

MBA Thesis

**HOW TO IMPROVE GROUP DECISION-MAKING
AT MULTINATIONAL CORPORATIONS BY
ENHANCING STRESS MANAGEMENT**

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ABSTRACT

The purpose of this research is to investigate techniques which multinational corporations can apply to moderate the level of stress in the group decision-making process.

Seven stressors¹ and their effect on the group decision-making are investigated in detail, namely *information available*, *novelty of situation*, *severity of consequences*, *time constraints*, *loss of control*, *ambiguity*, and *personality traits*. Both primary and secondary data are incorporated and compared to ensure reliable results.

In the course, twenty employees of different multinational corporations were asked to fill out a questionnaire designed to uncover discrepancies between scientific literature and business practices with regard to stress moderation in the group decision-making process. These differences are then used to make recommendations on how to improve the group decision-making at multinational corporations.

Summarizing the findings of the study, multinationals seem to mitigate most of the stressors investigated. Factors, such as time constraints and novelty of situation, are moderated by applying methods recommended in scientific literature. Yet, there are indications that crucial dimensions, as personality traits or severity of consequences, are neglected, hence exposing group members to an increased risk of experiencing stress during the decision-making. Better moderating these stressors however, will eventually result in economic benefits as well as increased employee satisfaction.

Keywords: Groups decision-making, multinational corporations, stress moderation

¹ Stressors are factors that cause an individual to experience stress.

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CHAPTER 1. INTRODUCTION

1.1. PROBLEM INDICATION

Between 2008 and 2010, 35 employees of France Télécom committed suicide blaming stress caused by a restructuring process of the company as the driving force (Financial Times, 2010). The incidents not only increased internal tensions, but also resulted in a public relation disaster for the company which eventually forced the CEO Didier Lombard to step down in March 2010.

Apart from damage to a company's image, enterprises are increasingly held accountable for stress related illnesses at work. Particularly in Europe, companies are required to measure stress and improve stressful working conditions to prevent any physical or mental damage to its employees (Martínez Selva, 2004).

Stress research emerged during World War II and was initially directed at jet pilots. In consequence, investigation of factors which increase stress during the group decision-making in enterprises is a relatively young discipline. Nevertheless, numerous examples similar to the one cited above from France Télécom illustrate the need for a better understanding of work related stress and its sources.

Stress is known to have adverse consequences for a company, such as „decreased productivity, turnover, health care costs, disability payments, sick leave, and absenteeism“ (Slate & Vogel, 1997, p.398). Yet, stress itself can be subdivided into various stressors which in turn impact on each individual in a different way.

Given the complexities of group decision-making, there is no perfect method or technique a company can apply to mitigate stress faced by its team members. Rather, a corporation should be able to draw from a repertoire of tools the one which best matches the group and the context.

Consequently, offering a coherent list of different techniques appropriate for stress management might improve decision-making in profit-orientated organizations and eventually increase economic profits as well as employee satisfaction.

1.2. PROBLEM STATEMENT AND RESEARCH QUESTIONS

The purpose of this particular study is to discover techniques to advance group decision-making at multinational corporations by reassessing modern stress management. Thus, the following problem statement can be derived:

How to improve group decision-making at multinational corporations by enhancing stress management?

The study focuses on multinational corporations. Bartlett & Ghoshal (1998) use this term for unifying four ideal types, namely international, global, multi-domestic and transnational enterprises. No distinction is made, since the stressors, which are investigated in this study, are not significantly affected by the level of local adaption or global integration. Although groups employed at domestically operating enterprises equally experience stress, the focus is placed on multinational corporations for their importance to the world economy.

To be able to define adequate techniques for mitigating stress, it is necessary to first define group decision-making, stress and the different stressors at work in an organizational setting. Consequently, the following research questions are derived to ensure a consistent structure of the research:

Research questions:

1. What is group decision-making?
2. What is stress?
3. Which factors impact on the level of stress during group decision-making?
4. What are the discrepancies between scientific literature and business practices with respect to stress moderation?

In the following, a detailed explanation of the research method applied and the scientific relevance of this particular study is presented.

1.3. RESEARCH DESIGN

The purpose of this study, as mentioned before, is to investigate different techniques which multinational corporations can apply to manage stress in the group decision-making process. Consequently, the research method is descriptive since practices currently applied in business are to be explored.

First, a literature review is conducted to offer a better understanding of group decision-making, stress, and stressors.

Next, scientific articles are browsed for possible methods to mitigate stress in decision-making.

Third, a survey among employees of multinational corporations is conducted to see which of the recommended techniques for stress moderation are currently applied and to indicate areas of possible improvement.

1.4. DATA COLLECTION

Data on the techniques used to manage stress in the group decision-making at multinationals is obtained by the means of a structured questionnaire, so that scientific reliability is ensured. The data gathered can then be statistically compared and an interviewer bias is less likely to occur as the questioning and the order of the questions is predetermined. In addition, secondary data is used to guarantee a better understanding of the subject's matter and to ensure a proper preparation of the survey.

Scientific articles used in this study are mainly obtained from EBSCO's search engines. In order to arrive at the most significant ones, results are ordered by relevance and publication date. Moreover, the reference list of any publication used is browsed for additional scientific articles related to this study, thus generating a greater body of literature by applying the so-called snowball sampling method.

By combining both primary and secondary data, more reliable insights can be established and flaws of one respective data collection method are compensated for.

1.5. SCIENTIFIC RELEVANCE

Although, stress at the individual level is quite well investigated, scientific articles on which techniques an enterprise can employ to manage stress in the group decision-making are still rare. Yet, globalization and technological advancements have accelerated decision-making in an unprecedented manner. Also cultural diversity and physical distance (i.e. in virtual teams) have considerably augmented in recent decades. As better decision-making results in a superior overall performance of the entire company, managing stress becomes vital in a highly competitive environment.

A certain business study is scientifically relevant if it provides new insights into a specific topic which are useful to both academics and professionals. This particular research is scientifically relevant for providing a coherent list of different methods to manage stress in the group decision-making. More efficiently moderating stress might not only decrease turnover and absenteeism, but eventually improve a company's overall performance.

1.6. STRUCTURE OF THE THESIS

In chapter two, a definition of group decision-making is developed to provide a consistent framework throughout the research. Different decision-making models reoccurring in science are evaluated and analyzed for their value to this particular study. The chapter finishes examining the use of group decision-making models in profit-oriented organizations.

Next, in chapter three, various studies dedicated to the phenomenon of stress and its characteristics are introduced. In addition, models used for illustrating stress in an organizational setting are presented. Finally, it is analyzed how stress emerges during the group decision-making and how it affects the process.

In chapter four, stressors which influence the group decision-making process are brought forward. First, each factor is analyzed in isolation and classified according to its impact on the level stress during group decision-making. Next, interrelations between the different stressors are examined and a conceptual framework is developed to provide a more coherent picture.

In chapter five, techniques to control for stress in the group decision-making reoccurring in scientific literature are discussed. Moreover, results from the survey conducted among employees of multinational corporations are presented to reveal today's business practices in stress moderation. Finally, by comparing both - techniques mentioned in scientific literature with methods currently applied at multinational corporations - critical discrepancies are uncovered.

Finally, chapter six summarizes the insights of this particular research. Techniques to mitigate stress in group decision-making currently applied at multinational corporations are evaluated for their value. Furthermore, suggestions are presented on how to improve stress mediation at multinational enterprises. Next, limits of this particular study are presented and recommendations for further scientific research are given. The chapter then closes by providing suggestions for managerial application of the methods recommended in this study.

CHAPTER 2. GROUP DECISION-MAKING WITHIN ORGANIZATIONS

This section provides a profound examination of the group decision-making process. To be consistent throughout the study, group and group decision-making is defined first. In addition, models, common in scientific literature to illustrate the decision-making process and its dynamics, are introduced. The section then closes investigating in detail the phenomenon of group decision-making in a profit-oriented organization.

2.1. DEFINITION OF GROUP AND GROUP DECISION-MAKING

Employee empowerment and growing specialization has led modern enterprises to increasingly employ expert groups for the decision-making instead of relying on a single, authoritarian leader. Thus, groups play an ever more important role not only in organizations, but also in the greater societal context. Consequently, groups cannot operate in complete autonomy but still are subject to external pressures, such as corporate and cultural influences. Gibson concludes that these cultural determinants affect a group's perception, behaviour and working standards (Gibson, 1999).

Throughout this study, groups are defined as “a collection of individuals who are interdependent in their tasks, who share responsibility for outcomes, who see themselves and who are seen by others as an intact social entity embedded in one or more larger social systems, and who manage their relationships across organizational boundaries” (Cohen & Bailey, 1997, p.241).

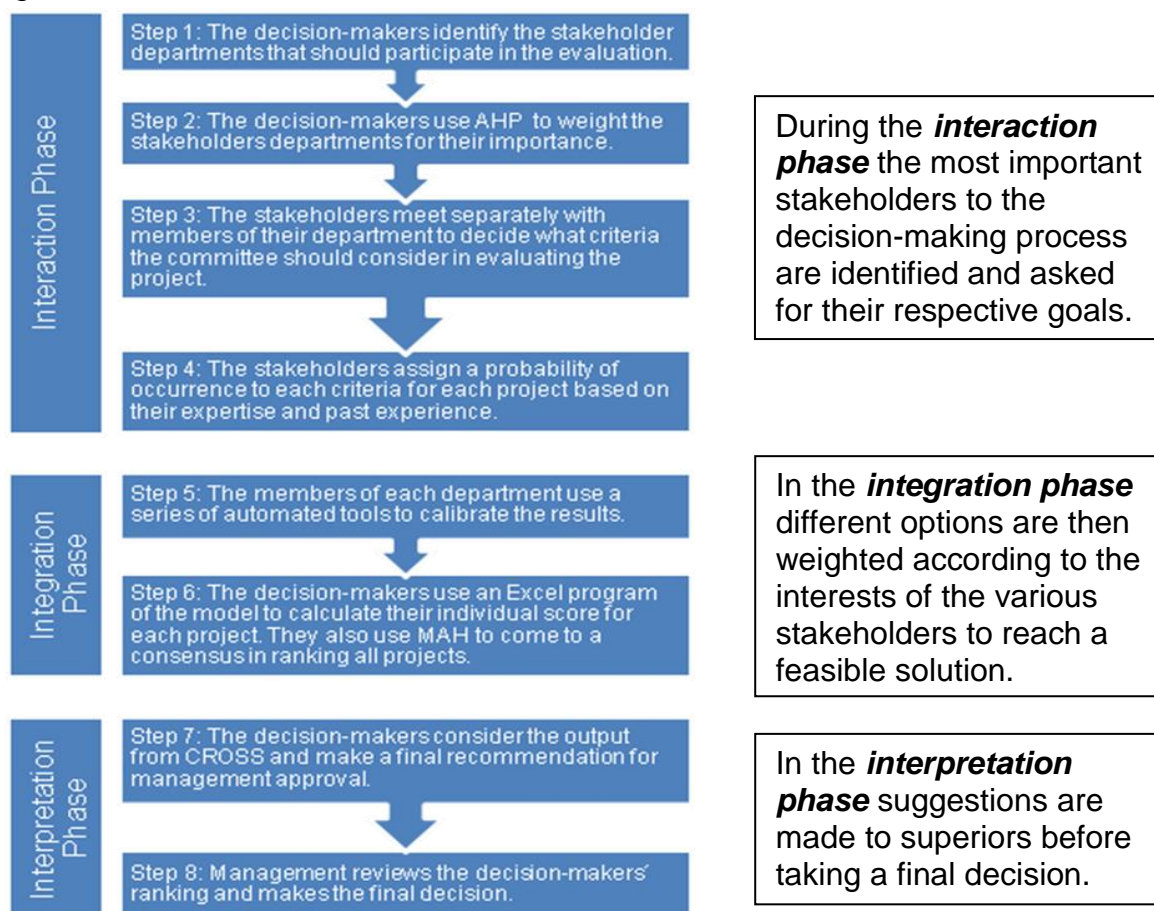
Group decision-making in turn is the collective interaction of individuals to reach a consensus on a particular decision (Eliaz, Ray & Razin, 2007) which can be subdivided into several processes depending on the perspective. According to Eliaz et al. (2007), these are two, namely the “deliberation among members of the group and the aggregation of individual opinions into a single group decision” (p.237).

2.2. MODELS FOR GROUP DECISION-MAKING

Numerous scientific studies have been trying to depict the decision-making process. Some models, such as the rational decision-making model, focus predominantly on how to achieve an optimal outcome. However, these models neglect relations between group members and the importance of reaching an agreement and thus, are excluded from this study. Consequently, merely models which allow for both, interaction among group members as well as consensus building are incorporated.

Tavana (2003) suggests a model called the consensus-ranking organisational support system or CROSS. The model serves as a tool to assess and select the best option among different alternatives. Fundamental to this model is to mediate between different interests of various stakeholders to reach an agreement. The model consists of three phases which can be further disaggregated into several steps (Figure 1).

Figure 1: CROSS model



Source: Tavana (2003, p.42)²

² Where AHP is the abbreviation for "analytic hierarchy process" and MAH refers to "maximize-agreement heuristic".

The advantages of CROSS are its simplicity and the subdivision of the decision-making process into smaller phases and steps (Tavana, 2003). Consequently, by applying CROSS groups might be able to better understand the interactions at work, thus efficiently improving the decision-making process.

Alternatively, groups might apply the consensus group decision-making model (GDM) proposed by Choudhury, Shankar and Tiwari (2006). The model adds a moderator to the decision-making process who is responsible for reconciling different stakeholders and for reaching a consensus among the various participants (Figure 2).

First, decision-makers give their recommendations and opinions on a certain issue with respect to the different options. Next, the moderator reconciles this information and looks for the best solution suitable for all participants of the group decision-making. He³ then meets the final decision and communicates the outcome to the various stakeholders involved.

Figure 2: Consensus group decision-making model



The advantages of the GDM stem from the dynamic component it adds as well as the introduction of a mediator necessary to reach an agreement among the various stakeholders participating in the decision-making process.

With respect to the models presented above, group decision-making seems to be a multistage, iterative and interactive process. In addition, mediating between the various interests of stakeholders as well as reaching an agreement is stressed by both models to avoid conflict which in turn can be highly stress-inducing. Hence, group decision-making in enterprises might be improved significantly by applying one of the models introduced above.

³ For reasons of simplicity exclusively male pronouns will be used throughout this research. Of course, females are likewise addressed.

2.3. GROUP DECISION-MAKING IN ORGANIZATIONS

Decisions are usually based on prior experience, the present and future expectations (Ariely & Zakay, 2001). Decision-makers tend to recall similar situations to evaluate feasible alternatives. Moreover, they incorporate their current constraints as well as possible future consequences of all options to arrive at a final decision.

Jensen (2007) proposes a two-dimensional decision-making process. At the individual level, each member of the group decision-making process is motivated by his very own goals and aspirations. In contrast, at the interpersonal level the group members take into account possible reactions of their peers, thus moderating their egoistic drive by adopting a common behaviour. Nevertheless, members of a group might adhere to special tactics which allow them to pursue their very own personal goals at the detriment of the organization. Instead of reaching the best solution for the organization, delay, conflict among the group, and a deteriorated decision-making might be the result (Jensen, 2007).

Yet, the majority of scientific literature stress the benefits of group decision-making in comparison to the individual based one. According to Choudhury et al. (2006), increased efficiency and employee satisfaction, improved evaluation of different options, and enhanced post decision-making assessment cause more and more organizations to delegate the decision-making process to groups.

CHAPTER 3. STRESS IN GROUP DECISION-MAKING

The following chapter explores stress in group decision-making in detail.

First, a definition used throughout the study is presented. Next, models to explain stress common in scientific literature are introduced and analyzed for their usefulness. The section then closes with a profound examination of the effects of stress on the group decision-making process.

3.1. DEFINITION OF STRESS

There are numerous scientific studies on stress and its effects on human beings. However, as stress is a rather broad concept, a clear-cut and universal definition is still missing (Dowden & Tellier, 2004). Depending on the specific discipline, stress can be categorized according to its chemical impact on the human body or its consequences on behavioural patterns (Friedland & Keinan, 1991).

According to Selye (1992), stress is “the non-specific response of the body to any demands made upon it” (in Crampton, Hodge, Mishra & Price, 1995, p.10). Moreover, stress is a reaction to anything perceived as a threat, either real or illusionary (Crampton et al., 1995). Consequently, stress affects both the physiological as well as the psychological state of human beings (Dowden & Tellier, 2004).

As this research is focused on group decision-making, stress is throughout defined as a perceived menace to a group member’s well-being and an increase in the pressure for an optimized decision-making process (Driskell & Salas, 1991). This way, the impact of both present and future consequences of a certain decision on the current behaviour of group decision-makers is addressed. In addition, as individuals who see their well-being threatened tend to underperform, also adverse consequences of stress on the outcome of group decision-making are accounted for. This coincides with the vast majority of scientific literature which confirm the negative effects of stress on the decision-making process (Tuten & Neidermeyer, 2004).

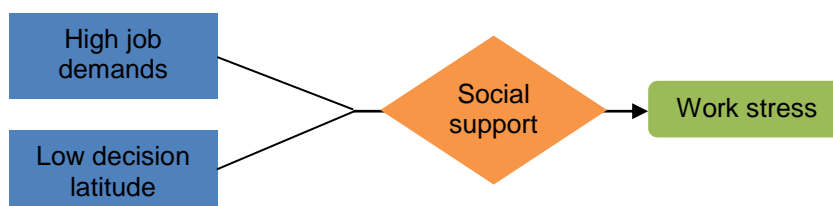
3.2. STRESS MODELS IN SCIENTIFIC LITERATURE

As research on stress is still a quite young discipline, there is no dominant model. Moreover, an exhaustive list of all possible stressors, which can potentially threaten an individual's well-being, might be too extensive to construct one single framework valid for all situations. Hence, it becomes crucial to carefully select some models which best match the purpose of the study and adapt them to the specific requirements.

A common model in scientific literature to explain stress at the workplace is the demand-control model (Figure 3). The independent variables of the model are job demands and decision latitude, the amount of autonomy to take a certain decision without intervention. Consequently, work stress is caused by a combination of both high job demands and low decision latitude (Evolahiti, Hultcrantz & Collins, 2006).

Yet, there is a moderating variable, namely social support, which can mitigate the effect of job demands and decision latitude (Evolahiti et al., 2006). As a result, if there is no support to decision-makers facing high job demands and low decision latitude, they are likely to experience stress. In contrast, group members receiving assistance from their company and being subject to reasonable job demands - while being free to take a certain decision - are less likely to experience stress.

Figure 3: Demand-control model

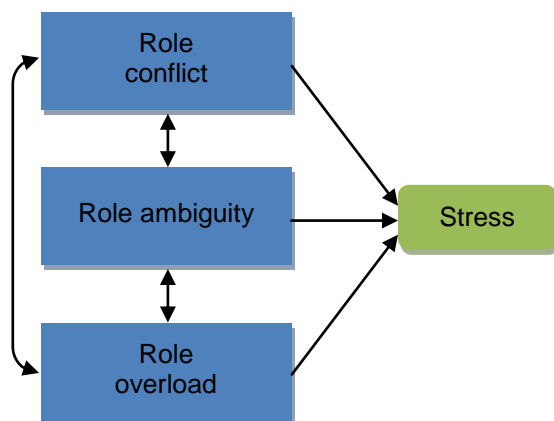


Source: *Evolahiti et al. (2006)*

Another prevalent model in scientific literature to describe stress at work is the role stress model (Figure 4). The model consists of three independent variables, namely role conflict, role ambiguity, and role overload (Fogarty, Singh, Rhoads & Moore, 2000).

Accordingly, role stress is caused by unclear expectations of what an individual is supposed to do (role ambiguity) or by putting him in a role he cannot or does not want to fulfil (role conflict). The third independent variable, role overload, is caused by job demands exceeding a person's capability to perform a specific task in a given amount of time (Fogarty et al., 2000). Applied to groups, stress might result from unclear defined or too vague expectations of members participating in the decision-making, thus causing role ambiguity among the group.

Figure 4: Role stress model



Source: Fogarty et al. (2000)

Moreover, groups uninterested in a certain topic might feel burdened (role conflict) and consequently are subject to considerable stress during decision-making. Finally, insufficient time for completing the decision-making process can cause team members to experience stress caused by role overload.

Considering the models presented above, the role stress model seems to better comply with the requirements of this particular study. First, role conflict and role ambiguity as causes for organizational stress are well investigated and in consequence facilitate the research (Tuten & Neidermeyer, 2004). Second, it further disaggregates stressors than the demand-control model by including ambiguity, thus adding a third dimension.

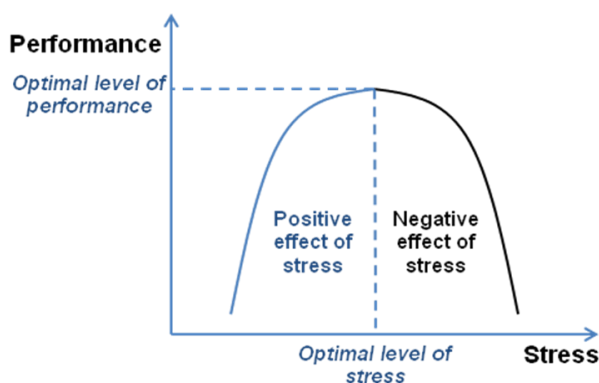
Other frequently used models in scientific literature, such as the diathesis or step stress model, focus on the pathological effects of stress on human beings and try to establish a threshold for stress tolerance. In consequence, they are not presented here as this exceeds the scope of this research.

3.3. IMPACT OF STRESS ON THE GROUP DECISION-MAKING

The adverse effects of stress on human beings are well-investigated. Nevertheless, scientific studies also proved a positive impact of stress on performance. According to Tuten and Neidermeyer (2004), the optimal level of stress is moderate, whereas very little or very high levels of stress induce a person to underperform.

Applied to groups, this means that team members who do not feel challenged at all or who feel overstrained in a certain decision-making process do not put as much effort as those who experience a reasonable amount of stress. Consequently, the relationship between stress and performance can be considered a concave function as indicated in Figure 5 below (Tuten & Neidermeyer, 2004).

Figure 5: Performance under stress



Yet, merely the negative consequences of stress on group decision-making are of interest to this particular study. Additionally, the effects of a very low level of stress are neglected here, as the research is directed at high levels of stress during the decision-making (right side of the concave parabola).

Source: Tuten & Neidermeyer (2004)

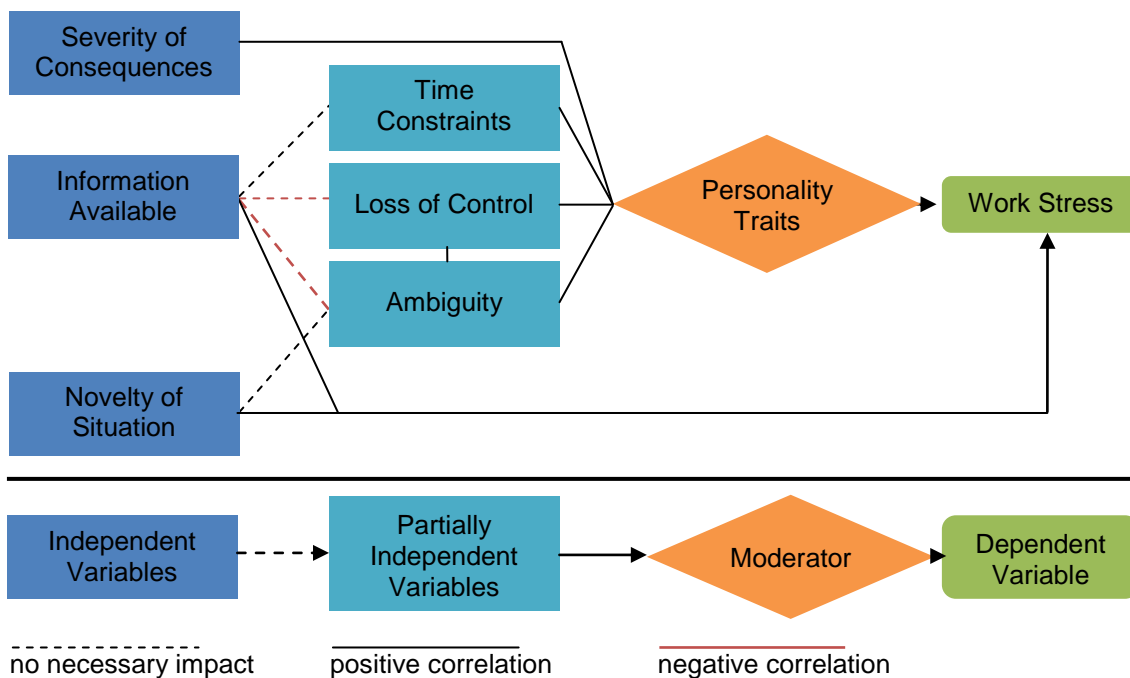
Apart from the effect on performance, stress also has an impact on an individual's well-being. As Slate and Vogel (1997) argue, stress can incur significant costs to an organization in the form of lower productivity, increased turnover, health care costs and absenteeism. Thus, group members facing high levels of stress during decision-making might be more likely to commit errors which result in a suboptimal outcome.

Finally, high levels of stress during the decision-making process might induce group members to fall back on heuristics inappropriate for the specific situation (Betsch, Fiedler & Brinkmann, 1998). Furthermore, team members experiencing considerable stress are more likely to be inhibited by cognitive filters, hence causing a deterioration of the information search and the posterior analysis (Berryman, 2006). The outcome of the decision-making is in consequence negatively affected.

CHAPTER 4. STRESSORS AFFECTING GROUP DECISION-MAKING

In this section, seven stressors are examined which are severity of consequences, information available, novelty of situation, time constraints, loss of control, ambiguity, and personality traits (Figure 6). First, these stressors are categorized according to their effect on stress in three categories, namely independent variables, partially independent variables⁴, and moderators. Second, reinforcing effects and interrelations among these stressors are presented.

Figure 6: Conceptual framework of stressors



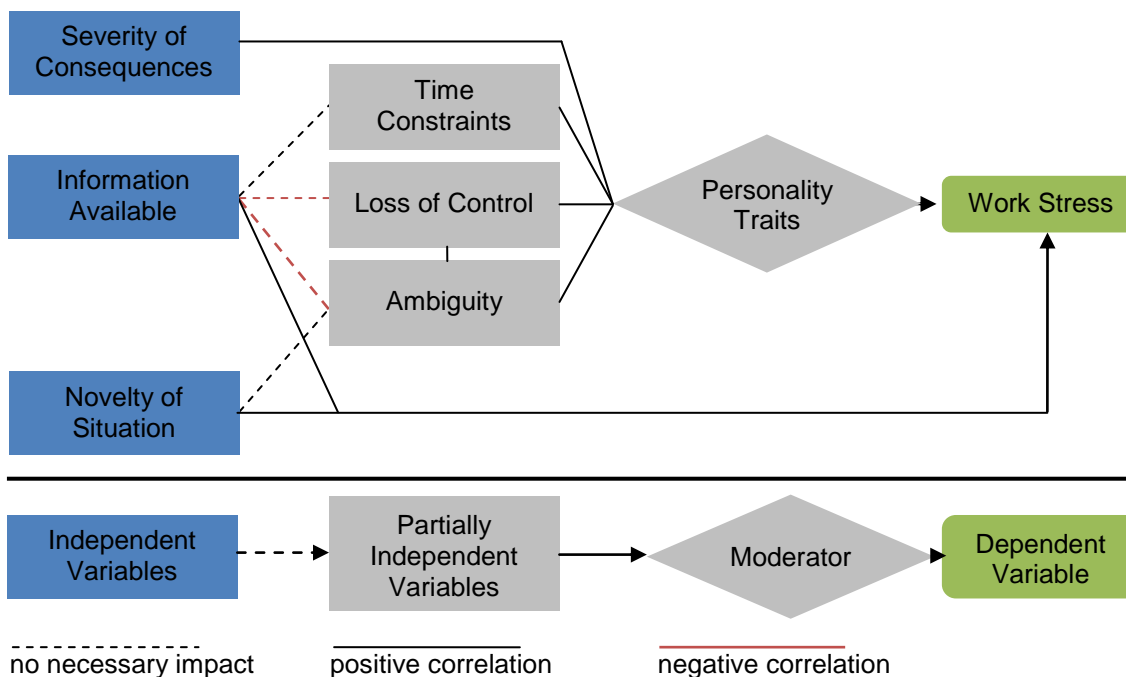
Source: Chapter 4. Stressors affecting group decision-making

⁴ Partially independent variables might be subject to the influence of independent variables, but not necessarily. Otherwise, they behave the same way as independent variables.

4.1. INDEPENDENT VARIABLES

The conceptual framework is based on three purely independent variables which are severity of consequences, information available, and novelty of situation (Figure 7). In this section, their effect on the level of stress in group decision-making is investigated. Their impact on partially independent variables is explained in the next section.

Figure 7: Independent variables



Source: Chapter 4.1. Independent variables

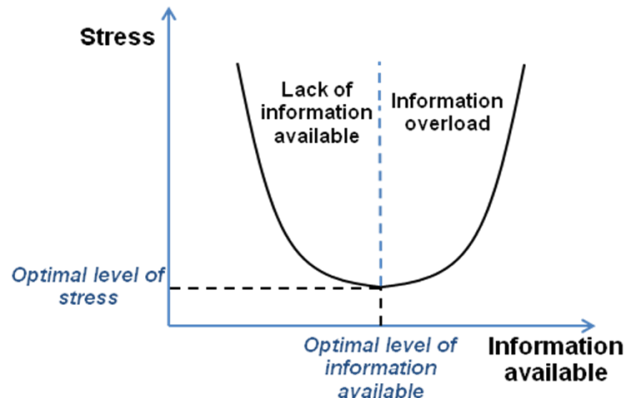
4.1.1. INFORMATION AVAILABLE

The first purely independent variable of the conceptual framework is information available. Information is a key ingredient to good decision-making. Nevertheless, little or excessive information available was proven to negatively affect the decision-making process (Ariely & Zakay, 2001).

The less information an individual has at hand, the more stressful it is to choose among various options. In addition, due to modern communication technologies, information is constantly actualized and there is a virtually infinite amount of information available, leaving many persons with a sense of confusion and puzzlement (Koen, 2005), a phenomenon called information overload.

At the same time, stressed individuals might find it difficult to process the information available in a certain situation. This might result in a lack of information and consequently, in an increase in ambiguity, another stressor which is explained later.

Figure 8: Information available as stressor



Summarizing, information available and stress seem to mutually affect each other. Little or excessive information can increase the level of stress. Stress in turn might affect a person's processing capability. Thus, the relationship can be explained by a convex parabola (Figure 8).

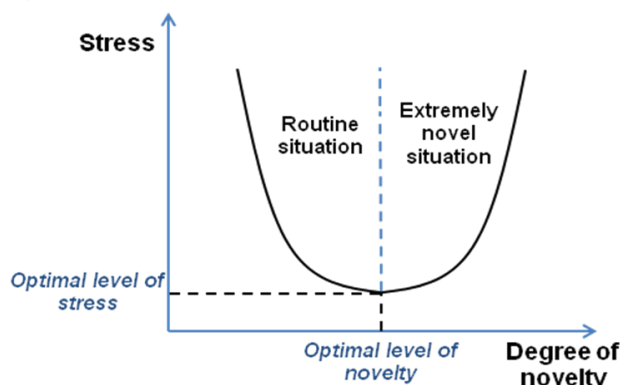
Source: Koen (2005)

4.1.2. NOVELTY OF SITUATION

The second purely independent stressor to be examined is novelty of situation. Most individuals experience a feeling of insecurity and disorientation in highly novel events since they are completely distinct to a person's prior experience, hence leaving him without any heuristics. As a consequence, novel situations might be highly stress-inducing to participants of the group decision-making process (Betsch et al., 1998).

Nevertheless, also routine situations can be stress-inducing. Individuals, who engage in monotonous tasks, often feel distressed (Betsch et al., 1998). Yet, the focus is placed on extremely novel situations as decision-making usually is not routine.

Figure 9: Novelty of situation as stressor



Source: Betsch et al. (1998)

In consequence, a medium level of unfamiliarity might be optimal as indicated in Figure 9 since the decision-making will be neither boring nor too demanding for group members (Betsch et al., 1998).

4.1.3. SEVERITY OF CONSEQUENCES

Severity of consequences is another purely independent stressor which might affect the level of stress during group decision-making. If severe consequences might result from taking a certain decision, stress is likely to be experienced. In this study, severe consequences not only include the direct influence of the decision-making outcome, but also indirect implications such as loss of bonus payments or drastic job cuts. Severe consequences in turn, might reflect adverse effects for the individual, the group as a whole or the greater society.

Groups are increasingly employed for decision-making at companies due to empowerment and decentralization of authority. In consequence, groups take ever more important decisions for the organization. This however also increases the pressure to take an optimal decision as severe consequences for the company might result from a flawed decision. In consequence, group decision-makers might experience considerable stress if severe consequences, either group internal or external, might result (Friedland & Keinan, 1991).

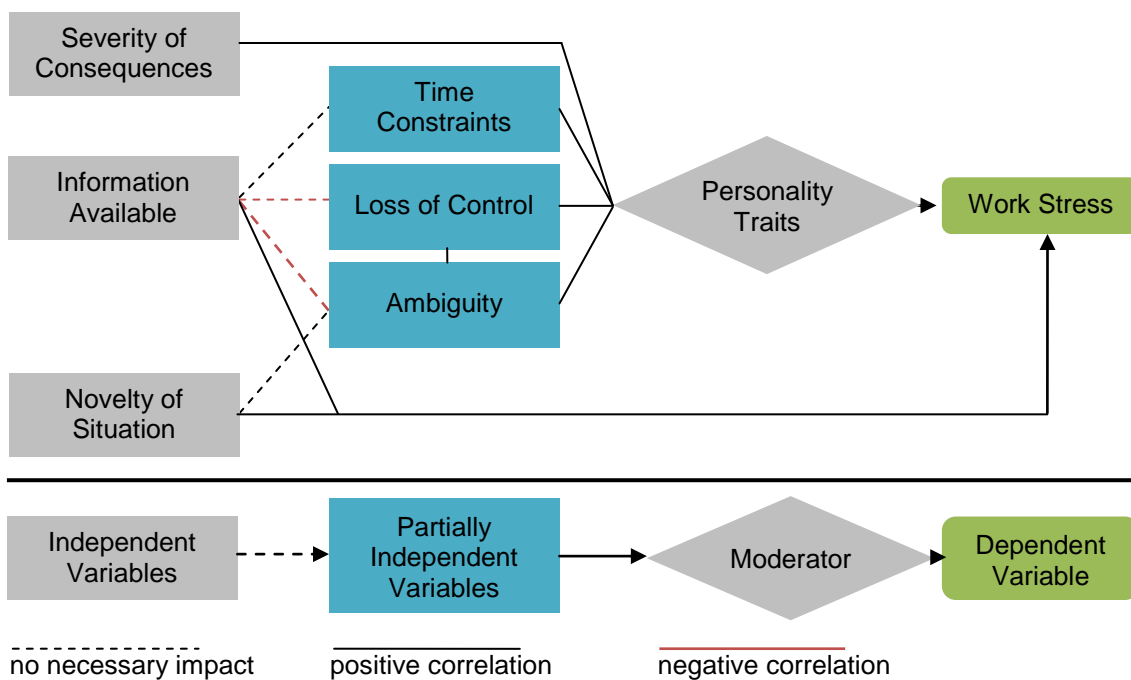
However, groups must be held accountable for the results since they act more or less autonomous in the decision-making. In addition, intervening with the group decision-making process might result in a perceived loss of control which can be highly stress-inducing (see section 4.2.2.). Being responsible for a flawed decision might nevertheless trigger escalating behaviour, a situation in which groups dedicate even more resources trying to recover or to limit losses (Schoorman & Holahan, 1996). Thus, an enterprise must install proper control systems which enable superiors to interfere in time.

Summarizing the insights gained so far, organizations must leave as much autonomy as possible to the group taking a certain decision to avoid a perceived loss of control due to external intervention. This however, gives rise to the need of making them responsible for the outcome of the decision which, if severe, might act as another stressor. As a result, an organization has to decide on how much autonomy and consequently responsibility it wants to allocate to its decision-makers. Moreover, an enterprise should support their groups not only by providing sufficient financial resources, but also psychologically when stakes are high, to avoid stress.

4.2. PARTIALLY INDEPENDENT VARIABLES

Next, partially independent variables are examined which are time constraints, loss of control, and ambiguity, respectively (Figure 10). They might be subject to the influence of the purely independent variables, but not necessarily. First, their influence on the level of stress during group decision-making is investigated in detail. Second, their dependency on the purely independent variables is analyzed.

Figure 10: Partially independent variables



Source: Chapter 4.2. Partially independent variables

4.2.1. TIME CONSTRAINTS

Numerous scientific studies are dedicated to the effects of time constraints on the level of stress. Time-stress is caused by placing strict constraints on decision-makers (Ariely & Zakay, 2001). Besides, recent developments in information technologies have accelerated decision-making, hence acting as an additional time constraint.

Time-stress might however result in reduction in information search and processing, bolstering of the chosen alternative, and wrong judgement and deteriorated evaluation (Ariely & Zakay, 2001). Nevertheless, it is argued that the actual time constraints are less important than the group's perception of the same, thus putting an emphasis on the individuals' resistance to time-stress.

Likewise, stringent deadlines might have the same effect as tight time constraints (Berryman, 2006). Even deadlines imposed by the group itself might cause decision-makers to experience considerable stress. As a result, it is recommendable to avoid too challenging deadlines, self-imposed or not, at profit-oriented organizations to reduce the risks of a flawed decision-making process.

Concluding, time constraints can increase significantly the level of stress during the decision-making process. As indicated earlier, too much information, the so-called information overload, might also act as a time constraint (Ariely and Zakay, 2001). Furthermore, recent developments in information technologies might have aggravated this phenomenon. Nevertheless, it is the group member's perception of these time limits which eventually causes him to feel stressed or not.

4.2.2. LOSS OF CONTROL

Loss of control is another well-investigated stressor in group decision-making. As human beings we derive a lot of motivation from the desire to be in control of our life and to be independent of externalities. As a result, experiencing a loss of control can be highly stress-inducing and thus, might affect the decision-making adversely.

Friedland, Keinan and Regev (1992) studied students' gambling behaviour under the influence of stress. As their results reveal, the level of stress caused by a feeling of loss of control depends more on the individual's perception rather than on the actual loss of control. Furthermore, they argue that stress in turn might trigger a feeling of loss of control even if the situation is not entirely uncontrollable.

Human beings have only limited resources to process incoming information. In consequence, complex decision-making processes might trigger a feeling of loss of control in decision-makers, thus exposing them to considerable stress (Friedland et al., 1992). A way to cope with this might be applying control restoration, a situation in which individuals try to regain control over a situation. As a result, if this stressor is sufficiently strong, group decision-makers might try to regain control of uncontrollable events and act accordingly, even if this is entirely illusory (Friedland et al., 1992).

Since stress affects an individual's well-being and eventually the outcome of the decision-making, moderating loss of control might be crucial to an organization. Moreover, the actual strength of the stressor is less important than the perceived one, thus leaving room for a variety of techniques to bolster a group's sense of control (Friedland et al., 1992). Ultimately, an increased feeling of control improves performance and job satisfaction of employees (Jimmieson & Terry, 1998).

Loss of control in turn, seems to be negatively correlated to the amount of information available for a certain decision-making process. The less information available, the more likely group members are to perceive a loss of control (Ariely & Zakay, 2001). As a result, providing means for accessing necessary information becomes crucial.

4.2.3. AMBIGUITY

Another factor impacting on the level of stress during the decision-making process is ambiguity. Due to major advancement in communication technologies and the accelerating globalization, ambiguity has increased in the last decades (Koen, 2005). In consequence, decision-makers might experience considerable stress caused by a vague and uncertain environment.

Friedland and Keinan (1991) examined a person's resistance to ambiguity by examining different behaviours of students in uncertain conditions. According to their findings, a person who copes better with highly ambiguous situations is also more resistant to stress. Furthermore, they argue that individuals who are less tolerant to ambiguity tend to perceive their environment in black and white, while their counterparts do not only accept more ambiguity, but also seem to seek and enjoy it (Friedland & Keinan, 1991).

A second study, which investigated the effect of ambiguity on the level of stress, is Tubre and Collins' (2000) study of role conflict and role ambiguity. Both are likely to cause an individual's performance to decrease as they „tend to weaken effort-to-performance and performance-to-reward expectancies” (p.157). Moreover, they indicate that a more complex decision-making process results in more role ambiguity. Yet, they also acknowledge that both stressors might affect individuals in a different way, thus reiterating the importance of personality traits for stress management.

Ariely and Zakay (2001) confirmed a negative correlation between information available and ambiguity. If more information for a certain decision is accessible, ambiguity is reduced and the risk for group members to experience stress is decreased. In contrast, if only little information is available, ambiguity augments, thus increasing the level of stress during decision-making. Also, novelty of situation and ambiguity are correlated. The more novel and unfamiliar a certain situation, the more ambiguity is usually involved (Betsch et al., 1998).

The insights gained so far suggest a crucial role of personality traits not only in determining a person's resistance to stress, but also to other stressors. In the following, the dominant role of personality traits in stress moderation is addressed.

4.3. MODERATOR - PERSONALITY TRAITS

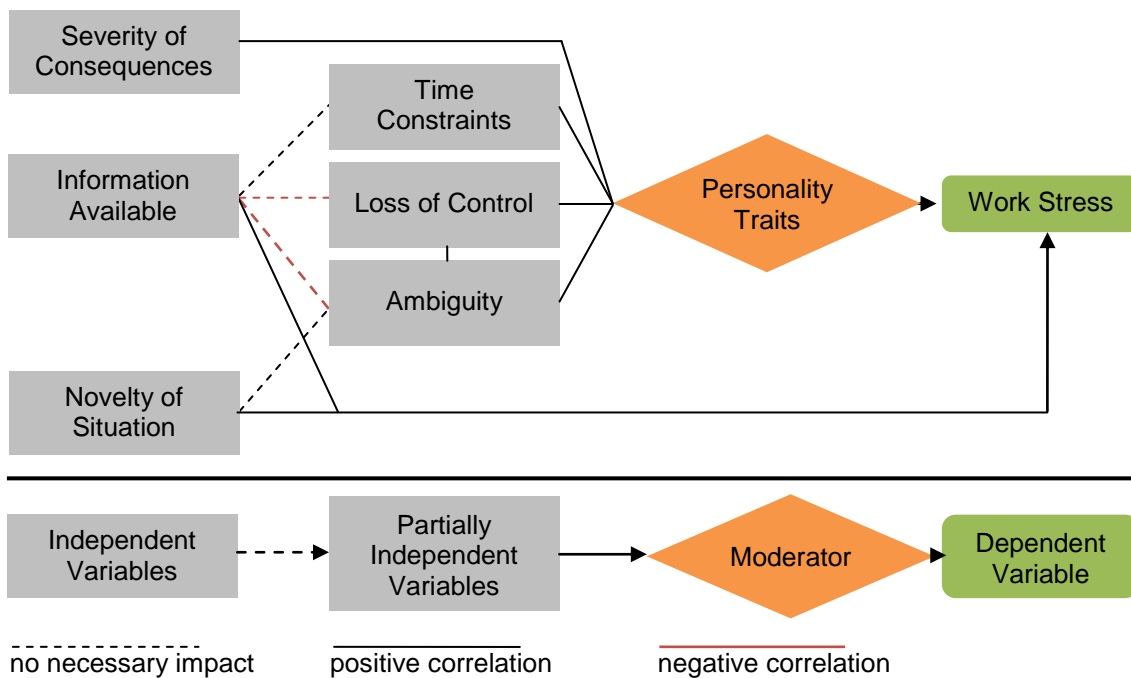
A person's resistance to stress is predominantly determined by its personality. In the following, main insights from scientific literature, which examined profoundly different traits and its effects on stress resistance, are presented.

Vollrath and Torgersen (2000) argue for three types of personality traits which are neuroticism (anxious), extraversion (outgoing), and conscientiousness (confident). According to their findings, an unconfident person, who is highly neurotic, is less stress resistant. Furthermore, extraversion was proven to be dependent upon both neuroticism and conscientiousness and thus, is not a main determinant of a person's stress resistance.

Tuten and Neidermeyer (2004) state, optimism can significantly impact on the perception of stress during the decision-making process. As their study indicates, pessimists perceive a low level of stress as moderate, whereas optimists consider a high level of stress moderate (Tuten & Neidermeyer, 2004).

Most importantly however, as shown in the preceding subsections, personality traits seem to moderate directly all partially independent stressors as well as severity of consequences (Figure 11). In consequence, some group members exhibiting certain personality traits are more resistant to stress and can thus better cope with stressful situations than their counterparts. A more detailed overview of all interrelations uncovered so far, is addressed in the next section.

Figure 11: Moderator – Personality traits



Source: Chapter 4.3. Moderator – Personality traits

4.4. INTERRELATIONS BETWEEN STRESSORS

As indicated earlier, stressors cannot be considered in isolation. Most factors influencing group decision-making are in turn somehow interrelated. To better understand the impact of each stressor and to propose techniques for its moderation, it becomes essential to analyze these interrelations in detail.

Information available seems to affect time constraints, ambiguity and perceived loss of control (Friedland et al., 1992). Excessive information available might act as a time constraint, thus potentially increasing the risk of group members experiencing stress (Ariely & Zakay, 2001). In contrast, little information available during the decision-making process might result in more ambiguity as well as a perceived loss of control. Consequently, it becomes crucial for successful stress mitigation to find the right balance between insufficient and excessive information available.

Next, also novelty of situation and ambiguity seem to be interrelated. Unfamiliar situations different to prior events result in more ambiguity and thus, might cause group members to experience stress. However, whether a certain situation is highly novel or not depends on an individual's prior experience and eventually on their personality traits which determine their ability to cope with unfamiliar situations.

The dominant variable however seems to be personality traits, as it directly moderates the partially independent variables as well as severity of consequences.

First, an individual's resistance to time-stress seems to be correlated to their personality. As Ariely and Zakay (2001) argue, not the actual time constraints matter, but rather the perceived amount of time-stress. Furthermore, certain personality traits might mitigate a feeling of stress caused by time constraints. According to Tuten and Neidermeyer (2004), optimists are better able to deal with strict deadlines and time-stress, thus outperforming their pessimistic group members in situations characterized by high time pressure.

Second, stress caused by a perceived loss of control during the decision-making is also mitigated by certain personality traits. As Friedland et al. (1992) point out, a group member's traits eventually predetermine his perception of loss of control in a given situation and thus, also his resistance to the latter.

Third, certain personality traits also seem to have a moderating effect on the perception of ambiguity. According to Friedland and Keinan (1991), group members have different thresholds for ambiguity and in consequence react differently to the same amount of ambiguity. For example, optimists seem to be more resistant to ambiguity and it was proven that this specific trait can be trained (Tuten & Neidermeyer, 2004).

Finally, personality traits also seem to have a moderating effect on the independent variable severity of consequences. Anxiety and risk-avoidance were proven to negatively affect an individual's tolerance for severe consequences, thus causing him to experience stress during crucial and wide-ranging decisions. The extent to which consequences are considered severe or not again depends on the group member's perception (Maner, Richey, Cromer, Mallott, Lejuez, Joiner, & Schmidt, 2007).

The interrelations introduced in this study help to explain why certain stressors seem to be more important to stress moderation than others. Furthermore, they also indicate which factor to leverage during the group decision-making process to affect various stressors at a time.

CHAPTER 5. STRESS MODERATION IN THE DECISION-MAKING

In this chapter techniques to manage the level of stress during group decision-making are presented. First, methods mentioned in scientific literature are introduced. Second, techniques currently applied at multinational corporations are investigated. Finally, both are compared to detect any possible shortcomings of stress management in today's business world and to develop best practices for the group decision-making in multinational profit-oriented organizations.

5.1. STRESS MODERATION IN SCIENTIFIC LITERATURE

Work stress draws the attention of more and more scholars. Yet, most articles focus merely on stress experienced at the level of the individual within an organization. Stress in group decision-making however, is still a minor field of investigation. Nevertheless, scientific papers related to stress in the workplace might indicate possible techniques a corporation can apply to lower the level of stress during decision-making.

In the following, techniques to moderate the stressors mentioned in chapter four are presented and evaluated for their applicability at multinational corporations.

a) INFORMATION AVAILABLE

Information is a fundamental ingredient to good decision-making. The internet seemingly made all information accessible at any time. Nevertheless, human beings often feel overwhelmed by the sheer amount of data available. Consequently, information overload might induce the same amount of stress as too little information available does.

To address the problem of information overload, a group can define a specific time frame for the information search. Furthermore, available information should be classified and categorized as to its importance to ensure a proper evaluation of the same (Martínez Selva, 2004). However, it should be up to the group to restrict any search for information as an external intervention might be perceived as a loss of control, thus increasing the level of stress.

One way to cope with lack of information in an enterprise is to install a proper system of communication (Martínez Selva, 2004). More and more companies make use of blogs, wikis, and other communication platforms to interchange ideas. This larger pool of possible collaborators increases the amount of information available and ultimately decreases the level of stress caused by insufficient information. In addition, well-structured databases might offer another means to cope with lack of information.

b) NOVELTY OF SITUATION

Novel situations offer a great opportunity for learning. Nevertheless, the inherent uncertainty and ambiguity caused by lack of previous experience can be highly stress-inducing to individuals. As mentioned in chapter four, best would be a moderate level of novelty to keep stress at an optimal level.

Companies should thus be aware of the magnitude of novelty they are exposing a group to in order to ensure an optimal decision-making. As a way to decrease the influence of novelty on the level of stress, it is common to compose teams of experts for certain special tasks or decisions.

Yet, there are situations which are novel to the organization as a whole. Under these circumstances internal experts are insufficient and additional support from external advisors might be the most feasible solution (Dolan et al., 2005). A company can this way acquire knowledge, but at the same time lower the adverse effects of a highly novel situation. As a result, multinationals should provide groups with sufficient financial funds for contracting external consultants if the decision-making requires so.

c) SEVERITY OF CONSEQUENCES

The majority of far-ranging decisions in modern businesses are taken in groups. Consequently, groups affect crucially a company's future success and its competitiveness. Moreover, as teams take decisions in an increasingly autonomous way, they are also held responsible for the results. Thus, groups facing the possibility of severe consequences are more likely to experience a significant level of stress during the decision-making (Friedland & Keinan, 1991).

Yet, this stressor is not easily controllable as some consequences of any decision are always beyond the influence of the group. Furthermore, sometimes the best solution is inevitably accompanied by adverse consequences. For example, a company in financial distress might be forced to lay off a large number of workers to secure its future success and the workplace of the remaining staff.

Nevertheless, a company can offer psychological assistance to group members when facing a decision with possible severe consequences (Dolan et al., 2005). This might help the team to better cope with the pressure and allow taking a more rational decision. Moreover, when having to communicate adverse consequences groups should be supported by their superiors (Dolan et al., 2005). This way, they do not feel left alone and their perception of stress is less strong.

d) TIME CONSTRAINTS

Time is a predominant factor in group decision-making and is one of the most prominent stressors group members experience. Due to technological advancements and increasing competition, time has become a determining factor for efficiency and eventually performance. Nevertheless, crucial decisions should not be made under time pressure and costs of a flawed decision-making might endanger a company's future success. In consequence, groups should be free to allocate a sufficient amount of time to the entire decision-making process to lower the probability of facing tough time constraints.

This entails that groups should be relatively autonomous in planning, organizing, and structuring the decision-making (Martínez Selva, 2004). The better organized and planned, the less likely the participants are to experience time-stress. Group decision-making models mentioned in chapter two can be used as a standardized template, providing team members with a useful step-by-step device.

Moreover, groups facing considerable time constraints should prioritize certain steps in the decision-making (i.e. information search) to not get caught up in secondary tasks (Martínez Selva, 2004). Having set priorities, everybody in the group knows what is most important and consequently dedicates a sufficient amount of time to resolve this issue first. Approaching the end of the decision-making, merely less important tasks are left and thus, perceived time-stress is less severe.

e) LOSS OF CONTROL

Human beings have a strong, inherent desire to be in control. Nevertheless, we often have to cope with uncertainty, limited resources or dependencies, thus experiencing a loss of control which can be highly stress-inducing. Loss of control in turn can be caused by company-internal as well as external factors. In group decision-making, internal stressors are obviously easier to manipulate and scientific scholars mention various techniques to reduce the risk of a perceived loss of control.

First, clearly defined roles prior to the decision-making help to avoid a perceived loss of control (Jimmieson & Terry, 1998). In consequence, each individual's tasks should be fixed in a written document to avoid conflict over responsibilities at a later stage. Moreover, groups responsible for taking a certain decision must be able to organize, plan and structure the process in a greatly autonomous fashion (Martínez Selva, 2004). This way, a perceived loss of control due to external intervention can be omitted and stress faced by decision-makers is reduced significantly.

External factors causing a feeling of loss of control are more difficult to control for. Decisions, in the majority of the cases are future-oriented, and thus, require making assumptions. These assumptions might seem perfect at the time the decision was taken but might change in the future. Consequently, in evaluating a certain decision-making, external factors and assumptions must be accounted for to arrive at a fair judgement of the group's performance (Dolan et al., 2005).

f) AMBIGUITY

Ambiguity in international business increased significantly in recent decades. Markets become always more intertwined and national borders seem to blur. Furthermore, new trends appear almost on a daily basis and employees are expected not merely to adapt to this ambivalent environment but also to cope with it. However, high levels of ambiguity in decision-making might eventually result in suboptimal outcomes.

To lower ambiguity in the decision-making process scientific literature makes some recommendations. Yet, as for loss of control, a distinction must be made for external and company-internal factors causing ambiguity, as the latter ones are more easily controllable.

With respect to lowering ambiguity caused by internal factors, a company can apply various techniques. A first step might be to establish clear and specific goals of the decision-making process without intervening with the group's autonomy (Tubre & Collins, 2000). Moreover, the group itself should distribute different tasks among its members before beginning the decision-making. This way, role conflict and role ambiguity is avoided and the group decision-making becomes more structured, thus significantly reducing the risk of stress.

To moderate ambiguity caused by external factors a company should increase access to information (Dolan et al., 2005). Although, a company will never be able to reduce external ambiguity to zero, it can drastically reduce it by facilitating the access to information, exchanging information with business partners or by contracting external consultants.

g) PERSONALITY TRAITS

Recruiting and promoting the right employees is recognized to be one of the key determinants of a company's success. Studies in the field of human resources have yielded great insights and organizations' view of employees has changed significantly in past decades. In consequence, personality traits of multinationals' employees not only determine their culture, but also their future success.

As mentioned in the preceding chapters, personality traits strongly influence one's threshold of stress. Nevertheless, not only enterprises situated in a highly competitive environment should be inclined to recruit and promote stress resistant applicants. Counting on a staff which is less sensitive to stress lowers the probability of stress-related problems in the group decision-making (Dolan, García & Díez Piñol, 2005).

Additionally, existing employees can be trained to become less stress-sensitive. Consequently, human resources professionals should organize workshops designed to strengthen certain capabilities and attitudes which are crucial to cope with high levels of stress during the group decision-making process (Tuten & Neidermeyer, 2004). The economic cost of such a measure will eventually be marginal compared to the one caused by a suboptimal decision-making process.

h) CONCLUSION

To effectively reduce the level of stress during the group decision-making process, manipulating one particular dimension seems to be most important. As shown in the preceding chapter, personality traits not only determine an individual's threshold for stress, but also moderate the partially independent variables as well as severity of consequences. Thus, an enterprise should pay close attention to an individual's tolerance for stress when deciding about whom to recruit or promote. To further improve an employee's stress resistance, workshops fostering certain personality traits, such as optimism and consciousness, should be offered.

Additionally, groups should be allowed to take decisions without much external interference. As they are responsible for the outcome, they should also be able to decide in a fairly autonomous fashion. Outside intervention is perceived as a loss of control and thus, highly stress-inducing. Furthermore, groups should themselves allocate tasks among its members and prepare a written document specifying each individual's responsibility to avoid stress caused by role ambiguity.

Groups should be encouraged to seek outside support whenever the situation requires doing so. Sometimes there are situations which are highly ambiguous or novel to the organization as a whole and outside support might be the only means to lower the level of stress. Another way to moderate both novelty and ambiguity is to install a proper IT infrastructure to provide groups with the necessary information. This might include, among others, directories of company-internal experts, databases of past decision-making processes or new online forums as wikis or blogs.

Finally, groups should feel supported by their superiors and their company as a whole. Facing tough time constraints or possible severe consequences during the decision-making process might be highly stress-inducing. Nevertheless, having a feeling of appreciation and comprehension, groups are less likely to experience high levels of stress due to time pressure or severe consequences.

Table 1 on the next page summarizes how to best moderate a certain stressor and provides an overview of possible techniques recommended in scientific literature.

Table 1: Techniques to moderate investigated stressors

	How to moderate its effect on stress?	Techniques
Information Available	<p>To avoid lack of information:</p> <ul style="list-style-type: none"> • Increase amount of information available <p>To avoid excess of information:</p> <ul style="list-style-type: none"> • Avoid accumulating too much information 	<ul style="list-style-type: none"> • Introduce a proper system of communication • Install databases with expert directories • Prepare a written timetable for the information search
Novelty of Situation	<ul style="list-style-type: none"> • Employ group members most experienced in specific field • Get external advice if decision-making requires to do so 	<ul style="list-style-type: none"> • Compose groups of experts • Encourage groups to seek outside support if necessary • Provide groups with sufficient financial funds to do so
Severity of Consequences	<ul style="list-style-type: none"> • Offer psychological assistance • Ensure support from superiors in stressful situations 	<ul style="list-style-type: none"> • Train HR professionals for stress-moderation • Foster trust between groups and its superiors
Time Constraints	<ul style="list-style-type: none"> • Avoid placing strict deadlines on groups • Ensure a proper planning, organizing and structuring • Finish most important tasks first 	<ul style="list-style-type: none"> • Leave groups with autonomy in allocating time to decision-making • Use decision-making models to structure each individual step • Prioritize crucial steps in the decision-making
Loss of Control	<p>For company-internal factors:</p> <ul style="list-style-type: none"> • Specify roles of each individual • Avoid group external intervention <p>For company-external factors:</p> <ul style="list-style-type: none"> • Ensure fair evaluation of the decision-making process 	<ul style="list-style-type: none"> • Prepare a written document with each group member's responsibility • Leave groups with autonomy in organizing the decision-making • Account for uncontrollable external variables in the group evaluation
Ambiguity	<p>For company-internal ambiguity:</p> <ul style="list-style-type: none"> • Avoid vague expectations • Specify roles of each individual <p>For company-external ambiguity:</p> <ul style="list-style-type: none"> • Increase access to information 	<ul style="list-style-type: none"> • Formulate clear goals and targets • Prepare a written document with each group member's responsibility • Install a proper IT structure
Personal Traits	<ul style="list-style-type: none"> • Include stress resistance as criteria in recruitment and promotion decisions • Train certain personality traits 	<ul style="list-style-type: none"> • Use psychological tests to determine an individual's stress resistance • Offer workshops for stress management

Source: Chapter 5.1. Stress moderation in scientific literature

5.2. STRESS MODERATION AT MULTINATIONAL CORPORATIONS

To determine to which extent multinational corporations already make use of those techniques mentioned above, a self-administered online questionnaire was prepared. The survey consisted of twenty questions with ordinal scale or yes/ no answer options. For the complete questionnaire see appendix 1.

An invitation to the questionnaire was then sent to twenty employees of well-known multinational enterprises. Moreover, companies from various industries as well as employees from different countries were chosen to avoid any major bias. In addition, the participants of the survey range from junior managers to high ranked executives, thus covering most organizational layers of multinational corporations. For an entire list of collaborating enterprises consult appendix 2.

To ensure accurate and reliable results, the survey is based on mutually exclusive multiple choice questions only. This method seems most appropriate, as the participants of the study are limited in time, hence demanding a simple, straightforward set-up of the survey. Moreover, by standardizing all answer options, results become easily comparable across categories and interpretation of the data is facilitated. The overall response rate of above 95% seems to confirm the advantages of the technique applied⁵.

Although the survey can hardly be used to appropriately evaluate the stress management of each individual multinational participating in the study, the questionnaire might give an indication of general practices across enterprises. Efficiently mitigating a stressor does yet not imply that employees do not experience this specific stressor at all. It merely states that a multinational corporation applies the techniques recommended in this study. Below, the results of the survey are presented in order of stressor. For a complete list of the results see appendix 3.

In the following, each stressor is presented in the order used in the preceding chapters. The corresponding questions from the survey are then brought forward accompanied by the respective answers given by the participants of the study.

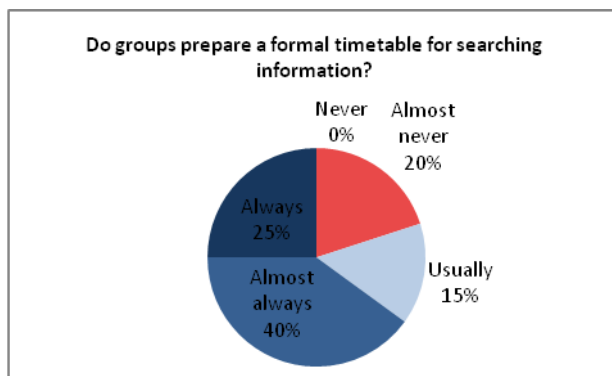
⁵ 21 invitations were sent out. One participant did not answer the questionnaire and thus is excluded to avoid a distortion of the results.

a) INFORMATION AVAILABLE

Stress caused by too little information available can be mitigated by indicating to decision-makers who is most knowledgeable within the company in a specific field. Hence, participants were asked if there are directories of company-internal experts installed at their company. Yet, as the results of the survey reveal merely half of the employees interviewed seem to have access to such a database during the decision-making process.

Information overload in contrast can be moderated by groups restricting the amount of time spent on browsing for information.

Figure 13: Restricting information search



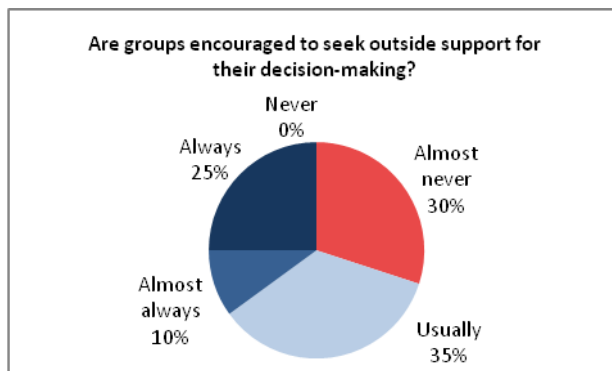
Source: Results of the survey

Consequently, participants were asked if they prepare a formal timetable for searching information. According to the results of the survey, 80% of the respondents confirmed to frequently employ such a device to avoid information overload (Figure 13).

b) NOVELTY OF SITUATION

Scientific literature indicates that stress caused by highly novel situations can be reduced significantly by making use of external consultants.

Figure 14: Attitude towards external support



Source: Results of the survey

Thus, participants were asked if they are encouraged to seek support outside the company if necessary. Accordingly, more than two thirds of the multinationals investigated seem to facilitate company-external assistance to the decision-making (Figure 14).

Furthermore, groups need to be provided with the necessary financial funds to contract external consultants. Consequently, participants of the study were asked for the ease of receiving such funds. As the results of the survey reveal, three fourth of the participants claim to encounter no problems when requesting financial support to hire external advisors.

c) SEVERITY OF CONSEQUENCES

Stress caused by possible severe consequences can be moderated if employees can talk openly to superiors about their concerns. Hence, participants were asked if there exists sufficient trust between groups and their superiors to speak about their experience of stress which was confirmed by three fourths of the respondents.

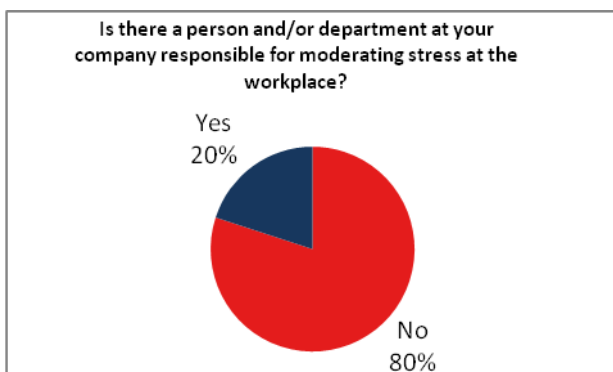
Figure 15: Support to distressed employees



Source: Results of the survey

Also, if employees, who fear severe consequences, are assisted, a feeling of stress is less likely to occur. Yet, when being asked, less than half of the respondents claim to receive any support when experiencing stress in the decision-making process (Figure 15).

Figure 16: Availability of experts on stress



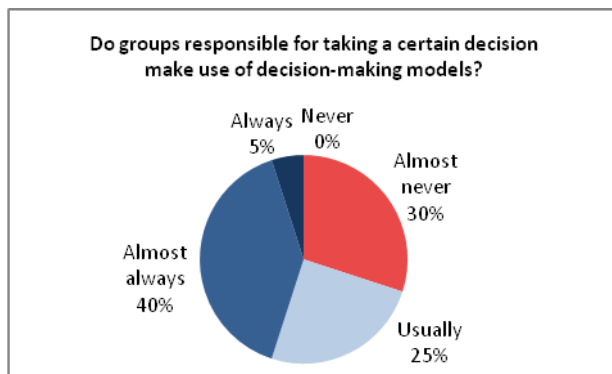
Source: Results of the survey

Besides, only 15% of the multinationals investigated seem to have HR professionals trained for stress moderation. This is confirmed by 80% of the respondents claiming that there is no person or department responsible for mitigating stress (Figure 16).

d) TIME CONSTRAINTS

As mentioned in the preceding subchapter, time stress can be moderated by making use of models to structure each individual step of the decision-making process.

Figure 17: Use of decision-making models



When being asked for the use of decision-making models, 70% of the multinationals investigated confirmed to frequently employ such a device for the decision-making, hence efficiently mitigating the risk of stress caused by strict time constraints (Figure 17).

Source: Results of the survey

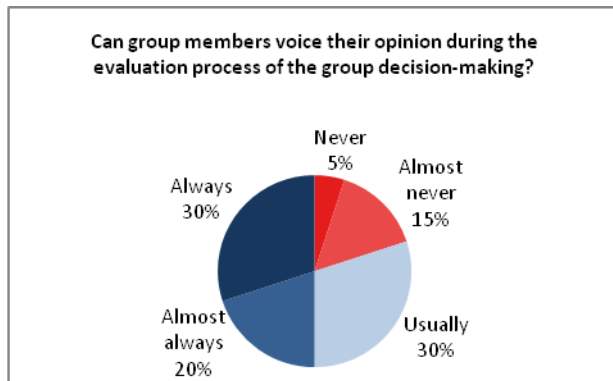
Moreover, groups should have certain autonomy in structuring the decision-making process in order to avoid time stress. Hence, participants of the survey were asked if they are free to organize and plan the decision-making independently. As the results of the study reveal, 75% of the interviewed employees usually do not experience any intervention when structuring the group decision-making process.

e) LOSS OF CONTROL

According to scientific literature, loss of control can be mitigated by determining each individual's tasks before the decision-making process begins. Thus, participants were asked if roles are fixed prior to the decision-making in a written document which seems to be the case in only half of the multinational corporations investigated.

A perceived loss of control can also be mitigated by compensating for uncontrollable factors when evaluating the decision-making process. When being asked, 90% of the interviewed employees stated that such factors are usually taken into account by superiors during the post decision-making evaluation.

Figure 18: Employee's impact on evaluation



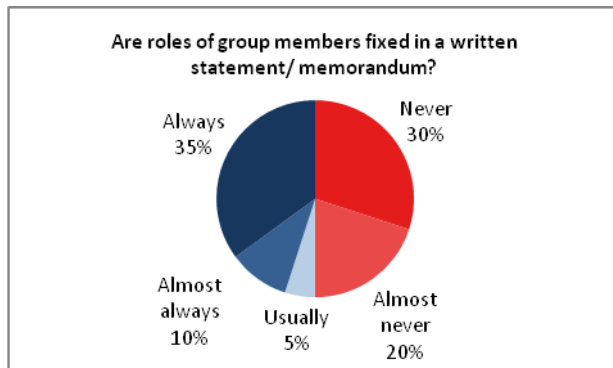
Source: Results of the survey

Also, employees should be allowed to express their view during the evaluation of the decision-making process. Thus, participants of the study were asked if they are free to voice their opinion in the assessment which was confirmed by most employees (Figure 18).

f) AMBIGUITY

As scientific literature indicates, ambiguity can be moderated by preparing a written document specifying each group member's tasks prior to the decision-making.

Figure 19: Formal determination of roles



Source: Results of the survey

Thus, participants of the survey were asked if roles are fixed in a written memorandum. However, merely half of the multinationals investigated seem to document each group member's tasks in a written statement prior to the decision-making (Figure 19).

Ambiguity can also be mitigated by installing a proper IT structure to increase access to necessary information. When being asked for the existence of such an infrastructure, two thirds of the companies investigated confirmed to have installed such systems providing the required information during the decision-making.

g) PERSONALITY TRAITS

As indicated earlier, stress resistance is a highly personal characteristic. Thus, when deciding whom to recruit or promote a company should also consider each individuals' resistance to stress.

Figure 20: Stress-resistance of employees



Hence, participants of the survey were asked if stress resistance is an important dimension in recruitment or promotion decision. However, 45% answered that this criterion only plays a minor role at their multinational corporation (Figure 20).

Source: Results of the survey

Nevertheless, stress does not seem to be neglected completely by superiors. When being asked if stress is recognized at their company, three fourth of the participants of the survey confirmed that higher level employees at their company do acknowledge the existence of stress.

Figure 21: Use of stress-related workshops



Stress resistance can also be trained by reinforcing certain traits. Yet, when being asked for the availability of workshops related to stress, 64% of the respondents confirmed that there are no such workshops offered at their company (Figure 21).

Source: Results of the survey

After having presented the results of the questionnaire, a comparison between techniques recommended in scientific literature and methods currently applied at multinational corporations becomes essential. In the next section, discrepancies are analyzed and areas for possible improvements are brought forward.

5.3. DISCREPANCIES BETWEEN SCIENTIFIC LITERATURE AND BUSINESS PRACTICES

As one might expect, not all techniques to moderate work related stress recommended in scientific literature are currently applied at multinationals. Although the results indicate a rather positive picture, there is still room for improvements.

First, lack of information can be moderated by installing appropriate expert-directories indicating groups where to look for certain information. According to the results, multinational corporations seem to make limited use of this technique and thus, might reduce the risk of stress by installing indices of company-internal experts. If information available is increased, also the risk of ambiguity and a perceived loss of control might decline, hence efficiently mitigating stress during the decision-making. In contrast, information overload seems to be quite well mitigated as most groups in multinational corporations adhere to a formal timetable for the information search. Consequently, time stress caused by information overload is less likely to occur.

Second, company external support can help to reduce stress caused by highly novel situations. As the results of the survey indicate, most multinational corporations do actively encourage their group members to seek outside support and do provide sufficient financial means to contract external consultants. Consequently, stress caused by highly novel situations is less likely to occur at multinational corporations. By reducing the risk of unfamiliar situations, multinationals also mitigate the risk of ambiguity, thus efficiently moderating stress in the group decision-making.

Third, the results of the survey indicate that severity of consequences might be among the least best mitigated stressors. Although, there seems to be sufficient trust between group members and their superiors to voice feelings of stress, there are currently only few human resources professionals responsible for stress moderation at multinational corporations. In consequence, few employees seem to receive any support when experiencing stress and stress due to possible severe consequences is more likely to occur. To resolve this problem, multinationals are advised to train human resources professionals for stress moderation instead of contracting external consultants, as this allows for a more frequent collaboration with decision-makers, the development of a trust relationship and eventually lower costs in the long-run.

Next, according to the results, time stress seems to be quite well mitigated. Decision-making models are applied at most multinational corporations and the majority of groups are free to structure, organize and plan the decision-making process autonomously.

Also stress caused by a perceived loss of control seems to be quite well moderated. Group members can voice their opinion when being evaluated for the results and uncontrollable factors are usually taken into account. Nonetheless, memorandums fixing an individual's role during the decision-making are less often used. In consequence, multinational corporations should more frequently prepare written documents specifying each group member's tasks to avoid a perceived loss of control causing decision-makers to experience stress.

With respect to moderating ambiguity, proper IT structures installed at most multinationals seem to provide group members with sufficient information, hence lowering the likelihood of stress due to ambiguous situations. Nevertheless, as for loss of control, role ambiguity might be better mitigated by more frequently fixing each group member's responsibility in a written document.

Most importantly, the survey indicates that stress resistance, predetermined by a person's traits, is only of minor importance during recruitment and promotion decisions. Yet, personality traits were proven to be a moderator for the variables time constraints, loss of control, ambiguity and severity of consequences. Consequently, multinationals are advised to pay more attention to specific traits, such as optimism and consciousness. Moreover, currently only few multinationals seem to offer workshops training specific traits. It is thus recommendable to offer more training directed at increasing an individual's stress resistance by fostering certain traits.

Concluding, time stress and novelty of situation seem to be adequately mitigated in multinational corporations. In contrast, personality traits and severity of consequences currently seem to be the least moderated stressors. Thus, companies might improve their decision-making significantly by applying the appropriate techniques recommended in this study. Eventually an improved decision-making not merely results in increased productivity, but also in tangible economic benefits and an elevated employee satisfaction.

CHAPTER 6. CONCLUSION

Stress is highly personal and subjective. In consequence, each stressor might affect group members in a different way and they might feel stressed to a different extend in the same decision-making process. Nevertheless, scientific literature recommends various techniques which can be applied at multinational corporations to moderate the level of stress during the group decision-making process.

First, little information available for the group decision-making can be mitigated by relying on expert-directories which indicate where to look for certain information. However, multinationals seem to make little use of such databases, hence exposing group members to an increased probability of experiencing stress caused by a lack of information. In contrast, the majority of multinational corporations seem to efficiently mitigate the risk of stress triggered by information overload by relying on timetables for the information search.

Second, a very novel situation is best moderated by encouraging groups to seek outside support and by providing them sufficient financial funds to do so. According to the survey, most multinationals seem to adhere to this, hence considerably lowering the risk of individuals facing stress due to highly novel situations.

Third, when facing possible severe consequences as a result of the decision-making, group members might experience considerable stress. Although the results indicate that there exists sufficient trust between groups and their superiors, only a minority seem to receive any support when facing a stressful situation. This is confirmed by few of the multinationals, which participated in the survey, relying on a person specialized in stress moderation who could offer psychological assistance to decision-makers suffering from stress due to possible severe consequences.

Fourth, stress due to time constraints can be mitigated by requiring groups to utilize decision-making models and by leaving them with autonomy in the organization, planning and structuring of the process. According to the survey, most multinationals seem to comply with this, thus significantly reducing the risks of group members experiencing stress caused by strict time constraints.

Fifth, loss of control also seems to be quite well controlled for. Most groups are free to express their opinion in the post evaluation of the decision-making and uncontrollable factors are taken into account by their superiors. Nevertheless, groups seem to fix each individual's responsibilities less frequently in a written document, thus raising the risk of experiencing stress caused by a perceived loss of control.

Sixth, ambiguity in decision-making can be highly stress-inducing. Yet, having installed IT structures to provide sufficient information for the decision-making process, most multinationals seem to efficiently mitigate stress caused by ambiguity. As for loss of control however, the lack of written documents fixing each individual's task might increase the probabilities of stress due to ambiguity.

Seventh, the probably most important dimension in stress moderation is personality traits as it significantly determines an individual's resistance to various other stressors, such as time constraints, perceived loss of control, ambiguity, and severity of consequences. Nevertheless, when recruiting or promoting an individual, multinationals seem to place less importance on this dimension. Furthermore, few workshops are currently offered which train employees for stressful situation by fostering specific personality traits, such as optimism or consciousness.

Concluding, stress depends crucially on an individual's perception as well as the interrelations of the stressors present in a certain group decision-making process. According to the survey, the least well mitigated stressor at multinationals seems to be personality traits, although probably the very most important. As not only employees of highly competitive industries experience stress, multinationals should test an individual's stress resistance whenever recruiting or promoting an employee. In contrast, multinationals seem to best mitigate the risks of stressors, such as time constraints and novelty of situation, as they apply a variety of techniques also recommended in scientific literature.

In general, multinationals seem to do a good job at moderating stress during group decision-making. Nevertheless, there is still room for improvement. The set of techniques most appropriate for mitigating stress at a specific multinational however varies according to its needs and its external environment. Yet, the benefits of an improved decision-making justify a careful revision of current practices.

LIMITATIONS:

The major limitation of this study is related to its scope. Efficiently mitigating one of the stressors merely states that a multinational corporation applies the techniques recommended in this study. Consequently, conclusions about the sophistication of a multinational's stress management should not be based exclusively on the data provided in this research. Rather, this study should be considered a guide to possible improvements for today's stress management at multinational corporations.

Moreover, the research is not designed to present all stressors impacting on a group's decision-making. Other dimensions, such as group size, cultural diversity or social background of group members, might be of interest to further research. Nor are all possible interrelations of the stressors mentioned in this study investigated. Supplementary interrelations would however result in additional techniques for stress moderation, thus expanding the list of methods recommended above.

Furthermore, some of the stressors mentioned in this study might be more important to some multinational corporation and less important to another one. In a mature industry, stressors, such as ambiguity and novelty of situation, might be less significant, thus changing the set of techniques for an efficient stress management.

Additionally, any research based on the results of questionnaires relies on subjective data. It might be possible that the participants of the study incorrectly assessed the stress management at their company, thus biasing the analysis. Moreover, the research was not longitudinal and can in consequence not offer an overview of the historical development of stress moderation at multinational corporations.

Finally, the primary data used for this research might be culturally biased. As the focus was placed on Latin American and European employees, it is questionable if results can be generalized to other cultures as well. Stressors might affect them in another way and the network of interrelations might be different.

Concluding, the study presented here should not be perceived as a general guide on stress moderation. Rather, the purpose is to give a rough idea of current stress management at multinational corporations as well as to indicate areas of possible improvement.

ACADEMIC RECOMMENDATIONS:

As mentioned above, this study does not provide a complete and finite list of all stressors affecting the group decision-making process at a multinational enterprise. In consequence, future scientific research might reveal additional stressors as well as novel interrelations, hence demanding new techniques for stress moderation.

Also, the techniques mentioned in this particular study are not the only ones to mitigate the investigated stressors. As a result, a more exhaustive list of methods might be of interest to future research yielding a broader set of possible tools for stress management at multinational corporations.

Additionally, further scientific research might give a better understanding of the specific stressors present in a given industry, such as banking or telecommunications for example. Thus, a detailed analysis might help to develop techniques more appropriate for a particular sector than the ones mentioned in this study.

Moreover, a broader survey of employees working at multinational corporations might result in more reliable data allowing for generalizable results. Additionally, it is recommendable to interview various employees at the same company to avoid any bias resulting from subjective opinions.

Furthermore, future scientific research could be directed at investigating the historical development of stress management at multinational enterprises. This would not only allow to make conclusions about the improvements achieved so far, but also to indicate industries which changed little over time.

Differences between the sexes were neglected in this study. Yet, it is possible that women react differently to the same stressors, thus requiring different techniques for its moderation. Future scientific research could consequently be directed at analyzing this disparity yielding more efficient means for stress moderation.

Finally, investigating different techniques for stress management among various cultures might be another topic for further research. Although, globalisation and modern telecommunication might result in a convergence of cultures, cultural differences still play an important role.

MANAGERIAL RECOMMENDATIONS:

Although stress, if moderate, might improve group decision-making, extremely low or high levels of stress result in a deteriorated process. Moreover, due to globalization and new communication technologies stress might have increased over time, requiring multinational corporations to efficiently mitigate the risks inhibited. Even though stress management might have advanced in past decades, there is still room for further improvements.

One of the most striking implications of this study is that multinational corporations currently seem to underestimate the impact of personality traits on an individual's resistance to stress in recruitment and promotion decisions. Although stress is highly subjective and depends crucially on a person's perception, the results indicate that stress resistance so far plays merely a minor role. Consequently, multinational corporations are advised to pay more attention to an individual's tolerance for stress when deciding about whom to hire or promote.

Furthermore, the results imply that although stress is recognized by most high level employees, there are only a few human resources professionals trained for stress moderation. Consequently, there is hardly any formal training for stressful situations offered and employees often feel left alone when facing a challenging decision. Hence, multinationals should train human resources professionals specifically for stress management to provide the necessary support currently missing.

Nevertheless, multinationals seem to efficiently mitigate stressors, such as time constraints and novelty of situation. Techniques recommended in scientific literature are widely applied at multinational corporations, hence considerably reducing the likelihood of group members experiencing stress during the decision-making process.

Every multinational enterprise and each individual group yet requires a customized set of stress moderation techniques appropriate for its decision-making since there is no one-size-fits-all solution. This reiterates the importance of a careful selection when recruiting or promoting employees as well as the need of human resources professionals trained specifically for stress management. In the end, a better group decision-making translates into, among others, higher employee satisfaction, lower sick leave, and higher financial profits to the multinational corporation.

CHAPTER 7. LIST OF REFERENCES

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APPENDIX

APPENDIX 1: Online questionnaire which was available between November 15 and December 15, 2009 at <http://www.freeonlinesurveys.com/>⁶

Questionnaire for Analyzing Stress Management at Multinational corporations

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Master in Business Administration
Universidad Torcuato Di Tella, Buenos Aires
2008 - 2009

⁶ To facilitate participation in the survey, the questionnaire was available in English, French and Spanish.

Introduction:

Currently, pursuing a Master in Business Administration of Universidad Torcuato Di Tella, I am writing my Master Thesis on the topic “How to Improve Group Decision-Making at Multinational corporations by Enhancing Stress Management”.

The following 20 questions are designed to reveal your company’s commitment to the management of stress in its group decision-making processes. Filling out the questionnaire will take between 5 to 10 minutes.

All data will be treated confidentially and the results of the study omit manager names. At the end of the questionnaire you can choose to demand a copy of the final report to improve stress management at your company.

I appreciate your assistance and I would like to thank you very much for your support.

Name of company: _____

Function of respondent: _____

Please try to answer the questions as correct as possible.

Question 1) *Is stress recognized by higher level employees at your company?*

Never Almost never Usually Almost always Always

Question 2) *Do employees experiencing stress receive any support by the company?*

Never Almost never Usually Almost always Always

Question 3) *Is there a person and/or department at your company responsible for moderating stress at the workplace?*

Yes No

Question 4) *Are there any workshops related to stress offered at your company?*⁷

Never Almost never Usually Almost always Always

Question 5) *Does stress impact on your company's group decision-making?*

Never Almost never Usually Almost always Always

Question 6) *Are groups responsible for taking a certain decision free to organize, structure, and plan the decision-making process?*

Never Almost never Usually Almost always Always

Question 7) *Do groups responsible for taking a certain decision make use of decision-making models?*

Never Almost never Usually Almost always Always

Question 8) *Is stress resistance an important dimension in recruitment or promotion decisions?*

Never Almost never Usually Almost always Always

Question 9) *Are roles clearly defined by the groups before taking a certain decision (i.e. Ms. X is responsible for information search; Mr. Y is in charge of securing financial funds)?*

Never Almost never Usually Almost always Always

Question 10) *If so, are these roles fixed in a written statement/ memorandum?*

Never Almost never Usually Almost always Always

⁷ Question was optional.

Question 11) Is there a sufficient IT infrastructure installed to access necessary information for the decision-making?

Never Almost never Usually Almost always Always

Question 12) When superiors evaluate the results of a certain group decision-making, do they take into account uncontrollable factors?

Never Almost never Usually Almost always Always

Question 13) Can group members voice their opinion during the evaluation of the group decision-making?

Never Almost never Usually Almost always Always

Question 14) Is there sufficient trust between groups and their superiors to voice a feeling of stress?

Never Almost never Usually Almost always Always

Question 15) Are there any HR professionals trained for stress moderation at your company?

Yes No

Question 16) Are there databases with directories of company-internal experts listed (i.e. Mr. X is an expert for a certain region in Asia; Ms. Y is an expert for input prices)?

Yes No

Question 17) Do groups prepare a formal timetable for information search?

Never Almost never Usually Almost always Always

Question 18) Are groups encouraged to seek outside support for their decision-making, if necessary?

Never Almost never Usually Almost always Always

Question 19) Does your company provide sufficient funds for external consultants, if decision-making requires so?

Never Almost never Usually Almost always Always

Question 20) Would you like to receive the results of the study summarizing its most important findings?

Yes No

If so, please put your email address here:

APPENDIX 2: Participating companies



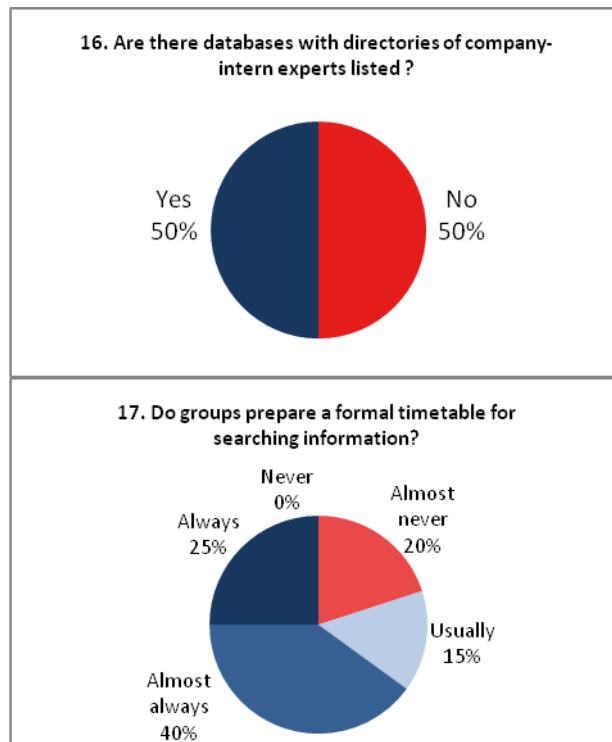
I would like to thank all participants of the study for providing the data the research is based on.

APPENDIX 3: Results from the survey

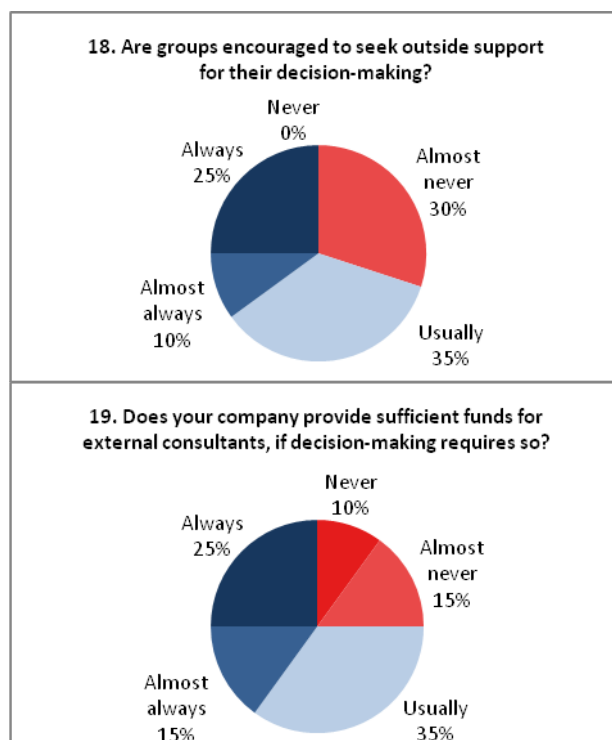
Question	Never	Almost never	Usually	Almost always	Always	Yes	No	Stressor
1	0	5	11	4	0	-	-	Personality Traits
2	5	6	4	5	0	-	-	Severity of Consequences
3	-	-	-	-	-	4	16	Severity of Consequences
4	7	2	2	0	0	-	-	Personality Traits
5	2	6	7	2	3	-	-	Control Question
6	2	3	6	4	5	-	-	Time Constraints
7	0	6	5	8	1	-	-	Time Constraints
8	3	6	3	6	2	-	-	Personality Traits
9	1	2	8	3	6	-	-	Ambiguity
10	6	4	1	2	7	-	-	Ambiguity
11	1	6	2	8	3	-	-	Ambiguity
12		2	5	10	3	-	-	Loss of Control
13	1	3	6	4	6	-	-	Loss of Control
14	1	4	8	4	3	-	-	Severity of Consequences
15	-	-	-	-	-	3	17	Severity of Consequences
16	-	-	-	-	-	10	10	Information Available
17	0	4	3	8	5	-	-	Information Available
18	0	6	7	2	5	-	-	Novelty of Situation
19	2	3	7	3	5	-	-	Novelty of Situation
20	-	-	-	-	-	16	4	Control Question

ALL (n=20)

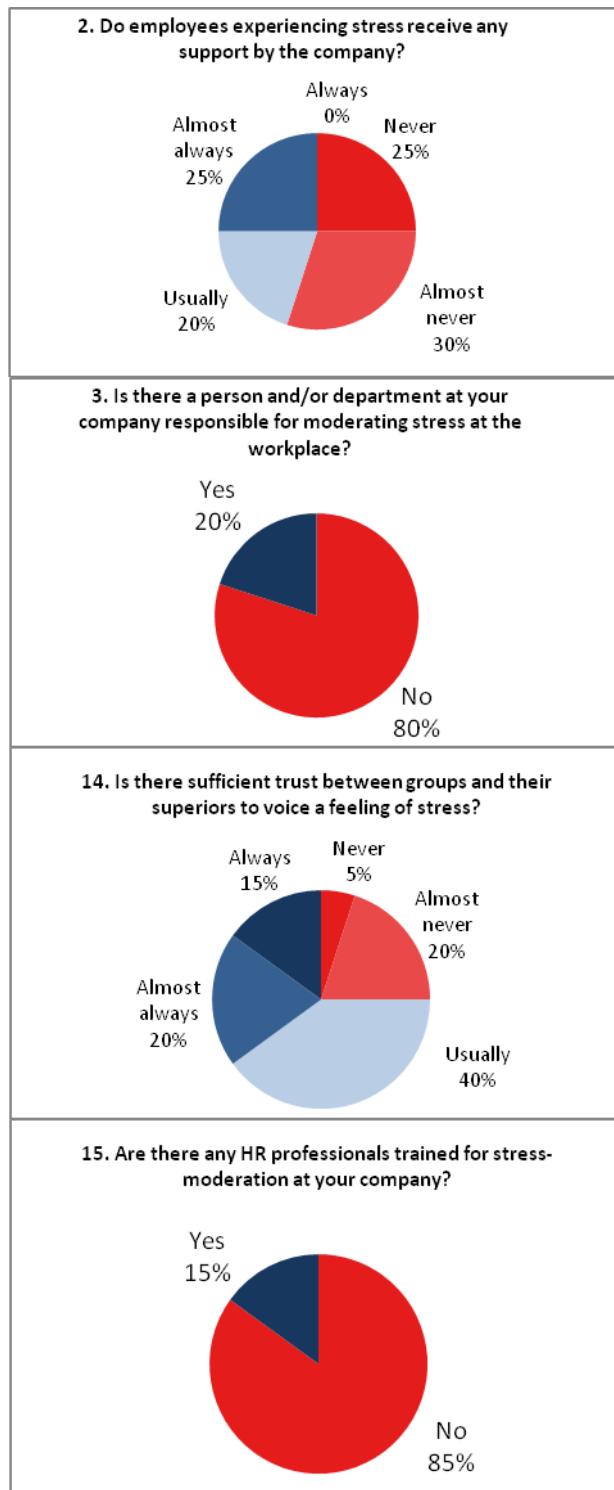
a) INFORMATION AVAILABLE:



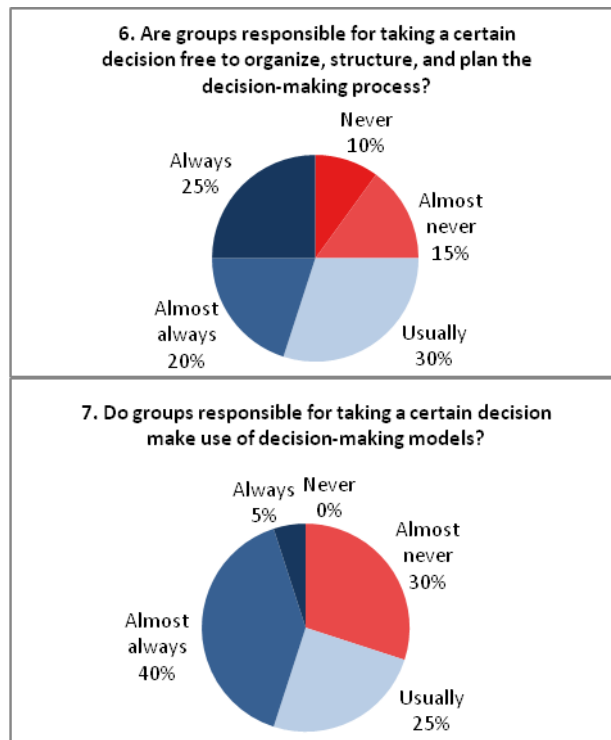
b) NOVELTY OF SITUATION:



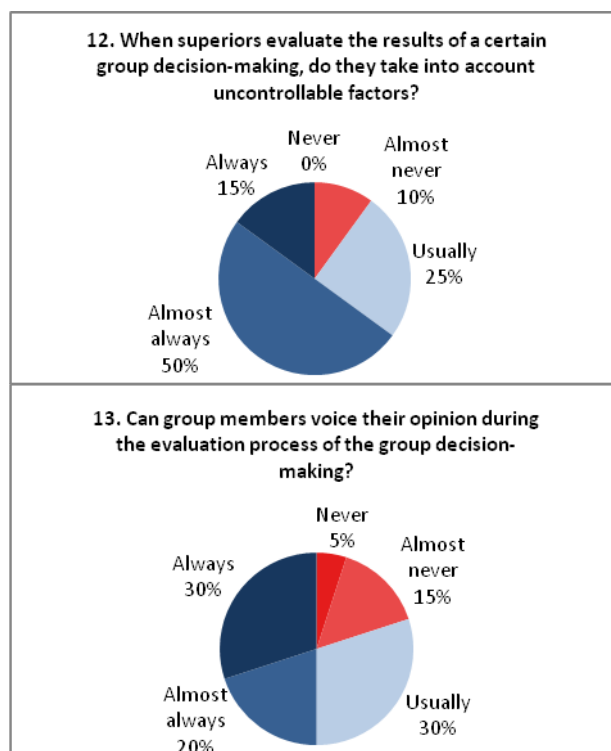
c) SEVERITY OF CONSEQUENCES:



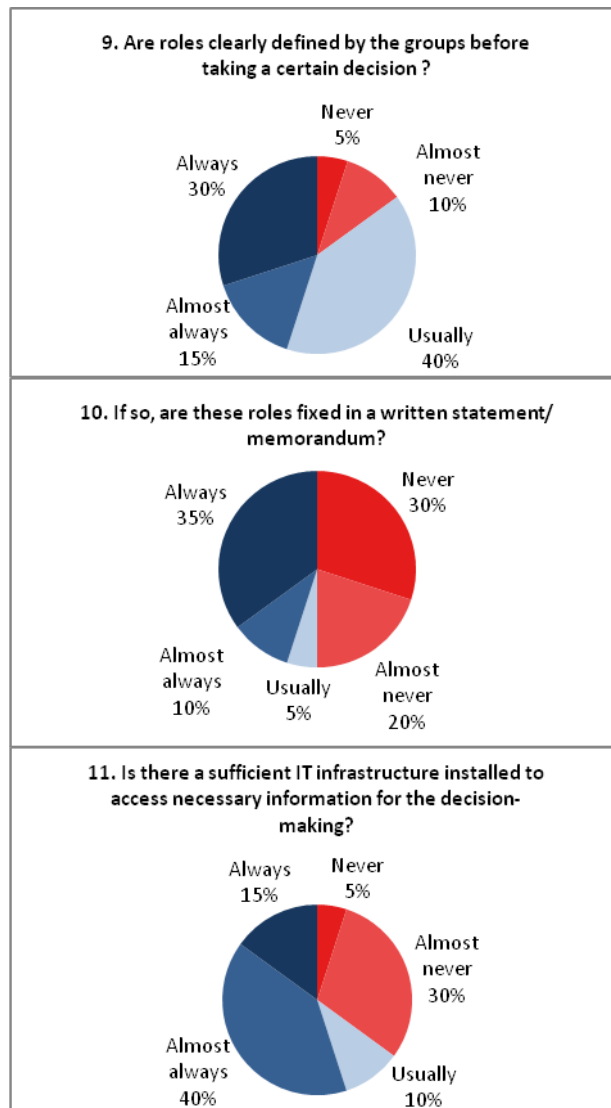
d) TIME CONSTRAINTS:



e) LOSS OF CONTROL:

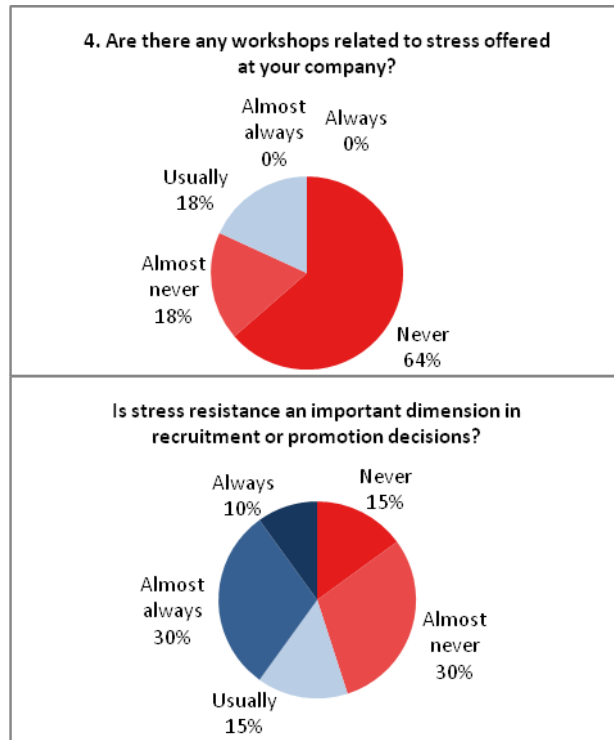


f) AMBIGUITY:



g) PERSONALITY TRAITS:





Results for Question 5 and 20:

