to heed Jaques' advice of taking language seriously. Good research hinges on clear definitions that allow for hypothesis testing. Much of the confusion and conflict in social science comes from intended or unintended ambiguity of used concepts. It has already been argued that this is a necessary and unfortunate consequence of methodological collectivism. This, in the author's view, implies that employing methodological collectivism when conducting social science research is problematic, at best.

6 CONCLUDING REMARKS

> ”Human civilization is not something achieved against nature; it is rather the outcome of the working of the innate qualities of man.”
> *Ludwig von Mises*

It is often said that nothing is as practical as a good theory, and this is how one feels when writing the last words of a study of this kind. New thoughts and ideas spring up on how Jaquesian theory could be employed to make better sense of the world; the importance of Capability when understanding the success of capitalism, how the relationships between employers and employees could be improved, how to more effectively combat discrimination, how attempts at industrialization in poor countries could be advanced etc. However, instead of getting carried away, a final comment on the two dimensions of time with a clear business focus seems appropriate as a concluding remark.

Today, businesses are evaluated on the Time-Axis of Occurrence. Both internal reporting systems and external valuations look at historical performance. Future estimates are based on whether or not the firm or the reporting unit in question will continue to perform like it historically has. Taking historical performance into account provides a reference-point for decision-making, and therefore aids in predicting and planning future direction.

If firms, in addition to working with the Time-Axis of Occurrence, would employ reporting systems based on the Time-Axis of Intention, the potential for significant improvements in business performance open up. The importance of strategy could become more explicit, and delegation could be improved. Structures could also be evaluated on whether they were aligned to strategy. Furthermore, matching of staffing to structure could be enhanced. Taking the Time-Axis of Intention into account would not save managers and subordinates from continuously having to make difficult decisions based on uncertain information, but it would make it significantly easier to control if they were working under optimum conditions for making those decisions.

It serves to be stated again – nothing is as practical as a good theory.

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”Neither of the terms ’meaning’ or ’intention’
can be satisfactorily defined in static terms.

They are both active concepts,
concerned with organisms
engaged in the ongoing work of life.

A static orientation
suffocates any understanding of life.”

Elliott Jaques

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>
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