

MASTER'S THESIS

Business development

2020

Inga Habilainen

# ENHANCING INTERFUNCTIONAL COORDINATION

– the role of information coordination



MASTER'S THESIS | ABSTRACT

TURKU UNIVERSITY OF APPLIED SCIENCES

Degree programme in business development

2020 | 66 pages, 2 pages in appendices

Inga Habilainen

# ENHANCING INTERFUNCTIONAL COORDINATION

– the role of information coordination

This thesis is commissioned by a globally operating small-to-medium sized project organisation as a part of continuous development of operations in accordance with its quality policy, where market orientation is one major element. Research literature indicates that interfunctional coordination has an important role in market orientation. This study therefore investigates the current state of interfunctional coordination of the principal as well as methods for enhancing it, with consideration of the principals' type and size.

The empirical study was fulfilled in two parts using Nominal Group Technique. In the first part, a workshop with participation of the employees of the principal was arranged with the objective to determine strengths and weaknesses of the current state of interfunctional coordination and find the prevalent weakness to be addressed. In the second part, another workshop was arranged with the objective to collect suggestions on how to address the prevalent weakness determined in the first workshop. Results of both workshops were thematically analysed and quantified.

Results of the first workshop suggested that the prevalent strength in the current state of interfunctional coordination was perceived to be organisation culture related and the prevalent weakness information coordination related. Results of the second workshop provided a variety of suggestions across many themes for addressing the weaknesses in information coordination, such as improving communication practices, clarifying current practices, management, documentation and accessibility to information, IT solutions, assigning responsibilities, meeting practices and training.

The thesis concludes that the principal should continue with initiated improvements in meeting practices and planned introduction of IT solutions. Also, further enhancements in communication, management and documentation practices are needed. Disruptions of information flow should be managed through coordinating mechanism between functions and communication between the principal and its Chinese subsidiaries could be improved through participative and bidirectional communication channels and procedures with supervision by a member of the dominant coalition. There may also be a need to address an interdepartmental conflict.

## KEYWORDS:

interfunctional coordination, information coordination, internal communication, SME, project organisation

Inga Habilainen

# TOIMINTOJENVÄLISEN KOORDINOINNIN PARANTAMINEN

– informaatiokoordinoinnin rooli

Tämän opinnäytetyön toimeksiantaja on globaalisti toimiva projektiliiketoimintaa harjoittava pk-yritys ja se on osa yrityksen laatupolitiikan mukaista jatkuvaa kehittämistä, jossa markkinasuuntautuminen on merkittävä elementti. Tutkimuskirjallisuus osoittaa, että toimintojenvälisellä koordinoinnilla on tärkeä rooli markkinasuuntautumisessa. Tämä toimii lähtökohtana tälle opinnäytetyölle, jossa tutkitaan toimeksiantajan toimintojenvälisen koordinoinnin nykytilaa ja menetelmiä sen parantamiseksi, huomioiden yrityksen koko ja tyyppi.

Työn empiirinen osuus toteutettiin kahdessa osassa käyttäen Nominal Group Technique menetelmää. Ensimmäisessä osassa järjestettiin toimeksiantajan työntekijöille työpaja, jossa tavoitteena oli selvittää toimeksiantajan toimintojenvälisen koordinoinnin nykytilan vahvuuksia ja heikkouksia sekä määrittää merkittävin heikkous. Toisessa osassa järjestettiin vastaava työpaja, jossa tavoitteena oli löytää menetelmiä, jolla kyseistä heikkoutta voidaan korjata. Molempien työpajojen tulokset käsiteltiin teema-analyysillä ja kvantifioinnilla.

Ensimmäisen työpajan tulokset osoittivat, että toimeksiantajan toimintojenvälisen koordinoinnin nykytilan merkittävin vahvuus on organisaatiokulttuuriin ja heikkous informaatiokoordinointiin liittyvä. Toinen työpaja tuotti moniin eri teemoihin luokiteltavia ehdotuksia informaatiokoordinoinnin heikkouksien korjaamiseksi, kuten viestintäkäytäntöjen parantaminen, nykyisten käytäntöjen selventäminen, johtaminen, dokumentointi ja tiedon saatavuus, IT-ratkaisut, vastuun jakaminen, kokouskäytännöt ja koulutus.

Opinnäytetyön päätelmänä on, että toimeksiantajan kannatta ylläpitää kehittämiänsä kokouskäytäntöjä sekä ottaa käyttöön uusia IT-ratkaisuja suunnitelmansa mukaisesti. Viestinnän, johtamisen ja dokumentoinnin käytäntöjä tulisi kehittää. Tietovirtahäiriöitä olisi hallittava toimintojen välisillä koordinointimekanismeilla ja toimeksiantajan sekä tämän kiinalaisten tytäryhtiöiden välistä viestintää voidaan parantaa käyttämällä osallistavia ja kaksisuuntaisia viestintäkanavia ja -menettelyjä, joiden toteutumista valvoo päättävässä asemassa oleva taho. Lisäksi saattaa olla tarpeen lieventää osastojen välistä konfliktia.

## ASIASANAT:

toimintojenvälinen koordinointi, informaatiokoordinointi, sisäinen viestintä, pk-yritys, projektiorganisaatio

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# 1 INTRODUCTION

## 1.1 Background of the thesis

This thesis is commissioned by the employer company of the researcher as a part of continuous development of operations in accordance with the company's quality policy. The company is small to medium sized and its business is project based. Small to medium sized enterprises (SMEs) tend to implement projects to achieve direct market action related effects, such as increase in revenue, and their project management tends to be market oriented (Kozlowski 2016, 38). Studies indicate, that interfunctional coordination has an important role in market orientation (Tomaskova 2009; Kahn 1998, 326).

Market orientation is an important element in the principal company's quality policy, which strongly indicates that the principal company would benefit from added knowledge regarding its current state of internal interfunctional coordination. The company had dedicated several seminar days for operation development purposes. This presented an opportunity to arrange workshops, where the current state of internal interfunctional coordination and find ways to enhance it could be researched. This premise serves as the basis for the research problems of this thesis.

## 1.2 Goals and research problem of the thesis

The subject of this thesis is the principal company's internal interfunctional coordination, defined by Mintzberg (1979, 2) as the division of labour into different tasks to be performed and the coordination of these tasks to accomplish activity. The objective is to discover development areas in the current state of interfunctional coordination in the company and provide suggestions on how to enhance the current state. In the course of creating this work, focus has been established to be on information coordination. Interfunctional coordination model created by Tomaskova (2009) is used as the framework of this study.

The research questions are:

1. What are the weaknesses and strengths in the current state of interfunctional coordination in the principal company?
2. Which weakness is prevalent and may be considered main development area in interfunctional coordination of the principal company?

3. How to address said weakness to enhance interfunctional coordination in the principal company with consideration of the company being a small-to-medium sized project organisation?

### 1.3 Research methods

This work is a qualitative study and more specifically an action research, where the researcher is an active participant in the operations researched and developed, and other active members of the operations are also involved in the research and development process (Kuula 2006). Action research enables finding effective solutions to problems confronted in daily life and seeks to capture the complex dynamics involved in social contexts (Stringer 2014, 1). Instead of providing fixed solutions to be applied in any context, action research provides a flexible and practical set of systematic, cyclical, solutions oriented and participatory procedures, providing the means to create sustainable improvements in practice (Stringer 2014, 5).

Research data is collected in two workshop sessions with the use of Nominal Group Technique (NGT) originated by Delbecq, Van de Ven and Gustafson (1975, 67-69; cited in Delp, Thesen, Motiwalla & Seshardi 1977, 16). The technique is useful for collecting opinions and judgements for unstructured problems (Delp et al. 1977, 14-15). It can be used to familiarise with the ideas found to be relevant to the persons included in the research, and it can serve as a consensus method and tool for decision making (Vander Laenen 2015, 10). It also provides such benefits as limiting researchers and group dynamics influence (Vander Laenen 2015, 10), reducing influence of high-status members and increasing likelihood of equal participation of all group members (Delp et al. 1977, 14-15; Vander Laenen 2015, 10).

The workshop sessions were adapted on the basis of description of the technique by Delp, et al. 1977, 14-15). In the first workshop session employees of the principal company produce opinions regarding strengths and weaknesses of the current state of interfunctional coordination. The data obtained is processed by thematic analysis and quantification in order to extrapolate prevalent types of weaknesses and strengths as experienced by the employees. In the second session employees provide suggestions on possible ways to address the major weakness derived from the data of the first session. Suggestions are valued and ranked through voting and thereafter thematically arranged and quantified for the purpose of further thematical analysis and comparison to theoretical framework.



## 1.4 Case organisation

The principal company of this thesis is a globally operating small to medium sized limited liability company with project operations, where most of the projects are implemented with involvement of all, or majority, of the company's multiple functional departments. The functional departments are sales, administration, research and development (R&D), project management (including logistics and purchasing) and engineering. The company is a part of a Group, where the parent company is in Finland and subsidiaries, among others, in mainland China. This work focuses on the Finnish parent company, where the empirical study was conducted, but also draws some parallels to the Chinese subsidiaries. Studies indicate that the size and type of organisations may have a significant effect on the way in which internal/employee communication is structured and conducted (Loch 1995, 393-425; cited in Chen 2008, 172-173; Chen 2008, 183). Therefore, this thesis also considers both size and the type of organisation as factors affecting interfunctional coordination.

According to EU recommendation 2003/361, SMEs are defined by staff headcount and either turnover or balance sheet total, as presented in Table 1. The principal company fits into the small category and the Group as a whole into the medium-sized category.

Table 1. Defining factors of SMEs (European Commission 2019).

Company category	Staff headcount	Turnover	or	Balance sheet total
Medium-sized	< 250	≤ € 50 m		≤ € 43 m
Small	< 50	≤ € 10 m		≤ € 10 m
Micro	< 10	≤ € 2 m		≤ € 2 m

*These ceilings apply to the figures for individual firms only. A firm that is part of a larger group may need to include staff headcount/turnover/balance sheet data from that group too.*

Arto, Martinsuo and Kujala (2011, 17-18) define project business as having managed and goal-oriented activities related to projects that serve business goals of the organisation. Project business may mean delivering solutions to customers or development of internal business solutions. According to Roseke (2019), project-oriented organisations are structured around projects and perform most of their work on a project basis. In such an organisation, project managers mostly fulfil their role as such on a full-time basis and may manage several projects at once. They usually have considerable independence and authority as well as ability to draw on resources with little required approval. Most of these types of organisations have functional departments that can be utilised by all projects. The principal

company is structured around projects and mostly delivers solutions to customers on project basis, although internal business solutions are also occasionally developed on a project basis. Project managers fulfil their role as such on a full-time basis and may manage several projects at once. They have considerable independence and authority, as well as authorisation to draw on resources without separate approval for their projects within the limits set by the quality management instructions of the company. As previously mentioned, various functional departments of the company can be and are being utilised in most of the projects.

## 2 INTERFUNCTIONAL COORDINATION IN SMALL TO MEDIUM SIZED PROJECT ORGANISATION

### 2.1 Characterisation of small and medium-sized project enterprises

To reflect on the subject of interfunctional coordination as applicable to the principal company of this study, the type and size of the company needs to be considered. In this chapter characteristics of SMEs in general and with project operations are described for the purpose of better understanding advantages, limitations and special features of such entities to be considered in this study.

Nicolescu (2009, 407-412) has comprised a comprehensive list of ten features of SMEs' organisation system presented in Figure 1 and described below.

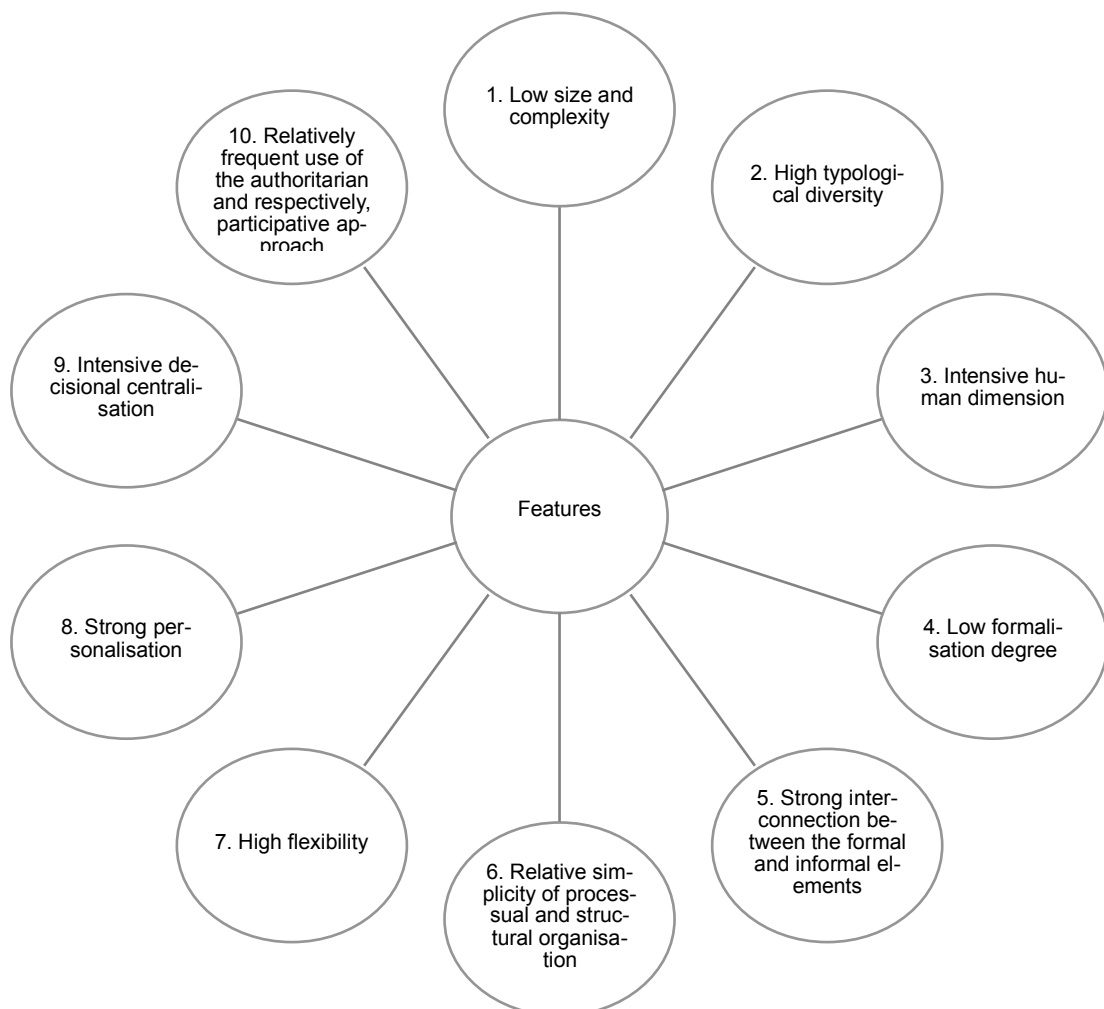


Figure 1. General features of the SMEs' organisation system (adapted from Nicolescu 2009, 407).

Low size and complexity are indicated by small number of positions, employees and hierarchical levels, the absence or small number of departments, low span of control for other than the company's manager or the entrepreneur and low frequency of predominantly hierarchical organisation relationships. This feature represents an advantage for the management, as necessary volume for the establishment and affirmation of functionality of the organisational systems is relatively small. High typological diversity between SMEs on the other hand presents a challenge, as it is difficult to achieve functional and efficient organisational system due to multiple specific aspects that need to be known and considered in each specific SME. (Nicolescu 2009, 407-412.)

Intensive human dimension comes from small number of involved persons and their direct and frequent relationships between each other and the entrepreneur. This presents such advantages as higher working ethics, better working climate, more intense consulting and cooperation, and such disadvantages as insufficient rigor in designing and carrying out the activities, reducing responsibility and partial negligence of the economic aspects in favour of the social ones. These disadvantages, however, may be decreased by increasing formalisation level. (Nicolescu 2009, 407-412.)

Formalisation level, which in this instance means exact determination of all components of the organisation system and detailed documentation thereof to serve as working instrument for the benefit of control and performance, tends to be low in SMEs. The need for formalisation of organisation systems is amplified with company's size. Due to intensive human dimension and low formalisation level, there is a strong interconnection of the formal and informal elements. (Nicolescu 2009, 407-412.)

Relative processual and structural simplicity is due to small size and low complexity of the company. It is to be noted, that there is a trend for amplifying and diversifying activities and the intensity of such trend depends on factors such as company's field of activity, size, resources, managerial conception of the entrepreneur and of the involved manager, etc. (Nicolescu 2009, 407-412.)

High flexibility is generated by small quantity of resources and volume of activities with low complexity, high capacity of perception of exogenous variables by the entrepreneur and managers and entrepreneurial spirit, involving among other elements, a high capacity of decision and action. These factors result in changes in the main parameters of SMEs system at short intervals. (Nicolescu 2009, 407-412.)

Strong personalisation, intensive decision centralisation and frequent use of authoritarian and participative approach are largely interconnected and mainly related to the fact that

due to the company's small size, impact of the entrepreneur on the company is considerable. The smaller and less complex a company is, the more likely it is, that the decision making is centralised and authoritarian, where entrepreneur has a large role in controlling the company. As the size and complexity increases, this becomes an obstacle and decentralisation is recommended to avoid blocking or delaying problems arising during operation. To ensure agility, many SMEs are also moving away from authoritative towards participative managerial approach. (Nicolescu 2009, 407-412.)

When considering project organisations, case study by Hobday (2000, 892) outlines the power and responsibility of project managers in project success, as all major business functions, including marketing and finance, are coordinated within the project. Unlike in characterisation of SMEs by Nicolescu (2009, 407-412) as having intensive decision centralisation, in project organisations the decision making seems to be decentralised between the project managers. Hobday (2000, 892) names flexibility as a trait of project organisations, which is also one of the traits of SMEs by Nicolescu (2009, 407-412). According to Hobday (2000, 892) shortcomings of project-based organisations lie in inherently weak coordinating processes, resources and capabilities across the totality of the organisation. The study revealed problems in cross-project learning or communications and potential problems in cross-project integration and management control when projects deviate from their intended path.

In Kozlowski's (2016, 38) study SMEs' project management practices were compared to those of large enterprises (LEs). With reference to project initiation stage, where major reasons and goals of projects are analysed, it was discovered that SMEs more often implement projects to achieve direct market action related effects, such as increase in revenue, and project management of such enterprises is more externally or market oriented, while LEs are more focused on developmental goals, such as improvement of quality and internal procedures to increase efficiency and reduce operational costs and time of processes. (Kozlowski 2016, 38.) During the project planning and arrangement stage, results show significant difference in use of organisational and IT instruments, where SMEs have lower formalisation and limited scope of use of organisational and IT instruments as compared to large enterprises. High-tech forms of telecommunication are used in SMEs much less than in LEs (Kozlowski 2016, 39-41). In the project completion and evaluation phase, study found that SMEs performed a full evaluation of the project significantly less frequently than LEs. One of the reasons for that being that in the sample of SMEs used in the study, static project supervision was usually performed by the business owner who supervised the project on a real-time basis. Other reasons contributing to the above are

the lower level of formalisation of the project management process and perhaps also project completion phase, where the assessment is more superficial for the purpose of allowing recording of higher efficiency rates. Lower formalisation of the project completion stage causes lower retention of knowledge generated in project implementation and it may be a result of limited capabilities and/or needs of SMEs. (Kozlowski 2016, 41.) These findings correlate with the weaknesses found in the case study by Hobday (2000, 892).

Also regarding the relationship of project management and SMEs, according to Turner, Ledwith and Kelly (2012, 945-955), micro-sized and small companies need less bureaucratic and more flexible and people focused forms of project management to facilitate the work of teams of generalists, while medium-sized and large companies, on the other hand, require more formal approaches to manage the work of teams of specialist. Based on their research, Turner, Ledwith and Kelly (2012, 945-955) imply that the smaller the company, the simpler forms of project management are needed. This implication corresponds to observation about amplification of need for formalisation of organisation systems along with increasing the size of the company made by Nicolescu (2009, 407-412).

Chen (2008, 183) studied internal/employee communication and organisational effectiveness of Chinese corporations in transition. According to Chen (2008, 172-173) existing study by Loch (1995, 393-425) indicate that the size and type of organisations may have a significant effect on the way in which internal/employee communication is structured and conducted. The research by Chen (2008, 183) found similar results. There was a significant association between the size of corporations and two-way mode of communication, where larger corporations had a possible tendency to hold on to two-way modes, and smaller ones to one-way modes of communication. No tendency of limited company leaning toward the two-way modes more heavily than privately-owned corporations, corporations in transition and state-owned corporations was found, but statistic showed that shared/limited companies seemed to harbour more participative culture than state-owned corporations, corporations in transition and privately-owned corporations.

In summary, studies reveal a multitude of features pertaining to SMEs and project organisations that may have an impact on interfunctional coordination. SMEs' low size and complexity as well as relative processual and structural simplicity present an advantage, while low formalisation level and high typological diversity present a challenge in establishing efficient organisational systems. Intensive human dimension can contribute to higher working ethics, better working climate and cooperation, while in combination with low formalisation it can also result in such disadvantages as insufficient rigor in designing and carrying out the activities, reducing responsibility and partial negligence of the economic

aspects in favour of the social ones. (Nicolescu 2009, 407-412.) In project organisations implication of decentralisation of power and responsibility between project managers needs to be considered as well as such shortcomings as weak coordinating processes, resources and capabilities across the totality of the organisation and problems in cross-project learning or communications and cross-project integration and management control when projects deviate from their intended path. (Hobday 2000, 892.) Small companies need less bureaucratic and more flexible and people focused forms of project management to facilitate the work of teams of generalists (Turner, Ledwith & Kelly 2012, 945-955) and project-based SMEs' project management is market oriented (Kozlowski 2016, 38). Studies also indicate that size and type of organisations may affect the way in which internal/employee communication is structured and conducted (Chen 2008, 183; Loch 1995, 393-425). There is an implication that smaller companies tend to hold on to one-way modes of communication and shared/limited companies seem to harbour more participative culture than state-owned corporations, corporations in transition and privately-owned corporations (Chen 2008, 183).

## 2.2 Interfunctional coordination

Interfunctional coordination as a term does not seem to have a well-established consensual and concise definition. At its core it may be considered the second of the two fundamental requirements that according to Mintzberg (1979, 2) are brought about by every organised human activity: the division of labour into different tasks to be performed and the coordination of these tasks to accomplish activity. More precisely, according to Mintzberg (1979, 2), the fundamental ways in which organisations coordinate their work are explained by the following five coordinating mechanisms:

1. Mutual adjustment, which is the process of informal communication.
2. Direct supervision, where one individual takes responsibility for the work of others.
3. Standardization of work processes, where contents of the work are specified or programmed.
4. Standardization of outputs, where results of the work are specified.
5. Standardization of skills, where the kind of training required to perform the work is specified.

Narver and Slater (1990, 22) define interfunctional coordination as “the coordinated utilisation of company resources in creating superior value for target customers”. In their research, the following actions were used as representative of interfunctional coordination: interfunctional customer calls, information sharing among functions, functional integration in strategy, all functions contributing to customer value and sharing resources with other business units (Narver & Slater 1990, 24). Auh and Menguc (2005, 252) build upon the above by adding that “interfunctional coordination describes the ability of different functional areas to accommodate disparate views and work around conflicting perspectives and mental models by putting aside functional interests for the better of the organization as a whole” and posit that “interfunctional coordination represents a key form of internal social capital of an organisation”.

Tomaskova (2009, 536) names interfunctional coordination as one of three elements, or barriers, influencing the implementation of market orientation in the firm as well as having influence between each other. Also study of implications of interfunctional coordination for market orientation and performance conducted by surveying marketing, manufacturing and research and development (R&D) department managers in 300 nondurable goods manufacturer companies by Kahn (1998, 326), highlight interfunctional coordination as an important element of market orientation. According to Kahn (1998, 326), interfunctional coordination appears to be more significant than competitor orientation and in case of manufacturing and R&D managers, equally, if not more significant than customer orientation. Due to market orientation being an important characteristic of an SME, as proposed by Kozlowski (2016, 38) earlier in this study, interfunctional coordination assumes an important role in SMEs’ success.



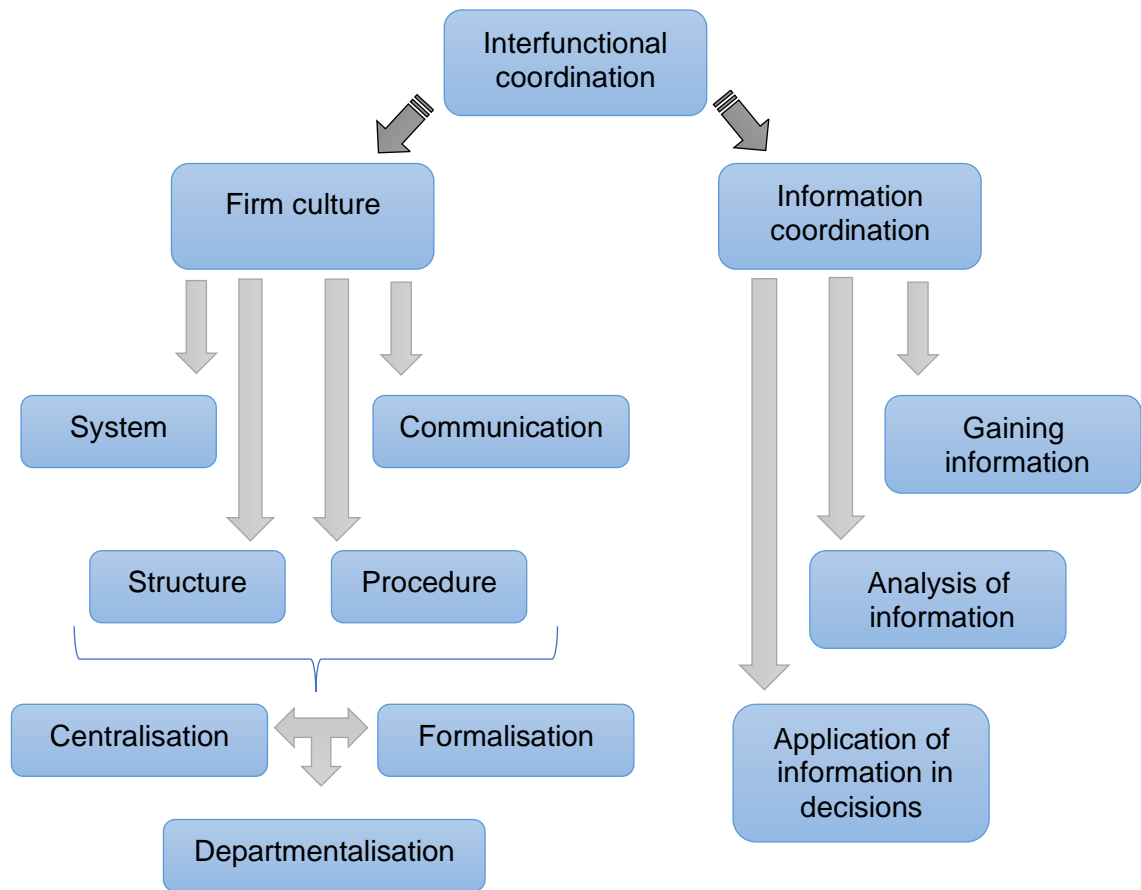


Figure 2. Interfunctional coordination connected barriers (adapted from Tomaskova 2009, 538).

In Figure 2 Tomaskova (2009, 538), represents elements, or barriers, connected to interfunctional coordination. In later work by Kaňovská and Tomaskova (2012, 74) the idea is elaborated on with a statement that corporate culture, gaps in communication, high value of formalisation and centralisation and weaknesses in system, structure and procedures have a negative influence on decision process. In further study, Tomaskova (2018, 7) defines interfunctional coordination as being based on the following: further education of workers, preference of teamwork and cooperation, regular discussions with middle and low-level managers and analysis of remarks of workers. According to Tomaskova (2018, 7), strict and formal relationship between superiors and subordinates does not influence the interfunctional coordination.

Auh and Menguc (2005, 255) use the following measures of interfunctional coordination in researching its role in top management team diversity and innovativeness:

- regular customer visits by each function
- free communication about customers throughout organisation

- integration of business functions to serve the target market needs
- understanding of how employees can contribute to value of customers
- sharing of resources with other business units

In this work, interfunctional coordination will be studied on basis of Figure 2 by Tomaskova (2009, 538), where the two main contributing factors to successful interfunctional coordination are firm culture and information coordination. Communication and information flow seem to be strongly intertwined in interfunctional coordination, as these elements are present in other researchers' interpretations of interfunctional coordination as well as in Tomaskova's (2009, 538) Figure 2, where they are presented both as an element of firm culture as well as information coordination itself. This study will discuss organisational culture and information coordination separately below, while the focus will remain on communication and information coordination throughout the work.

### 2.2.1 Organisational culture

As presented in Figure 2 by Tomaskova (2009, 538-539), organisational culture is one of the two main elements influencing interfunctional coordination and it has an effect on system, communication, structure, procedure, centralisation, formalisation and departmentalisation. Organisational culture may become a barrier that decreases the level of interfunctional coordination (Kaňovská & Tomaskova 2012, 74) or an element that promotes and enhances open cross-functional collaboration, free data and analysis sharing and free flow of communication and information (Kolouchová & Rozek 2014, 33). Organisational culture where information is restricted and hidden creates mistrusts and harms cooperation. Interdepartmental distrust deepens as hidden information is revealed at some point. Creating and enhancing organisational culture that supports free information and data sharing is therefore crucial in achieving good interfunctional coordination level. (Kolouchová & Rozek 2014, 33.)

Tying in with the role of interfunctional coordination in enhancing market orientation, study by Kahn (1998, 326) presents the following requirements for success: collective goals, teamwork, common vision, mutual understanding and shared information. In addition to these, Kahn (1998, 326) also mentioned importance of structural coordinating mechanisms, such as liaisons, committees and teams between functions. Formal, structured communication, on the other hand, was not found to be significant in facilitating market

orientation between functions. Instead, collaboration supported by coordinating mechanisms is seen as essential for implementing market orientation. (Kahn 1998, 326.)

In work concerning functional relationship between marketing and sales, Kolouchová and Rozek (2014, 33) argue that one of the most effective methods in creation of such culture is establishing, promoting and sharing one common vision of the company with employees from all departments. In work regarding enhancing communication between marketing and engineering Fisher (1997, 67) suggests that interfunctional relationships could benefit most from emphasis on integrated goals created through strategies such as 360-degree performance reviews or team-based reward systems. Both researches thus agree on positive effect of establishing common or integrated goals and team-based reward systems (Fisher 1997, 66-67; Kolouchová & Rozek 2014, 32). Conversely, research by Rotemberg and Saloner (1995, 650) shows that different incentives cause conflict between marketing and manufacturing departments and similar results were shown also in research on conflict between marketers and engineers in high-technology companies by Keaveney (2008, 660-661), where different perks and pay were one of the factors contributing to conflict between the above-mentioned functional departments. Kolouchová and Rozek (2014, 32) elaborate that in order to be effective in enforcing cooperation and communication, the rewarding system should implement common targets with common responsibilities and those targets must be realisable with same effort from both sides resulting in identical rewards.

In study by Shaw and Shaw (2000, 1172-1173) regarding conflict between engineers and marketers in high-tech companies in Britain, Canada and Sweden the preliminary results found that across the three countries the degree of conflict was above average. Canadian engineers experienced the greatest difficulties due to poor communications, distrust and a lack of understanding of marketing on the part of engineers. Swedish engineers were best educated in both engineering and marketing, which appeared to lead to better relationships and greater willingness to improve the mutual interface. As solutions or reducing conflict, Swedes favoured more teamwork, British engineers better management alongside more teamwork and Canadian engineers saw the need for better communications. Shaw & Shaw 2000, 1172-1173.)

Regarding establishment of information sharing norms and integrated goals, it is to be noted that process is not straightforward, as the results of research conducted by Fisher (1997,67) indicate that their effectiveness may be influenced by various group identities and social psychological variables. In research of marketing and sales managers, Fisher found that norms and goals appear to have a significantly different effect on managers

who have high psychological connection to their functional area as opposed to the company as a whole, than those who have low level of such connection. Fisher (1997,67) uses term relative functional identification (RFI) to signify above connection. According to the research, marketing managers with high level of RFI are more sensitive to integrated goals, which increases alignment of functional and organisational objectives, and lessens the effect of organisational-level information sharing norms. They are more sensitive to informal and implicit demands of free information exchange with other functions made by the organisation. Marketing managers with high level of RFI, on the other hand, appear to adjust their communication behaviours most when the focus is on the objectives desired by the organisation rather than the communication behaviours thought to lead to these objectives. (Fisher 1997,67.)

In Keaveney's (2008, 660-661) research, in addition to differences in perks and pay, personal differences, emotionality and antagonism contributed to conflict between marketers and engineers. According to Kaeveney (2008, 660-661), relationship conflict prevents interfunctional work teams from focusing on task-critical debate, such as prioritising customer needs and selecting product features. It leads to pointless interpersonal arguing among team members and in worst case, can escalate to workplace violence. Antagonism has a negative effect on team performance, reduces job satisfaction, lowers work quality and productivity. Kaeveney (2008, 660-661) presents following methods for managing relationship between marketers and engineers:

- training engineers and marketers to proactively communicate the task, process, or other external forces that are creating conflict
- cross training and cross-functional team work to reduce knowledge gap
- setting of appropriate group norms and utilising tools to focus discussions on task-conflict

According to Rotemberg and Saloner (1995, 650), interfunctional conflict may be reduced by systematically hiring more able employees in one functional area, which would reduce the need for protests by the favoured group. Concept of increasing interfunctional coordination by hiring is also presented in research by Kolouchová and Rozek (2014, 33), where it is noted that it is important for managers to pay attention to applicant's teamwork skills and assess the way the applicant would fit into the existing culture of the company.

Rotemberg and Saloner (1995, 650) mention that conflict may also prove profitable in some cases, as it produces valuable information about the company's opportunities. Keaveney (2008, 660-661) presents the idea of good kind of conflict, where the conflict is task-focused and aids in finding timely solutions to task-related problems. Fisher (1997, 65) implies that reducing psychological distance between marketing and engineering may have adverse effects, where employees within those functions could lose their creative tension. Rotemberg and Saloner (1995, 650) suggest that the company should assess whether the value of information created by interdepartmental conflict is justified by the cost of conflict before choosing to pursue strategy related to interdepartmental conflict. Kaeveney's (2008, 660-661) work, however, suggests that task-focused conflicts can become laden with relationship-conflict and to prevent that from happening, the relationship requires management.

Research conducted by Murphy and Poist (1996, 26), where interfunctional coordination between logistics and marketing practitioners was studied, indicates that most commonly used technique to enhance cooperation used by these two functions is top management support. Other commonly used techniques involved information sharing and instilling a philosophy of cooperation, while some of the least popular approaches involved a system of incentives, job rotation, and creation of unified department. Education, training and establishing mutual goals were identified as techniques that will most likely be used increasingly in future by logistic respondents and coordinating committees and joint prospect by marketing respondents. (Murphy & Poist 1996, 26.) Unfortunately, success of above methods was not evaluated in the research.

In summary, organisational culture can significantly influence interfunctional coordination (Tomaskova 2009, 538; Kaňovská & Tomaskova 2012, 74; Kolouchová & Rozek 2014, 33). Major elements affecting organisational culture are system, communication, structure, procedure, centralisation, formalisation and departmentalisation (Tomaskova 2009, 538). More specifically, there are several factors that research suggests as beneficial for organisational culture and therefore interfunctional coordination. Most widely indicated factors are common vision and goals (Fisher 1997, 67; Kahn 1998, 326; Kolouchová & Rozek 2014, 33), team-based rewarding systems (Rotemberg & Saloner 1995, 650; Fisher 1997, 67; Kaeveney 2009, 660-661; Kolouchová & Rozek 2014, 33), hiring strategy (Rotemberg & Saloner 1995, 650; Kolouchová & Rozek 2014, 33) and communication and information sharing (Fisher 1997, 67; Kahn 1998, 326; Kaeveney 2009, 660-661; Kolouchová & Rozek 2014, 33).

### 2.2.2 Information coordination and communication

Tomaskova (2018, 7) identifies communication, along with expertise, as the most important element for good interfunctional coordination of a company. As seen in previous chapter, importance of communication and information sharing is corroborated by other researchers. Tomaskova (2009, 538) argues that communication affects interfunctional coordination through organisational culture and on the other hand, information coordination directly affects interfunctional coordination. Literature research of this work has shown discerning between communication and information coordination extremely difficult, if not impossible and thus, these will be further discussed more in depth jointly, irrespectively of them following separate paths to interfunctional coordination in Figure 2.

#### **Subjectivity, communication apprehension and bidirectionality**

When considering information, it is important to remember that understanding of the information is always generated in the recipient's thought structures. This means that information can be interpreted in as many ways as there are recipients. One way to conceptualise this idea is to think of information as exformation. Exformation is written and spoken language, body language and all the knowledge, thoughts and motives that our communication is based on. From the recipient's point of view, exformation is only potential information, potential of which is realised when the recipient connects to it and understands it. In other words, exformation turns into information when it becomes meaningful and useful to the recipient. It is to be noted, that several factors influence the way exformation becomes information. Such factors may be personal preferences, experiences and assumptions of the recipient, personal preferences and choices of communication methods of the sender, communication tools and channels as well as the context. (Hornstrup, Berg, Kojo, Hedman & Liimatainen 2014, 17.)

The notion of information being generated in and affected by the recipient's thought structures is also mentioned in the study concerning communication apprehension and employee information experience by Bartoo and Sias (2004, 22-23). Bartoo and Sias (2004, 22-23) used McCroskey's (1977, 78) definition of communication apprehension as "an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons" and found that contrary to the expectations, employee's communication apprehension was not related to the amount of information that employee received from the supervisor. Two potential explanations for the result are offered in the study. First possible explanation is that supervisors proactively provided more unsolicited

information to those employees, whom they identified as having high communication apprehension, while employees with low communication apprehension may have been more likely to receive information from their supervisor by direct questioning, resulting in both types of employees receiving the same amount of information. Another possible explanation is that in case of supervisors being unaware of the differences among employees with respect to communication apprehension, employees could be provided with similar amounts of information regardless of their level of communication apprehension. (Bartoo & Sias 2004, 22-23.)

Findings of the study strongly suggest that when it comes to overall amount of information employees receive, level of supervisor communication apprehension is more important than employee communication apprehension. Study also reveals that the higher a supervisor's communication apprehension is, the greater the information shortage employees experienced. Employees with supervisors having high communication apprehension are at a disadvantage due to deficiency of potentially important information. On the other hand, the higher an employee's communication apprehension, the more likely the employee experienced information overload, irrespectively to the actual amount of information provided by the supervisor. While amount of information received is relatively objective, the extent to which that amount is deemed appropriate is a matter of opinion and may be more likely to be affected by the evaluator, who in this case is the employee. Thus, an employee with higher communication apprehension is more likely to find supervisor information-sharing as anxiety-inducing and therefore may experience information overload. In conclusion, the organisations could improve communication in their workplaces by considering how it may be affected by their supervisors' communication apprehension and providing training to the high communication apprehension supervisors to help mitigate their anxiety and/or encourage them to provide information to employees through less anxiety inducing media such as e-mail and other computer-mediated communication methods. (Bartoo & Sias 2004, 23-24.)

Communication training is also encouraged by Keaveney (2008, 661) to mitigate conflict between marketers and engineers. Kaeveney (2008, 661) suggests managers should train engineers and marketers to proactively communicate task-, process, or other external forces that are creating conflict to avoid invention of dysfunctional personal attributions. Creation of such attributions by default occurs in the absence of information and therefore increased knowledge is a viable solution to the problem. (Kaeveney 2008, 661.) Kahn (1998, 326) on the other hand contends that despite importance of information, forcing

communication does not seem to be useful when implementing market orientation. Instead, Kahn (1998, 326) suggests that collaboration support via coordinating mechanisms should be encouraged.

In addition to understanding the nature of information and communicator types, bidirectionality and information overload seem to be important concepts that emerge in research literature. In research conducted on relationship between marketing and sales by Kolouchová and Rožek (2014, 33), most respondents indicated that communication is one of the most functional integrating elements. Kolouchová and Rožek (2014, 33) contend that communication plays the role of a mediator in complex system of functional cooperation and note that communication needs to be bidirectional and must avoid information overload. Importance of bidirectionality was also proposed in earlier research by Fisher (1997, 67) regarding enhancing communication between marketing and engineering. Fisher's (1997, 67) research implies that bidirectionality appears to be at least as important as communication frequency in generating positive interfunctional outcomes and thus, promoting communication frequency without consideration of collaborative dialogue represented by bidirectional flows appears to be less than optimal solution in enhancing interfunctional communication.

Hornstrup et al. (2014, 20) present an interesting case where the concepts of bidirectionality and subjectivity of evaluating the sufficiency of information are illustrated. The case organisation conducted annual work atmosphere surveys and despite efforts by the management to improve information flow, for three consecutive years survey showed that employees were most dissatisfied with organisation's information flow. The question in the survey was as follows: Is the level of information flow in your organisation satisfactory? The scale of the survey ranged from very unsatisfactory to very good. In the three years period the management has issued instead of monthly newsletters a monthly news magazine and a weekly newsletter, had added multiple bulletin boards and conducted many briefings. Despite all of this, satisfaction in information flow had not improved and had even somewhat declined. Throughout these three years the management assumed that the employees wanted to have more information and were concerned with what information the employees want to have. (Hornstrup et al. 2014, 20.)

When organisations knowledge strategy was updated, the management was faced with another question – what the goal of the organisation's communication strategy is. Instead of the information itself, the focus was moved to the context or objective of the information. After elaboration, the management reached an unanimous conclusion that the most important objective is to ensure that all members of the organisation have the information



needed to perform smoothly in their daily work and that everyone has an opportunity to acquire a broad understanding of the organisation's operation. Conclusion was that the survey should aid in reviewing whether all employees have access to information needed to solve work-related challenges. The question was changed to: Do you know where to find information needed for your work? In addition to this adjustment, the briefings were modified to include question and answer session, so that information flow would be adapted to two different kinds of information: the information desired by the employees and the information deemed necessary for the employees to obtain by the management. (Hornstrup et al. 2014, 20-21.)

This case outlines important points regarding information, such as impossibility to inform others especially by over-exforming. Chances of successful implementation of information processes can be increased by choosing a focused method of informing and by activating the recipient, i.e. by using bidirectional way of communication. It is also important to consider the context or the purpose, language and the content of the information. (Hornstrup et al. 2014, 21.)

### **Public relations and corporate communication**

In research by Simcic Brønn (2014, 72) regarding leaders' perceptions of communication and communication managers it was found that most private sector companies in Norway do not have public relations or corporate communication departments or individuals responsible for public relations. Similar results have also been acquired in earlier research conducted in North-West of England (Moss, Ashford & Shani 2004, 203). According to Simcic Brønn (2014, 74), analysis indicates that leaders do not find public relations and corporate communication functions as important for organisational success as some other management functions, such as sales. Communication is seen as a contributing element to financial success of an organisation, but nonetheless it does not appear to have a great role in decision making. While leaders seem to understand the importance of personal communication, as they ranked it ahead of marketing and branding, communication practitioners in this study rated communication skills as least important. This points to a discord between leaders' expectations and communication practitioners' perception of what is needed. (Simcic Brønn 2014, 74.)

Research found that there are significant differences between companies having a communication department and those without one. In most of the companies with a separate communication function, the leader rated the importance of communication and its contribution higher. However, in such companies a separate communication department in itself

had only moderate impact on leaders' perception of the contribution of communication to the organisation's success. Leaders of SMEs without communication departments indicated that their only use for public relations was in the case of a crisis. However, the study showed that public relations were used obliviously, for example when the companies were engaged in employee relations and sponsorship of local activities. (Simcic Brønn 2014, 74-75.) Moss et al. (2004, 207) also concluded that many companies seemed to have limited knowledge of what constitutes public relations or at least appeared to make limited use of such. Contradictory to Simcic Brønn's (2014, 74-75) research results, in study by Moss et al. (2004, 207) SMEs rated public relations as the most effective communications technique. Moss et al. (2004, 207) speculate that limited range of communications activities used by SMEs may stem from limited budgets.

### **Motivation, productivity and performance**

Literature study by Ramadanty and Martinus (2016, 84) suggests that firstly, appropriate and positive nonverbal communication, including body, facial and eye communication, has a significantly beneficial effect on employee motivation. Secondly, satisfactory interpersonal communication by leader has a positive effect on organisational communication, which in turn, has an impact on high employee motivation. And thirdly, climate communication, which is described in the study as openness in downward communication from the leaders' point of view and listening to upward communication from the employees' point of view, has a significant role in shaping the employee motivation, where positive effect is achieved when climate communication is running smoothly. (Ramadanty & Martinus 2016, 84.)

These findings are supported by research by Mădălina and Cătălin (2016, 114), where positive relationship between job satisfaction and organisational communication was found. According to the research, increase in job satisfaction can be achieved through open communication about the organisational perspective, organisational integration, personal feedback and relationship with the superiors. A climate of open and transparent communication can be a motivating factor for the employees.-(Mădălina & Cătălin 2016, 114.)

Ramírez, García Morales and Aranda (2012) researched knowledge creation and flexibility of distribution of information amongst organisations in Spain based on SECI model developed by Nonaka and Takeuchi (1995). The model is presented below.

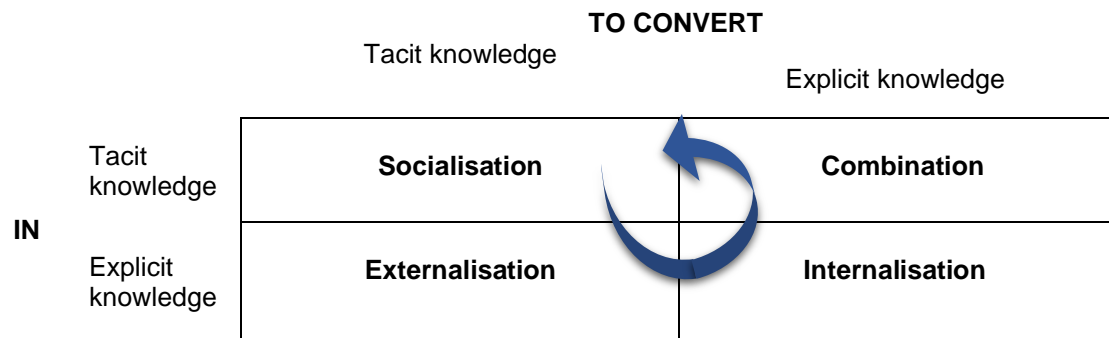


Figure 3. SECI model (adapted from Nonaka & Takeuchi 1995).

In socialisation stage knowledge is converted from tacit to tacit by sharing experience, ways of thinking and technical gestures and creating knowledge as a group. In externalisation stage tacit knowledge is formalised into explicit concepts comprehensible for the organisation or an individual through articulation and transformation into readily understood devices. In combination stage knowledge is converted from explicit to explicit by synthesizing explicit concepts. In internalisation stage explicit knowledge is absorbed into tacit, which is similar to learning through practice. (Nonaka & Takeuchi 1995.) Research by Ramírez et al. (2012, 177-180) shows that all four stages, socialisation, externalisation, combination and internalisation, have a positive effect on flexibility of information distribution. According to Ramírez et al. (2012, 177-180), research provides empirical evidence to support theoretical arguments about the four modes of knowledge creation enhancing the effects of flexibility of distribution of information on organisational performance, and shows that the processes of knowledge creation in the organisation generates higher level knowledge that allows the company to obtain lasting competitive advantages.

In theoretical work by Sadia, Salleh, Kadir and Sanif (2016, 97) on the relationship between organisational communication and employees' productivity with new dimensions of effective communication flow, structural linkage between employees' productivity, organisational communication and effective internal communication was designed. Sadia et al. (2016, 97) constructed conceptual framework in Figure 4.

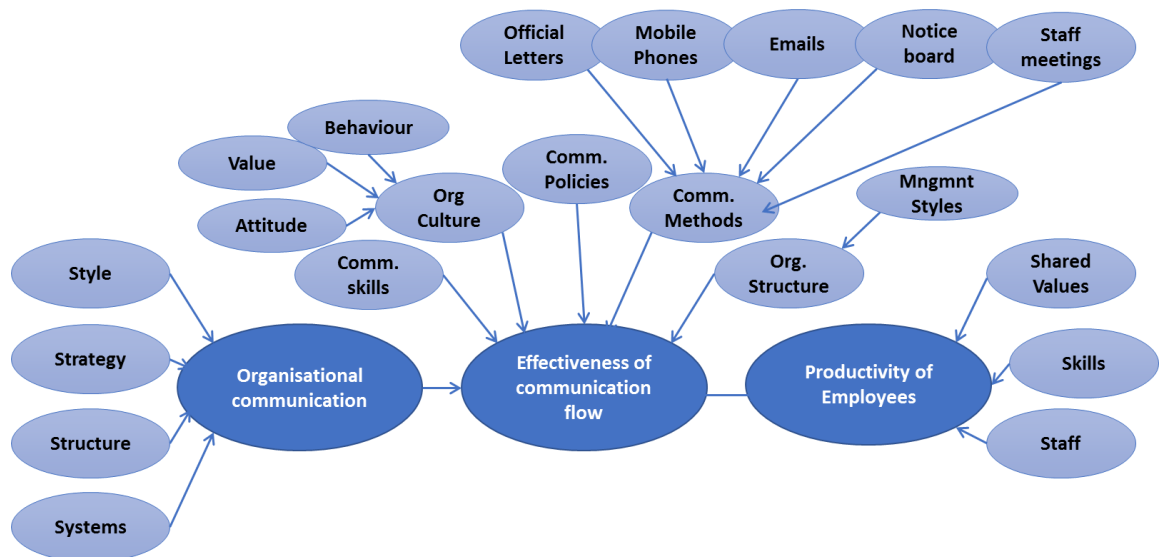


Figure 4. Conceptual framework (adapted from Sadia, Salleh, Kadir & Sanif 2016, 97).

In this framework, organisational communication is measured by strategy, structure, system and style. Effectiveness of communication is measured by communication skills, organisation culture, communication methods. Organisation structure, and employees' productivity are measured by shared values, skills and staff. (Sadia et al. 2016, 97.)

### Choice of media and information sharing systems

Only explicit information can be input into data processing systems and if an organisation relies solely on information in such data system, social and dynamic dimension and tacit knowledge will be overlooked. This leads to a situation where the organisation views information only from the perspective of intangible capital, without understanding the source of such capital. Information sharing systems, on the other hand, may include elements, such as chat and videoconference, where information sharing is more informal, which enables flow of more tacit information. (Vainio 2005, 30)

The research by Ashraf, Humayon, Ahmad and Abbas (2017, 15) about importance of interfunctional communication in acceptance of CRM system conducted among marketing managers in large companies in Pakistan found that a certain level of interpersonal interaction has a significant effect on interfunctional integration and subsequently effective customer relationship management system implementation. From this perspective, interpersonal activities, such as attending meetings together, serving on the same committee, phone meetings, and phone conversations should be promoted by the managers. Written interaction, on the other hand, was negatively associated to perceived ease of use and

usefulness of the CRM system, which would warrant cautious use of written information exchange with other departments by the managers. (Ashraf et al. 2017, 15.)

Research by Aros and Gibbons (2018, 12), where communication media options in an inter-organisational disaster response co-ordination network were studied, found that reliance on the centralised information system without direct communication lengthened flow times for pre-scripted, standard and non-standard task requests. Flow times were significantly improved when at least one direct interpersonal communication medium was used. The benefit of specific media depended on the type of request. In handling pre-scripted requests use of e-mail was particularly beneficial, whereas other media, such as phone calls and face-to-face meetings were unnecessary. For standard requests e-mail communication supplemented by face-to-face meetings was found beneficial, where email alone contributed more than face-to-face communication alone. For non-standard requests flow time was improved by reliance on centralised information system in combination with any interpersonal communication media. (Aros & Gibbons 2018, 12-13.)

Aros and Gibbons (2018, 13) conclude that there is a potential loss of productivity in engaging in more time-consuming media. Telephone calls enable effective focus on solving complex problems while delaying attention to easier tasks. Face-to-face communication keeps one or more people occupied away from their designated place, preventing other people from being able to contact them. The benefit is in obtaining complex information or clarifying ambiguous information, but the downside is that it can interfere with task flows of routine requests. Above may be summarised by the statement that the use of synchronous media can speed completion of non-standard requests while slowing completion of concurrent pre-scripted requests. (Aros & Gibbons 2018, 14.) The notion of communication needs varying in different situations is also supported by Dennis, Fuller and Valacich (2008, 595), who contend that individuals working with novel contexts have a higher need of convergence processes and thus use of media supporting higher synchronicity, while individuals working with familiar contexts, work can be performed successfully with less use of media capable of supporting convergence.

### 2.2.3 Asian research on interfunctional coordination

In this chapter, research material from Asia is specifically collected to provide perspective on potential cultural differences regarding interfunctional coordination that would affect the principal company's Chinese subsidiaries. The purpose of this chapter is to pinpoint any differences or commonalities compared to general research results from around the globe

presented above and to aid in deciding whether similar developmental procedures to improve interfunctional coordination can be applied to the Chinese subsidiaries as to the parent company.

Xie, Song and Stringfellow (1998, 202) conducted a study on interfunctional conflict, conflict resolution styles and new product success across marketing managers in four countries representing collectivist and individualistic cultures: Japan, Hong Kong, the United States and Great Britain. The results of the study show several cross-national similarities, such as using avoidance when handling interfunctional conflict in new product development process was shown to have a negative effect on new product success and collaboration and compromise were shown to have a positive effect on new product development process in all countries studied. (Xie et al.1998, 202.)

Some differences were also found. Xie et al. (1998, 203-204) point out that in collectivist societies interfunctional conflict may be potentially disruptive, especially at high levels, due to importance of homogeneity of values and goals in those societies. For the same reason, however, it is suggested that collectivist countries may benefit from diversity. Therefore, moderate level of conflict may have positive and high level of conflict negative effects within companies in collectivist cultures more strongly than within individualistic ones. Study also found cultural influences on effectiveness of conflict resolution methods, where competition seems to be a productive resolution method in new product development in West, but a counterproductive one in Japan. Similarly, accommodation had a positive effect on companies in Western and negative in Eastern countries. Involving top management in interfunctional conflict was seen as more effective method in Japanese and Hong Kong than in the U.S. and British companies. An increase in interfunctional conflict was said to significantly decreases the effectiveness of collaboration and compromise in Eastern companies, while in the Western companies a greater degree of interfunctional conflict was positively associated with effectiveness of compromise method. (Xie et al.1998, 203-204.)

Results of the study suggest that in collectivist cultures the cost of resolution may offset benefits in case of very high level of conflict. In individualist cultures achieving integrative resolution under high levels of conflict may be advantageous. The hierarchical method of conflict resolution appears to be less effective in the West, but more effective in the East. In the West, top management asserting authority to move the project forward may be beneficial in case of significantly large differences in the views of the disputing parties. Research suggests that avoidance of interfunctional conflict decreases and resolving conflict with collaborative methods increases new product success, which implies that marketing

managers and top management in all cultures represented in this study would benefit from encouraging marketing, R&D and manufacturing to exchange complete and accurate information and emphasise common interests. (Xie et al. 1998, 203-205.) As avoidance has been found counterproductive, whereas accommodation and competition productive in the Western companies, Xie et al. (1998, 203-205) suggest that it is better to identify a conflict in product development and manage it, even suboptimally, rather than avoid it. Study concludes that managerial awareness of the effects of national culture on relative effectiveness of conflict resolution methods and success in adaptation of conflict resolution techniques may contribute to improved performance of new product development. (Xie et al. 1998, 203-205.)

Research on internal/employee communication and organisational effectiveness in Chinese corporations in transition conducted amongst Shanghai-based, medium-to-large size Chinese corporations, spreading across manufacturing and service industries, excluding foreign corporations and joint ventures, by Chen (2008, 181) concluded that “the mode of internal/employee communication in Chinese corporations is one-way in nature, and two-way asymmetrical with unbalanced effect at best”. Majority of respondents replied that there were no people or departments in their organisations designated to oversee corporate communication in general or internal/employee communication specifically, and that no systematic surveys were ever conducted to gain employees’ feedback within their corporations. Majority had also never done, nor heard of, a communication audit. Employee communication was more of an ad hoc arrangement than an integral part of the management. (Chen 2008, 181.) Also, as mentioned earlier in this work, Chen (2008, 181) found a significant association between the size of corporations and bidirectional mode of communication, where larger corporations had a possible tendency to hold on to bidirectional and smaller ones to one-way modes of communication and shared/limited companies seemed to harbour more participative culture than state-owned corporations, corporations in transition and privately-owned corporations.

Research found that participative culture, two-way symmetrical communication mode, two-way communication channels and the objective of internal/employee communication being set for relationship building between the employees and the management lead to higher levels of trust and openness between management and employees, as well as employee job satisfaction. However, it was proposed that the positive effects of these four factors would only occur when communication specialists were part of the dominant coalition, participating in company’s major decision and policy making processes. (Chen 2008, 186-187.)

In a study of how symmetrical employee communication leads to employee engagement and positive employee communication behaviours in a South Korean case organisation, Kang and Sung (2017, 96) found that employee engagement plays a key role in creating positive employee communication behaviours. Through employees' self-driven information seeking, selecting, forwarding and sharing behaviours, organisation may obtain or distribute more valuable information than through formal procedures and channels. In addition to that, active megaphoning may strongly affect the building of organisational reputation and credibility from outsiders' point of view. (Kang & Sung 2017, 96.) In support of research results by Chen (2008, 186-187), also Kang and Sung (2017, 96) found that symmetrical, or two-way/bidirectional modes of communication add value to the organisation. More specifically, Kang and Sung (2017, 96) propose that symmetrical communication leads to positive employee communication behaviour, which facilitates employees' favourable communication regarding an organisation. Communication managers are therefore advised to encourage internal communication practices where the employees are heard and invited to participate in addition to providing them with complete and fair information. (Kang & Sung 2017, 96.)

Research by Wang and Chung (2013, 2431-2435) reveals positive impact of customer orientation and interfunctional coordination on innovation. Managerial ties were shown to play a moderating role in market orientation-innovation linkage and business ties were shown to enhance the relation between customer orientation and interfunctional coordination and innovation, while in combination with competitor orientation business ties were shown to have a negative interaction effect on innovation. Political ties were shown to attenuate the relation between interfunctional coordination and innovation, demonstrating their potential negative influence on company's performance. (Wang & Chung 2013, 2431-2435.) Political ties and government influence often shape the organisations into a more hierarchical structure that has greater cohesiveness among functional departments (Wang & Chung 2013, 2431-2435), when at least some level of diversity would potentially be more beneficial for the company's performance, as earlier presented by Xie et al. (1998, 203-204).

Research suggests that Western and Eastern organisation cultures are or have at some point been based on different sets of values and communication practices, which may have different managerial implications in organisations within those two cultures. Such differences include high-level conflict potentially being more disruptive in Eastern versus Western organisations and involvement of hierarchical authorities being more effective interfunctional conflict resolution method in Eastern than in Western organisations. (Xie et al. 1998, 202-205). In study conducted by Chen (2008, 181), Chinese corporations were



found to mostly adhere to one-way modes of communication. Despite the differences, research implies that similarly to Western, also Eastern organisational cultures seem to benefit from participative culture (Chen 2008, 186-187), bidirectional modes of communication (Chen 2008, 186-187; Kang & Sung 2017, 96), complete and accurate information exchange (Kang & Sung 2017, 96; Xie et al. 1998, 203-205) as well as collaboration and compromise (Xie et al. 1998, 202). Positive effects can be seen in level of trust and openness between management and employees, employee job satisfaction (Chen 2008, 186-187), organisation's reputation (Kang & Sung 2017, 96) and new product success (Xie et al. 1998, 203-205). Research also notes that it may be counterproductive to completely avoid conflict in Eastern organisation, as moderate level of conflict can benefit Eastern organisations by creating diversity (Xie et al. 1998, 203-204).

### 3 EMPIRICAL STUDY

#### 3.1 Data analysis method

This work is a qualitative study and more specifically an action research. Action research both researches and attempts to change existing practices. It is used to find solutions to problems - be they technical, societal, social, ethical or professional. It is essential that the operating people studied are actively involved in the research. Typical features of action research are practical orientation, problem centeredness, active role in change process of the researcher and the researched persons as well as cooperation thereof. (Kuula 2006.) As stated by Stringer (2014, 8), "action research is a collaborative approach to inquiry or investigation that provides people with the means to take systematic action to resolve specific problems." It enables finding effective solutions to issues confronted in daily life and seeks to capture the complex dynamics involved in social contexts (Stringer 2014, 1). Action research provides a flexible and practical set of systematic, cyclical, solutions oriented and participatory procedures, providing the means to create sustainable improvements in practice (Stringer 2014, 5). Method applies to this work as it is conducted by an employee of the principal company, who seeks to both research and develop interfunctional coordination of the company in cooperation with the colleagues.

Results of the study are analysed and quantified through thematic analysis methodology. In thematic analysis themes, or central topics, are most often derived from the source material by identifying common (or distinguishing) factors, but it is also possible to have a theory-based theme design articulated by a specific framework and theory. Coding and/or quantification can be used to help create the themes. (Saaranen-Kauppinen & Puusniekka 2006.) In this work, data collected in the autumn seminar workshop 2017 is arranged in tables, where it is quantified by themes as articulated by the framework of Figure 2 by Tomaskova (2009, 538). The data collected in spring seminar workshop 2018 is arranged in a table separately for each group in ranking order produced by voting. Thematic analysis and quantification is also applied to this data.

#### 3.2 Data collection method

For data collection purposes, workshop sessions with duration of 2 hours each were arranged during two company seminar days on 9<sup>th</sup> of September 2017 and 10<sup>th</sup> of May 2018. First workshop was dedicated to mapping the current state of interfunctional coordination

and the second was dedicated to finding suggestions on how to enhance interfunctional coordination in the principal company based on the results of the first workshop.

Nominal Group Technique (NGT) was used in both workshops. This technique is originated by Delbecq, Van de Ven and Gustafson (1975, 67-69; cited in Delp, Thesen, Motiwalla & Seshardi 1977, 16). It is useful for collecting opinions and judgements for unstructured problems from groups including preferably five to nine members, as less than five members may produce output with insufficient diversity and quality, whereas larger groups may lengthen the process without substantial increase in quality of the output. NGT includes following steps: introduction of the question by the facilitator, writing down as many responses as possible by the participants of the workshop in a given time, collecting unique responses by taking turns between the participants stating one idea at a time and finally ranking preferred items from the collected list. (Del et al. 1977, 14-15.) The following advantages of the technique were considered when choosing the data collection method:

- Limiting researcher influence (Vander Laenen 2015, 10).
- Reduction of dominance of high-status members and promotion of acceptability of final decision through provision of equal opportunity to participate for all members (Delp et al. 1977, 14-15).
- Limiting group dynamics influence (Vander Laenen 2015, 10).
- Avoidance of premature evaluation, criticism, or excessive focusing on ideas, thus keeping the group problem conscious (Delp et al. 1977, 14-15).
- Provision of time for thinking and minimisation of interruption in each member's thought process due to silent generation of ideas (Delp et al. 1977, 14-15).
- Increasing the group's ability to deal with large number of ideas and avoidance of their loss due to using a written record (Delp et al. 1977, 14-15).
- Elimination of misunderstanding without reducing the group's efficiency due to allowance of discussion only for clarification (Delp et al. 1977, 14-15).

NGT is relevant in applied research as a consensus method and a tool for decision making. It enables gaining insight into the issues of importance and identifying solutions. (Vander Laenen 2015, 10.) Compared to verbal workshops, having written recording element brought by NGT encourages every member of the team to participate in a comfortable way (Delp et al. 1977, 14-15; Vander Laenen 2015, 10) and provides tangible material

for later study and analysis for the researcher (Delp et al. 1977, 15), which serves this study well.

### 3.2.1 Autumn seminar workshop 2017

In autumn 2017 workshop the objective was to map the current state of interfunctional coordination in the principal company. Participants (N=20) of the workshop were divided into two groups with ten participants in each group, which is the maximum recommended number of participants per group suggested by Delp et al. (1977, 15). The group division was made based on the working years of the participants in the principal company to acquire information on whether the current situation is perceived differently by newer versus older employees. First group consisted of employees with ten or more working years in the company, whereas second group consisted of employees with six or less working years in the company. The first group was facilitated by the researcher of this thesis and the second one by a member of top management according to the researcher's instructions (see Attachment No. 1).

Table 2. Group division with working years of participants.

Group No.	Role	Working years in principal company	Group No.	Role	Working years in principal company
1	Participant 1	36	2	Participant 11	6
	Participant 2	25		Participant 12	5
	Participant 3	24		Participant 13	3
	Participant 4	23		Participant 14	2
	Participant 5	22		Participant 15	2
	Participant 6	21		Participant 16	2
	Participant 7	20		Participant 17	0
	Participant 8	14		Participant 18	0
	Participant 9	11		Participant 19	0
	Participant 10	10		Participant 20	0

Each participant was instructed to list strengths and weaknesses of current state of interfunctional coordination within 20 minutes of time, 10 minutes of which were reserved for strengths and 10 for weaknesses. After independent opinion generating stage, strengths and weaknesses were collected into lists of unique items by taking turns between participants stating one response at a time. Judgement was prohibited at this stage but asking for elaboration or explanation for the purpose of better understanding was allowed. Also, presenting new unique items arising during this stage was allowed. Once all the unique ideas were listed, the participants were asked to vote for three items in a nonspecific order on both strengths and weaknesses lists on a sheet of paper. Facilitator collected the

sheets and ranked the overall responses of the groups accordingly. Results were later processed using thematic analysis and quantification, and through that, the main development area of interfunctional coordination in the principal company was determined to be information coordination.

### 3.2.2 Spring seminar workshop 2018

In spring 2018 workshop the objective was to collect suggestions on how to enhance interfunctional coordination in the principal company by improving information coordination, which was determined to be the main development area in the autumn 2017 seminar workshop. Participants (N=22) of the spring seminar workshop were divided into three groups with seven to eight participants in each group, which is within range of optimal recommended number of participants per group suggested by Delp et al. (1977, 15). For the purpose of producing solutions that are useful for the entire company as opposed to select few departments, groups were assigned in a manner that would produce as much departmental diversity per group as possible. According to studies, heterogenous groups also exhibit more creativity (Delbecq et al. 1975; cited in Delp et al. 1977, 15). The first group was facilitated by the researcher of this thesis, the second by a colleague from administration department and third by a member of top management according to the researcher's instructions (see Attachment No. 2).

Table 3. Group division with functional assignment of participants.

Group No.	Function	Role	No. of participants
1	Administration	<b>Facilitator 1</b>	7
	Administration	Participant 1	
	Top management	Participant 2	
	Sales	Participant 3	
	Design	Participant 4	
	Design	Participant 5	
	R&D	Participant 6	
	R&D	Participant 7	
2	Administration	Participant 8 / <b>Facilitator 2</b>	7
	Sales	Participant 9	
	Project management	Participant 10	
	Design	Participant 11	
	Design	Participant 12	
	R&D	Participant 13	
	R&D	Participant 14	
3	Top management	Participant 15 / <b>Facilitator 3</b>	8
	Administration	Participant 16	
	Top management	Participant 17	
	Sales	Participant 18	
	Project management	Participant 19	
	Design	Participant 20	
	Design	Participant 21	
	R&D	Participant 22	

Each participant was instructed to list ideas on how to enhance information coordination within 15 minutes of time. The following support list was given to aid idea generation:

- Communication forums (meetings, info-sessions, coffee breaks etc.)
- Communication frequency (regularity, irregularity, continuity etc.)
- Communication tools and methods (face-to-face, intra-system, server, Skype, phone etc.)
- Communication entities (responsible persons, participants etc.)

After independent opinion generating stage, ideas were collected into lists of unique items by taking turns between participants stating one response at a time. Judgement was prohibited at this stage but asking for elaboration or explanation for the purpose of better understanding was allowed. Also, presenting new unique items arising during this stage was allowed. Once all the unique ideas were listed, the participants were asked to list top three ideas worth implementing in ranking order. Facilitator collected the sheets and ranked the overall responses of the group, where items that received first place in voting were given three points, items that received second place two points and items that received third place one point. Top one ranking data was also collected. Results were later processed using thematic analysis and quantification.

### 3.3 Results

#### 3.3.1 Weaknesses in interfunctional coordination

Group 1 with employees having at least ten years of experience in the principal company generated 20 weaknesses in total. Out of those, 12 weaknesses received at least one vote, meaning that they were included in top three list by at least one member of the group. Weaknesses generated by Group 1 that received at least one vote are presented in Table 4. Each point in the Table is equivalent to one vote and the items are arranged in thematical groups. Items that received more than one vote are coloured green. Results show that most of the items voted on, more specifically seven of them, are related to information coordination. However, considerable number of votes accumulated on the two items related to structure of the company as well as one of the two items related to procedure.

Table 4. Interfunctional weaknesses that received at least one vote in Group 1.

Group 1, Interfunctional coordination weaknesses	Points	Theme
Due to resource scarcity, interdepartmental help is needed and provided, even to the point where tasks that were agreed to be accomplished before will suffer.	4	information coordination
Communication between Finland and China is poor.	3	information coordination
Project successes and failures are not gone through jointly.	3	information coordination
Poor information about issues affecting workload.	3	information coordination
General flow of information between operative and managing departments is not smooth.	1	information coordination
There are no regular departmental meetings between Finland and China.	1	information coordination
Project communication is not at a sufficient level.	1	information coordination
Uneven workload.	5	structure
Uneven expertise.	4	structure
Quality throughout entire supply chain.	3	procedure
Challenges in arrangement of planned work.	1	procedure
Incoherent modes of operation between Finland and China, also where coherence would be possible to achieve.	1	procedure

Group 2 with employees having six or less years of experience in the company generated 33 weaknesses, out of which 13 received at least one vote, meaning that they were included in top three list by at least one member of the group. Weaknesses generated by Group 2 that received at least one vote are presented in Table 5. Each point in the Table is equivalent to one vote and the items are arranged in thematical groups. Items that received more than one vote are coloured green. Similarly to Group 1, majority of items voted on, more specifically 10 of them, are related to information coordination. Notably large number of votes were also given to items related to procedure.

Table 5. Interfunctional weaknesses that received at least one vote in Group 2.

Group 2, Interfunctional coordination weaknesses	Points	Theme
Non-processual and un-documented procedure relying on memory.	4	information coordination
Poor information flow, also within departments.	3	information coordination
Knowledge sharing between Finland and China.	2	information coordination
Ambiguity of other departments work processes.	3	information coordination
Project final meeting information sharing is poor.	1	information coordination
Not learning from mistakes as interdepartmental information flow is poor.	1	information coordination
Poor advance information about workload situation.	1	information coordination
Ambiguity in how development ideas are chosen, prioritized, documented etc.	1	information coordination
The division of responsibilities should be clearer and better documented.	1	information coordination
3D models should be provided to the sales department for use.	1	information coordination
Why always last moment timing? Increases risks considerably.	5	procedure
Acceptance of incoherent procedure (management commitment).	3	procedure
Not implementing agreed upon issues.	2	procedure
Too few people attend deal closing conference with customer and in internal project kick-off meeting.	1	procedure
There is no operational IT-department.	1	structure

Total votes per theme for each Group separately and together are summarised in Table 6. Weaknesses related to information coordination received the most votes in both groups and thus, information coordination can be considered prevalent weakness and the main development area in interfunctional coordination of the principal company.

Table 6. Summary of voted on and thematically arranged interfunctional coordination weaknesses generated by both Groups

Interfunctional coordination weaknesses summary	Group 1	Group 2	Total
Theme	Points	Points	Points
Information coordination	16	18	34
Procedure	5	11	16
Structure	9	1	10

In addition to this commonality between the two groups, some differences emerged. Group 1 saw items related to the structure whereas Group 2 to the procedure as the second most



prevalent weakness. In Group 1 information coordination has received notably more votes in total than any other theme and the difference between voting points of procedure and structure are not drastic. In Group 2, on the other hand, the difference between points collected within the theme of information coordination and procedure are not as steep and the item related to the structure only received one point.

### 3.3.2 Strengths in interfunctional coordination

Group 1 generated 21 strengths in total. Out of those, 13 received at least one vote, meaning that they were included in top three list by at least one member of the group. Strengths generated by Group 1 that received at least one vote are presented in Table 7. Each point in the Table is equivalent to one vote and the items are arranged in thematical groups. Items that received more than one vote are coloured green. Results show that overwhelming majority of the items voted on, more specifically 10 of them, are related to company culture. All other items are related to company structure.

Table 7. Interfunctional strengths that received at least one vote in Group 1.

Group 1, Interfunctional coordination strengths	Points	Theme
Aspiration to do things right in accordance with benefit to the company and supporting other related parties.	7	culture
Genuine aspiration for helping.	5	culture
Seeing things in a holistic perspective and seeing the common benefit.	3	culture
Team spirit.	3	culture
Low thresholds to come to talk about any issue.	3	culture
Flexibility.	2	culture
No jealousy between departments.	1	culture
Commitment.	1	culture
There is no excess of individual performance-oriented thinking.	1	culture
Aspiration for improvement of operation.	1	culture
Having both senior and junior colleagues.	1	structure
Agility, capability to react fast to customers' requests.	1	structure
Professional team of people.	1	structure

Group 2 generated 12 strengths in total and due to scarcity of items, no voting was conducted. All the strengths generated by Group 2 are presented in Table 8 and are valued

at one point as well as arranged in thematical groups. Results show that majority of the items voted on, more specifically seven of them, are related to company culture. Other than that, also items related to information coordination, company structure and procedure were mentioned.

Table 8. Interfunctional strengths generated by Group 2.

Group 2, Interfunctional coordination strengths	Points *	Theme
Willingness and capability to solve problems.	1	culture
Trust in capability to handle the tasks.	1	culture
People are humane even in busy situation and know to tell why they are tense.	1	culture
Good atmosphere lowers the threshold to come and ask for help.	1	culture
There's always time for helping.	1	culture
In Finnish company, interdepartmental help is provided when needed.	1	culture
Coffee breaks bring people together.	1	culture
Training and sharing expertise.	1	information coordination
Operational management knows the work situation.	1	information coordination
Low hierarchy has beneficial effect on information flow.	1	structure
Administration is close and provides fast help.	1	structure
Existence of operational processes and practices.	1	procedure

\* Every item is worth 1 point, because there was no voting due to having too few items.

Results for both Groups separately and in total are summarised in Table 9. Company culture received vast majority of points from both Groups and thus can be considered the prevalent strength in interfunctional coordination of the principal company. Other items, such as structure, information coordination and procedure received notably less points and out of these, only structure received some points from both Groups.

Table 9. Summary of interfunctional coordination strengths generated by both groups that received at least one vote arranged thematically.

Interfunctional coordination strengths summary	Group 1	Group 2	Total
Theme	Points	Points	Points
<b>Culture</b>	<b>27</b>	<b>7</b>	<b>34</b>
Structure	3	2	5
Information coordination	0	2	2
Procedure	0	1	1

### 3.3.3 Methods for enhancing information coordination

During the spring 2018 seminar workshop, three functionally diverse groups produced a total of 44 ideas for enhancing information coordination, which was determined to be the prevalent weakness in the current state of interfunctional coordination of the principal company on the basis of autumn 2017 seminar workshop results. Group 1 produced 17 suggestions, out of which 10 received at least one vote. Ideas that were voted on are presented in Table 10, where they are arranged in ranking order by points received through voting. The Table also includes information on how many persons ranked each item as the best solution out of three, as well as themes assigned to each item.

Table 10. Methods for enhancing information coordination generated by Group 1 with voting statistics and themes.

Method for enhancing information coordination		Points	Voters ranked top 1	Theme 1	Theme 2
Group 1	Process diagram with information flow.	13	2	clarifying current practices	
	Sales department needs to take responsibility for actively demanding initial data from customers.	6	2	assigning responsibilities	management
	Naming responsible persons for various fields of expertise.	5	1	assigning responsibilities	management
	Providing easy access to feedback summary of completed projects for better learning.	5	0	documentation and accessibility to information	
	Enterprise Resource Planning (ERP) system.	5	1	IT solutions	
	Displaying company mission, values, vision and strategy.	3	1	management	
	Easier access to information about when regular meetings are held.	2	0	meeting practices	
	Annual schedule for training.	1	0	training	
	Arranging meeting in transition stages of projects, especially between Finland and China.	1	0	meeting practices	
	Process description of internal projects.	1	0	clarifying current practices	

Group 2 produced 15 suggestions, out of which 11 received at least one vote. Ideas that were voted on are presented in Table 11, where they are arranged in ranking order by points received through voting. The Table also includes information on how many persons ranked each item as the best solution out of three, as well as themes assigned to each item.

Table 11. Methods for enhancing information coordination generated by Group 2 with voting statistics and themes.

Method for enhancing information coordination		Points	Voters ranked top 1	Theme 1	Theme 2
Group 2	Items agreed upon orally or by phone to be introduced also in writing to those that need the information.	9	3	documentation and accessibility to information	
	Making a gossip channel to intra, where concerns and issues to be discussed in monthly info-meetings can be expressed.	6	2	IT solutions	
	Weekly/monthly meeting, where questions can be asked.	4	1	meeting practices	
	Improving discoverability and naming convention of memos and instructions.	4	1	documentation and accessibility to information	
	How to share information - agree on and stick to practices.	4	0	communication practices	management
	Project diary, where all the hassles and orally agreed items can be booked.	4	0	documentation and accessibility to information	
	Information sharing between departments.	3	0	communication practices	
	Internal crisis communication guide and compliance with it.	3	0	communication practices	management
	Renewing communication methods between Finland and China.	2	0	communication practices	
	More detailed memos from monthly info-meetings.	2	0	documentation and accessibility to information	
	Possibility to anonymously present ideas or criticism to be handled cross-sectionally.	1	0	communication practices	

Group 3 produced 12 suggestions, out of which 11 received at least one vote. Ideas that were voted on are presented in Table 12, where they are arranged in ranking order by points received through voting. The Table also includes information on how many persons ranked each item as the best solution out of three, as well as themes assigned to each item.

Table 12. Methods for enhancing information coordination generated by Group 3 with voting statistics and themes.

Method for enhancing information coordination		Points	Voters ranked top 1	Theme 1	Theme 2
Group 3	Clarifying project expectations throughout the supply chain (including external shareholders, such as sub-suppliers).	9	3	communication practices	
	Availability of information in electronic systems (POM, intra, standard specification).	8	1	IT solutions	
	Enforcing saving data in accordance with given instructions.	7	2	management	
	Managing information overflow (distribution, subject line, carbon copies, receiver).	6	1	communication practices	
	Improving meeting practices (follow up, contents, information storage and sharing, agreed works, responsible persons, schedule).	4	1	meeting practices	
	Consideration on whether to use project internal e-mail traffic or a bulletin board or idea bank.	3	0	communication practices	
	Naming a responsible person for information flow between Finland and China to improve cooperation and knowledge.	3	0	assigning responsibilities	management
	Improving work orientation.	2	0	training	
	New Enterprise Resource Planning (ERP) system.	2	0	IT solutions	
	Getting aftersales feedback from the customers.	2	0	communication practices	
	Reconsideration of design department budget.	2	0	other	

As can be seen from Tables 10, 11 and 12, top three suggestions for methods of enhancing information coordination were: creating a process diagram with information flow, producing written record of items agreed upon orally to be distributed to those that need the information, and clarifying project expectations throughout the supply chain. All three suggestions are unique between the Groups both in general and thematically. It is to be noted, that only the first item mentioned received considerably more points than other items within its Group. Within Groups 2 and 3 points were distributed in a more fragmented manner. Thematically arranged results of the Groups separately and in total are summarised in Table 13.

Table 13. Thematically arranged summary of voting results.

Theme	Points				Voters ranked top 1			
	Group 1	Group 2	Group 3	Total	Group 1	Group 2	Group 3	Total
Communication practices	0	13	20	33	0	0	4	4
Management	14	7	10	31	4	0	2	6
Documentation and accessibility to information	5	19	0	24	0	4	0	4
IT solutions	5	6	10	21	1	2	1	4
Assigning responsibilities	11	0	3	14	3	0	0	3
Clarifying current practices	14	0	0	14	2	0	0	2
Meeting practices	3	4	4	11	0	1	1	2
Training	1	0	2	3	0	0	0	0
Other	0	0	2	2	0	0	0	0

Table 13 shows that thematically arranged results between the three Groups are diverse. Voting points of Group 1 are the most scattered, resulting in more than one top theme: management and clarifying current practices. Top result for Group 2 is documentation and accessibility to information while for Group 3 communication practices. Summarised scores of all three groups produce the following top three development themes: communication practices, management and documentation and accessibility to information. Communication practices and management related items collected significantly more points than items related to other themes. Although documentation and accessibility to information does not have as high score as the top two themes and has only three more points than the fourth highest scoring theme, it becomes important due to collecting the most scores with a significant gap to other themes within Group 2. Thus, all summarised top three items are represented as top items also on Group level, although not necessarily scoring high in every Group. In addition to having high score, importance of improving management related items is highlighted by receiving the most of the top one votes across the Groups. Summarised results produced high scores also for IT solutions, assigning responsibilities, clarifying current practices as well as meeting practices related items. It is interesting to note, that whereas within Groups 2 and 3 many suggestions are related to the need to improve or create new communication practices, Group 1 suggested clarifying current practices instead. Least of the points were collected within the themes of training and other, where none of the suggestions received any top one votes.

## 4 DISCUSSION

### 4.1 Current state of interfunctional coordination

The most evident result from the autumn 2017 seminar workshop is that within both groups of employees, majority considers cultural elements as prevalent strength of the principal company's interfunctional coordination. Culture related strengths generated by the two groups are mainly value, attitude and behaviour related, similarly to conceptual framework by Sadia et al. (2016, 97), where these are presented as items affecting organisational culture, which in turn is one of the factors affecting effectiveness of communication flow. On the other hand, results of the workshop show that majority of weaknesses generated and voted on by both groups are information coordination and hence communication related. When studied from this point of view, it seems that these weaknesses in information coordination stem from other than cultural factors.

Sadia et al. (2016, 97), present organisational communication, communication skills, policies, methods and organisation structure as other elements contributing to the effectiveness of communication flow. Weaknesses in information coordination point to problems with organisational communication. Structural elements, such as having both senior and junior colleagues, agility, professionalism of employees, low hierarchy and closeness of administration were perceived as strengths by some in the workshops, but not to a significant degree, as each of the above mentioned items only received one point. Sadia et al. (2016, 97) however include only management styles as contributing factor to the organisation structure, which is absent from the list of strengths generated by the groups. Instead, items related to management are categorised as procedural in the results and are listed in the weaknesses, receiving criticism especially within Group 2. Also weaknesses related to communication policies as well as staff meetings are mentioned in the results. Results from the autumn 2017 seminar workshop as perceived through the lens of conceptual framework by Sadia et al. (2016, 97) are illustrated in Figure 5, where green represents strengths, orange weaknesses and blue items that were not distinctly referenced. This illustration gives an impression of somewhat unbalanced communication flow that could potentially disrupt productivity of employees.

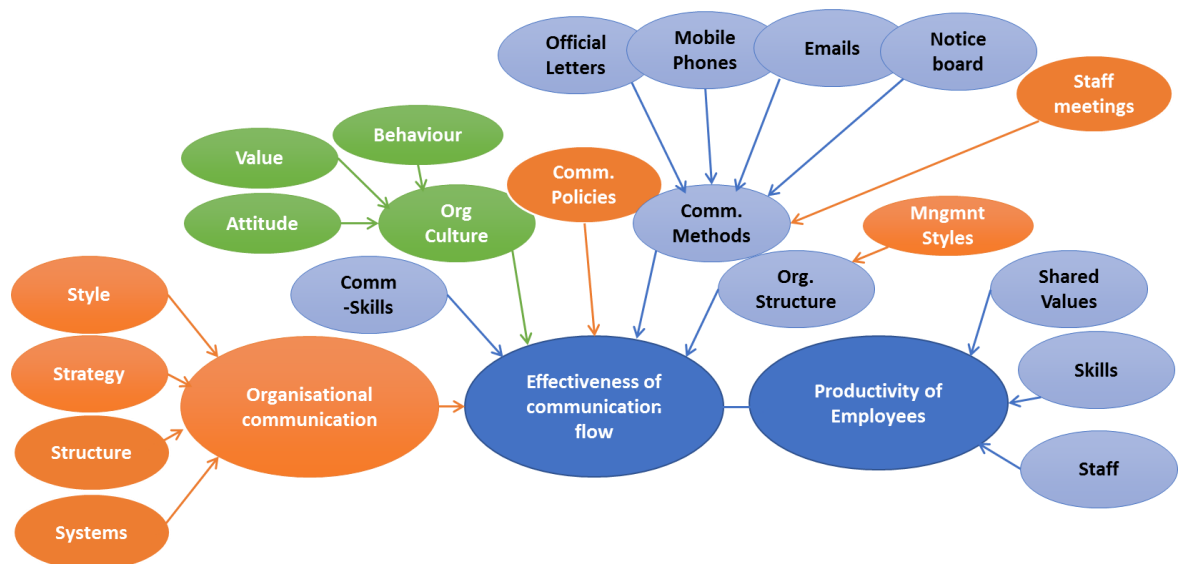


Figure 5. Strengths and weaknesses of the principal company within conceptual framework by Sadia et al. (2016, 97).

The current state of interfunctional coordination seems unbalanced also when the results are examined through interfunctional coordination connected barriers by Tomaskova (2009, 538), where the two main barriers to interfunctional coordination are firm culture and information coordination. Based on the results of the workshop, the firm culture related aspects should be in order within the principal company, as culture is perceived as the prevalent strength by majority of employees. Information coordination on the other hand is perceived as prevalent weakness and thus seems to be a significant barrier to interfunctional coordination. According to Tomaskova (2009, 539) organisational culture influences system, structure, procedure and communication in a company. Results would therefore imply positive state of these elements within the principal company.

Results show evidence in support of this idea. Strengths related to organisation's employee's values, attitudes and behaviours, such as team spirit, good atmosphere and flexibility could be assigned to low level of formalisation. Low hierarchy and trust in capability to handle tasks mentioned by Group 2 point to low level of centralisation. Such strengths as providing interdepartmental help and working for the benefit of the company as a whole point to low level of departmentalisation in the mindset of the employees as well as good communication. Information coordination related strengths generated by Group 2 can also be assigned to good communication. According to Tomaskova (2009, 539) in order to reduce interfunctional coordination related barriers, a company should strive towards high level of flexibility and low level of formalisation, centralisation and departmentalisation.



Items related to procedure, however, have strong presence in weaknesses generated by both groups and especially by Group 2. Only one procedure related item is presented as strength and not in a particularly convincing manner, as the strength is “existence of operational processes and practices” rather than good operational processes and practices. Structural elements received notably more critique than praise by Group 1, while Group 2 had neutral or slightly positive outlook on structural elements. One of the structural elements that received many votes from Group 1 is “uneven expertise”. Tomaskova (2018, 7) identifies expertise, along with communication, as the most important element for good interfunctional coordination of a company. This suggests that expertise might be a potentially significant weak point in the principal company’s interfunctional coordination. Kaňovská and Tomaskova (2012, 74) argue that weaknesses in structure and procedures have a negative influence on decision making process. Results from the autumn 2017 seminar workshop as perceived through the lens of research by Tomaskova (2009, 538) is illustrated in Figure 6, where items evidently perceived as strengths are coloured green, items perceived as weaknesses orange, unclear or conflicting items yellow and items not distinctly referenced in the results blue.

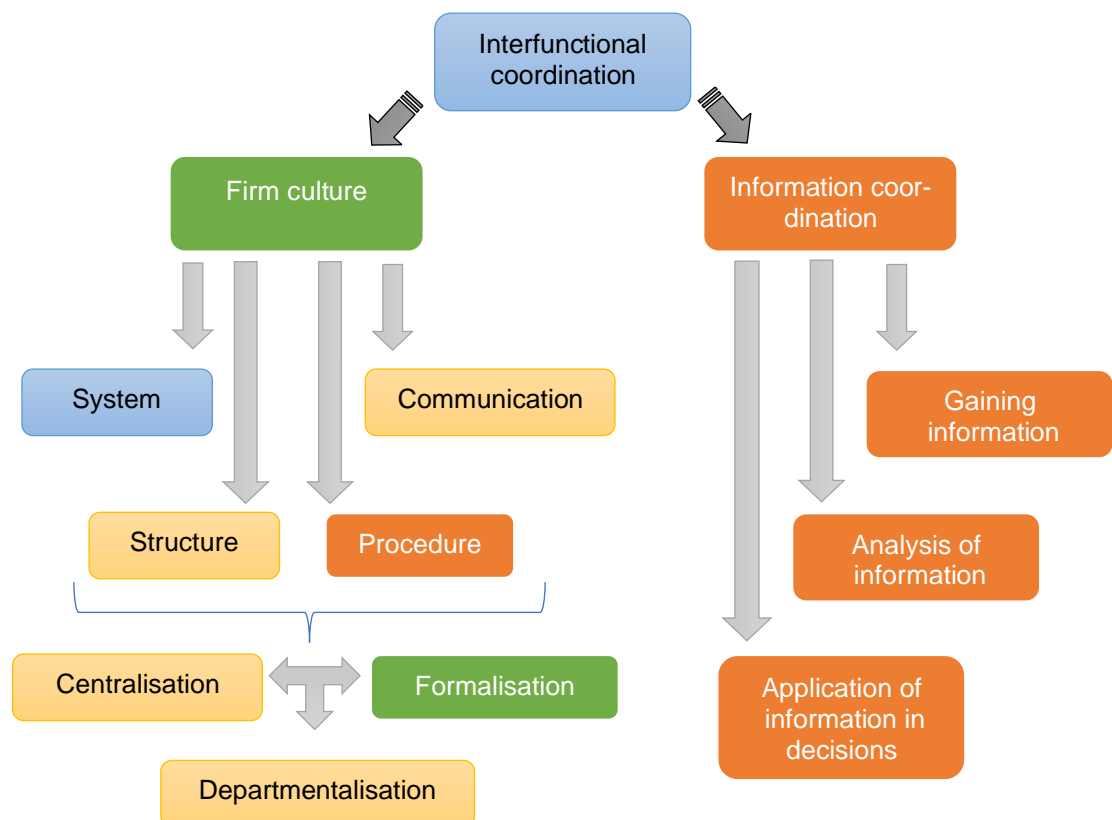


Figure 6. Strengths and weaknesses of the principal company within interfunctional coordination connected barriers presented by Tomaskova (2009, 538).

It is to be noted, that the results of the workshop correspond rather well to the characteristics of small to medium sized project organisations as described earlier in this work. At least the following characteristics are projected in the results: intensive human dimension (Nicolescu 2009, 407-412), low formalisation degree (Nicolescu 2009, 407-412; Kozlowski 2016, 39-41), strong interconnection between formal and informal elements (Nicolescu 2009, 407-412), high flexibility (Nicolescu 2009, 407-412; Hobday 2000, 892) and decentralisation (Hobday 2000, 892). Out of these type and size related features especially intensive human dimension and low level of formalisation seem to have a significant impact on the current state of interfunctional coordination within the principal company.

Nicolescu (2009, 407-412) describes intensive human dimension as having such advantages as higher working ethics, better working climate, more intense consulting and cooperation, which are all strongly present in the lists of strengths generated by both groups. On the other hand, intensive human dimension may bring upon such disadvantages as insufficient rigor in designing and carrying out the activities, reducing responsibility and partial negligence of the economic aspects in favour of the social ones (Nicolescu 2009, 407-412), which is suggested in the most voted on information coordination related weakness generated by Group 1: "Due to resource scarcity, interdepartmental help is needed and provided, even to the point where tasks that were agreed to be accomplished before will suffer." While high level of formalisation is negatively associated with interfunctional according to Tomaskova (2009, 539), Nicolescu (2009, 407-412) sees higher formalisation as a tool to decrease the disadvantages of intensive human dimension and a necessity for a larger company. Kozlowski (2019, 41) contends that low level of formalisation leads to lower retention of knowledge generated in project implementation and research by Hobday (2000, 892) suggests that shortcomings of project-based organisations lie, among other aspects, in inherently weak coordinating processes across the totality of the organisation, creating problems in cross-project learning or communications and potential problems in cross-project integration. Problems mentioned by Kozlowski (2019, 41) and Hobday (2000, 892) can be seen in the results of the workshop, as both groups have listed and voted on at least one project communication related weakness. Other items related to low level of formalisation were also listed as weaknesses, such as the most voted on information coordination related item in Group 2: "Non-processual and un-documented procedure relying on memory." These results suggest that the level of formalisation in the principle company might be too low, which negatively affects information flow.

Another noteworthy element are the differences in how the two groups perceive the current state of interfunctional coordination within the principal company. Group 1 came up

with notably more strengths than Group 2 during the idea listing phase of the workshop. It is reasonable to assume that the members of Group 1 are more likely to find positive elements within the company in general, including its state of interfunctional coordination, as they chose to work there for 10 or more years. The newer employees within Group 2, on the other hand, may not have formed as strong attachments to the company yet and thus, may not find as much positive elements within the subject matter. Results suggest that Group 2 might even have more negative perception of the current state of interfunctional coordination compared to Group 1, as they generated notably more weaknesses during the idea listing phase of the workshop.

Interestingly, while the strengths perceived by both groups were rather similar, perceived weaknesses had some significant differences despite thematical overlap. Information coordination weaknesses collected from Group 1 can be summarised into the following: general information flow, meeting practices and adverse effects of interdepartmental support. For Group 2 they can be summarised into the following: lack of documentation and general flow of information. This difference suggests that employees in Group 1 rely heavily on their experience or tacit knowledge in their daily operations and do not produce enough explicit knowledge needed by the new employees within Group 2. This hints at both disruption of knowledge creation cycle in accordance with SECI model (Nonaka & Takeuchi 1995) as well level of formalisation being too low, as pointed out before. The need for higher level of formalisation is also supported by the voting results of Group 2, where procedure and more specifically management related weaknesses received high scores. The votes beyond interfunctional coordination of Group 1, on the other hand, concentrated on structural weaknesses related to uneven workload and expertise. Due to longer working experience in the company, employees involved in management concentrated in Group 1, which probably explains this difference in perception. While Group 2 saw shortcomings in management practices, Group 1, represented to a high degree by the employees responsible for management operations, saw shortcoming in structural elements possibly affecting the quality of their own work rather than seeing their managerial efforts as insufficient in and of themselves.

## 4.2 Addressing weaknesses in information coordination

### 4.2.1 Improving and clarifying communication practices

Many of the suggestions collected in the spring 2018 workshop can be classified under communication practices theme. In accordance with results within Groups 2 and 3, there seems to be a need for new or improved rules and methods for information sharing as well as information overflow management. The company could benefit from creating a knowledge strategy, where similarly to the case presented by Hornstrup et al. (2014, 20-21) the following items should be considered to ensure balanced information flow:

- context or objective of information
- focus of the informing method
- activation of information recipient by using bidirectional way of communication
- language and content of the information

Additionally, to successfully establish information sharing norms, managers should consider various group identities and social psychological variables, such as relative functional identification as presented by Fisher (1997,67) and level of communication apprehension as presented by Bartoo and Sias (2004, 22-23). Literature study by Ramadanty and Martinus (2016, 84) also underline the importance of appropriate and positive nonverbal communication, satisfactory interpersonal communication by leader and climate communication, which all have a significant role in shaping the employee motivation. Providing communication education to personnel on a wider scale than just among the leadership or top management could be beneficial for the principal company, as rather than having a centralised top down management influence, in a project organisation, such as the principal company, power and responsibility is decentralised between the project managers (Hobday 2000, 892), and thus, successful information coordination depends also on their communication knowledge and skills.

Interestingly, unlike Groups 2 and 3, instead of including any suggestions for improving communication practices, Group 1 uniquely generated suggestions for clarifying current practices by producing a process diagram with information flow and a process description of internal projects. A process diagram with information flow in fact received the highest score out of all the suggestions in Group 1. The principal company is Lloyd's ISO 9001:2015 certified and the processes are described to a large extent in the quality policy

materials. These materials are supplemented with various more detailed descriptions and instructions. Rather than producing the diagram from scratch, in practice the idea of Group 1 would mean collecting and enriching available information and presenting it in form of an all-encompassing process diagram with information flow. This suggestion has been nearly fulfilled after the workshop; however, it has not been proven to be particularly useful in improving information coordination. While Nicolescu (2009, 407-412) names low complexity as a characteristic of an SME, this characteristic does not fit the principal company. Project lifecycles have many stages and majority, if not all, of the functional departments are involved at some stage of the project. Information flows not only through each project, but also beyond the projects on a general organisational level. Thus, process diagram with information flow, when designed in detail, becomes too large and complex to comprehend. Rough diagram, on the other hand, does not provide any specific tools for information coordination other than general understanding of company's operations and information flow. Both rough and more detailed diagrams however are useful in an Enterprise Resource Planning (ERP) software acquisition, mentioned later in this work.

#### 4.2.2 Management and assigning responsibilities

In addition to having a couple of suggestions that can be classified solely as management related, management theme runs through several suggestions also classified into communication practices and assigning responsibilities. A deduction can be made, that assigning responsibilities and improving communication practices alone are seen as insufficient measures to enhance information coordination, but further management and supervision is needed to ensure compliance with the established norms. According to Turner et al. (2012, 945-955), smaller companies need less bureaucratic and more flexible and people focused forms of project management to facilitate the work of teams of generalists, while larger companies require more formal approaches to manage the work of teams of specialist. Though the principal company is a specialist organisation, due to combination of complexity of operations and scarcity of resources, the employees perform a wide variety of tasks, which in a larger company could belong to separate specialised departments or employees. Therefore, in this case, a degree of flexibility and people focused approach could be warranted. It is to be noted that similarly to characterisation of SMEs by Kozlowski (2016, 38), also the principal company implements projects to achieve direct market action related effects and its project management is market oriented. Thus, although the results of the current state of interfunctional coordination within the principal company suggest a need for higher level of formalisation, bureaucracy cannot be increased to the point where

it significantly decreases the amount of resources fulfilling market-oriented operations. In order to preserve the organisation culture related strengths while addressing the information coordination related weaknesses, a balance of formalisation and flexibility suitable for the principal company should be found.

Assigning responsibilities can be considered as a management tactic and a concrete way to coordinate information through designated persons assigned as owners of certain knowledge or process. Literature studied in this work does not support the idea of enhancing information and consequently interfunctional coordination through this tactic. Kahn (1998, 326) found that rather than formal, structured communication, collaboration supported by coordinating mechanisms such as liaisons, committees and teams between functions appears to be significant in facilitating market orientation between functions. The size, or more specifically number of employees, of the principal company imposes limitations on the extent to which such coordinating mechanisms can be created. However, based on research literature, it would seem that the tactic of creating coordination mechanisms to the extent that is possible without disrupting market oriented operations would be more useful in improving information coordination than the tactic of assigning separate persons to be responsible for different knowledge areas. Suggestion for displaying company mission, values, vision and strategy generated within Group 1, on the other hand, is supported by the literature, where establishing common vision and goals has been found to significantly benefit interfunctional coordination (Fisher 1997, 67; Kahn 1998, 326; Koulouchová & Rozek 2014, 33).

Group 2 suggested creating and complying with an internal crisis communication guide. Such guides can be considered as part of company's public relations or corporate communication and absence of such functions have been found characteristic of most private sector companies in Norway by Simcic Brønn (2014, 72) and North-West of England by Moss et al. (2004, 203). Research by Simcic Brønn (2014, 74-75) showed that leaders of small and medium-sized companies without communication departments indicated that their only use for public relations was in the case of a crisis, while in actuality public relations were used also in other cases unknowingly. Moss et al. (2004, 207) concluded that many companies seemed to have scarce knowledge of what constitutes public relations or at least appeared not to make much use of such, speculating that limited range of communications activities used by SMEs may stem from limited budgets. There is no public relations department nor strategy in the principal company. It is unclear whether such are needed, and the research studied in this thesis does not provide answers to that. The results of the workshop however indicate a wish for internal public relations strategy in

form of internal crisis guide by at least two employees. This issue could be worth further investigation.

#### 4.2.3 Meeting practices

Although not scoring particularly high among the summarised results, meeting practices related suggestions were generated and voted on within all the groups. Prior to spring seminar workshop, there has been a practice of postponing or skipping regular meetings due to high workload and hurry. Aros and Gibbons (2018, 13-14) have pointed out that there is a potential loss of productivity in engaging in more time-consuming media, such as meetings, as it can interfere with routine task flows. On the other hand, it is beneficial in obtaining complex or clarifying ambiguous information (Aros & Gibbons 2018, 14). Dennis et al. (2008, 595), contend that individuals working with novel contexts have a higher need for media supporting higher synchronicity, while individuals working with familiar contexts can perform successfully with less use of media capable of supporting convergence. Thus, research suggests that reducing the number of meetings would have positive effects on productivity of standard tasks while hindering fulfilment of more complex tasks. The results of the workshop suggest that restoring meeting routines in the principal company was seen as a way to improve information coordination by some of the employees within each workshop group. This idea is supported by the theory and typology of the company, as the principal company is a flexible specialist organisation producing tailored non-standard projects, where a large proportion of the tasks are also non-standard.

Despite ongoing high workload and hurry, regular meeting practices have been restored after the spring seminar. In addition to other measures, all the suggestions generated by the workshop groups related to meeting practices have been at least partially implemented by the time of writing this. Maintaining the schedules and using Outlook calendar invitations provide easier access to information about when the regular meetings are held. There are monthly meetings for the whole personnel, where questions can be asked, although this opportunity is rarely used. There are regular meetings between Finland and China regarding manufacturing status, and project meeting practices and agendas have been upgraded. It seems that information flow has improved due to these actions, however, to produce a more reliable evaluation of their effects on performance and productivity, a more in-depth analysis with involvement of the employees of the company should be conducted.

#### 4.2.4 Documentation and accessibility to information

Documentation and accessibility to information related improvement suggestions scored high in summarised results, receiving voting points from Group 1 and especially Group 2. Research literature supports usefulness of documented information, as using less time-consuming media enables better productivity in certain circumstances, such as when dealing with less complicated routine tasks (Aros & Gibbons 2018, 13-14) or working with familiar contexts (Dennis, Fuller & Valacich 2008, 595). Additionally, externalisation of tacit knowledge into explicit is an essential stage of knowledge creation cycle in accordance with SECI model (Nonaka & Takeuchi 1995), where all four stages have a positive effect on flexibility of distribution of information (Research by Ramírez et al. 2012, 177-180). Knowledge creation perspective was clearly considered in suggestion for providing easy access to feedback summary of completed projects for better learning. Other suggestions, although not explicitly expressed, can also be tied to knowledge creation. In addition to providing memory support for the project manager, project diary would provide other stakeholders with wide and constant access to information about project's status and the chain of events leading to it. Distributing orally discussed items in writing, in addition to also serving as a memo to the participants, would ensure that potentially useful information could reach relevant persons absent from the oral discussion. Thus, explicit knowledge would become available for utilisation by larger group of people in easily exploitable format allowing for better productivity, as the use of time-consuming direct communication would be reduced to cases where elaboration is necessary due to complexity or unfamiliarity of the issue at hand.

Although importance of training has been extensively mentioned in interfunctional coordination related research literature (Shaw & Shaw 2000, 1172-1173; Keaveney 2008, 660-661; Mintzberg 1979, 3-6; Bartoo & Sias 2004, 23-24), the workshop generated only a couple of training related suggestions to improve information coordination, and these suggestions did not receive many votes. Nonetheless, the principal company has made documentation and accessibility to information related improvements in training by producing more documented work orientation materials. Previously, work orientation guide included only topics to be presented in more detail by the mentors. This resulted in great variance in quality and contents of work orientation, depending on what mentor remembered to introduce and what the new employee was able to memorise or write down. New work orientation material is more comprehensive and includes guidance to where further information can be found. The impact of this enhancement remains to be evaluated.



#### 4.2.5 IT solutions

IT solutions scored high in summarised results. There has been ongoing discussion on introduction of new technologies, such as Enterprise Resource Planning (ERP), Product Lifecycle Management (PLM) and Customer Relationship Management (CRM) software. However, similarly to discovery by Kozłowski (2016, 39-41), where SMEs use IT instruments and high-tech forms of telecommunication much less than LEs, the principal company's use of such instruments has also been limited. Failure to introduce the above-mentioned technologies is largely due to such typological characteristics of the company as high typological diversity and low amount of resources, as listed by Nicolescu (2009, 407-412). Due to high typological diversity of similar-sized companies, it has been hard to find systems that would fit the principal company's business specific needs and at the same time be in a price range that would not drain the limited resources of the company. In 2019 the decision to allocate resources to purchase and implement PLM and ERP systems has been made. CRM is preferred to be included in the ERP system scope. PLM is being implemented and ERP is in quotation review stage at the time of writing this.

Vainio (2005, 30) notes that only explicit information can be input into data processing systems and if an organisation relies only on information within such system, social and dynamic dimension as well as tacit knowledge will be overlooked. Considering that, in accordance with the results of the autumn 2017 workshop, the principal company seems to have challenges in producing and sharing explicit knowledge, this feature of data processing systems would steer the data sharing into more formalised route, which could mitigate some of the problems in the current state of information coordination within the principal company. Upon implementation of such systems however, direct communication should not be completely overlooked, as research by Aros and Gibbons (2018, 12-13) found that reliance on the centralised information system alone, without direct communication, lengthened flow times for pre-scripted, standard and non-standard task requests and that flow times were significantly improved when at least one direct interpersonal communication medium was used. Another item to note when implementing the new systems, is that according to the research by Ashraf et al. (2017, 15) promoting interpersonal activities can have positive and written interaction negative effects on perceived ease of use and usefulness of the CRM system and thus acceptance of the said system within the company.

#### 4.2.6 Interdepartmental conflict

There were no suggestions for reducing interdepartmental conflict in the results of the workshop. However, the results indicated a potential need for this, as a couple of improvement suggestions pointed directly at functioning of sales department: “sales department needs to take responsibility for actively demanding initial data from customers” and “getting aftersales feedback from the customers”. No other department was expressly targeted. These targeted suggestions point to a level of interfunctional conflict between sales and other departments. Instead of, or in addition to, increasing managerial grip on sales department, interdepartmental conflict management should be considered. Literature suggests several methods for reducing conflict between marketing or sales department and other departments, such as engineering and manufacturing:

- Reducing differences in incentives (Rotemberg & Saloner 1995, 650; Keaveney 2008, 660-661), with consideration of implementing common targets with common responsibilities and the targets being realisable with same effort from both sides resulting in identical rewards (Kolouchová & Rozek 2014, 32).
- Education and cross training (Shaw & Shaw 2000, 1172-1173; Keaveney 2008, 660-661).
- Teamwork, management, communications (Shaw & Shaw 2000, 1172-1173).
- Setting of appropriate group norms and utilising tools to focus discussions of task-conflict (Kaeveney 2008, 660-661).
- Systematically hiring more able employees in one functional area (Rotemberg & Saloner 1995, 650).
- Paying attention to applicant's teamwork skills and assessing the way the applicant would fit into the existing culture of the company during hiring process (Kolouchová & Rozek 2014, 33).

All above mentioned methods should be accessible for an SME to a certain degree in proportion to available resources. Cross-training practice, where sales personnel is performing project management task, have already been undertaken in the principal company. Evaluation of the results of such practice can be performed later, when the cross-training period is over. Rotemberg and Saloner (1995, 650) and Keaveney (2008, 660-661) suggest that conflict may produce some value to the company. The principal company should therefore assess whether the current situation produces any potential gains

and whether further reducing conflict with other methods than cross-training would further benefit to the company.

#### 4.3 Applicability of the results to the Chinese subsidiaries

This thesis does not provide information on the Chinese subsidiaries' state of internal interfunctional coordination nor suggestions for enhancing it, as both the autumn seminar 2017 and the spring seminar 2018 workshops were conducted among the parent company's employees only. However, interfunctional coordination related weaknesses generated by both parent company's autumn workshop groups included items related to the Chinese subsidiaries. These items are mostly related to information coordination between the subsidiaries and the parent company. Also, the spring seminar workshop produced information coordination enhancement suggestions involving the Chinese subsidiaries. These suggestions were:

- Renewing communication methods between Finland and China.
- Arranging meeting in transition stages of projects, especially between Finland and China.
- Naming a responsible person for information flow between Finland and China to improve cooperation and knowledge.

Suggestion about renewing communication methods between the Finnish and Chinese companies is vague and does not include any proposals on which methods should be chosen. Research literature regarding Asian organisations studied in this thesis indicate that despite cultural differences, similarly to Western organisations, Asian organisations could potentially benefit from participative culture (Chen 2008, 186-187), bidirectional modes of communication (Chen 2008, 186-187; Kang & Sung 2017, 96), complete and accurate information exchange (Kang & Sung 2017, 96; Xie et al. 1998, 203-205), collaboration and compromise (Xie et al. 1998, 202). Meetings provide a forum for all the above and thus the benefit of arranging meetings in transition stages of projects between Finland and China is supported by the research. Such meetings have partially been established after the workshops and are to be extended in future. Success of this arrangement can be evaluated later, when the new practices have been in use for a sufficient time.

As previously noted, literature studied in this thesis does not support effectiveness of enhancing information coordination through assigning responsibilities in the parent company.

The Asian research however indicates some potential benefit in assigning a responsible person for information flow between Finland and China. The research found that hierarchical method of conflict resolution appears to be effective in the Eastern organisations (Xie et al. 1998, 203-205) and that positive effects of participative culture, two-way symmetrical communication mode, two-way communication channels and the objective of employee communication being set for relationship building between the employees and the management in Chinese organisation would only occur when communication specialists were part of the dominant coalition, participating in company's major decision and policy making processes (Chen 2008, 186-187). Thus, assigning a responsible person for information flow between Finland and China could improve information coordination between the companies if the person has sufficient hierarchical authority and is participating in the dominant coalition of the company.

## 5 CONCLUSIONS

Results of the autumn 2017 seminar workshop are consistent with the size and type of the organisation and show that the current state of interfunctional coordination in the principal company is seen as unbalanced. Perceived strengths are mainly culture and weaknesses information coordination related. Information coordination being the prevalent weakness and main development area becomes evident also when viewed from the perspectives of conceptual framework by Sadia et al. (2016, 97) and study by Tomaskova (2009, 538). Research literature suggests that information coordination related problems could stem from, or be negatively affected by, low level of formalisation (Nicolescu 2009, 407-412; Hobday 2000, 892; Kozlowski 2019, 41).

Despite producing thematically similar top results, there are significant differences between perception of current state of interfunctional coordination between the two autumn seminar workshop groups, where the newer employees seemed to have more negative outlook on the subject matter than the employees with longer working experience within the principal company. Differences in how the two groups experience information coordination related challenges point to disruption in knowledge creation cycle in accordance with SECI model (Nonaka & Takeuchi 1995), where tacit knowledge from experienced employees is not being effectively converted into explicit knowledge that can be utilized by others, especially by the less experienced employees.

In spring 2018 seminar workshop employees of the principal company produced a large variety of suggestions across many themes for addressing the weaknesses in information coordination. Summarised results produced three leading themes for improvement: communication practices, management, and documentation and accessibility to information. However, within each workshop group, the highest scoring suggestions were thematically diverse. This indicates that whereas there seems to be a consensus among the employees on information coordination being the main weakness in interfunctional coordination, there is no such consensus on the best way or ways to address this weakness. Nonetheless, the results of the workshop provide a good collection of potentially beneficial methods for improving information coordination within the principal company and some of these suggestions have been implemented after the workshop.

The following measures to address the weaknesses in information coordination to enhance interfunctional coordination of the principal company with consideration of its type

and size can be recommended based on the results of the workshops and the research literature studied in this thesis:

- improving communication practices through knowledge strategy and communication education
- improving management practices with a flexible and people focused approach
- forming coordinating mechanisms between functions rather than assigning separate responsible persons to various knowledge areas
- keeping up with regular meeting practices
- improving documentation practices and accessibility to information
- introducing IT solutions according to plan
- addressing interdepartmental conflict
- establishing participative and bidirectional communication channels and procedures with Chinese subsidiaries, supervised by a member of the dominant coalition of the principal company

Limitations of this thesis include the following limitations of NGT used in both workshop sessions as presented by Delp et al. (1977, 14-15): diminishing of cross-fertilization of ideas due to the structure imposed by the method and possible reduction of flexibility, where some group members may feel that the purpose of the workshop or the question posed is irrelevant or misleading, and they do not have an opportunity to change it. The methodology required splitting of participating employees into separate groups in order to meet the requirements of optimal number of participants. Due to workshops being conducted simultaneously, this meant that each group had their own facilitator. Thus, although all the facilitators were instructed similarly, there is a possibility that different facilitators may have somewhat affected the workshop process and the data collection. Additionally, although the researcher strived for objectivity, it is possible that being involved in the researched subject may have affected the analysis of the results. Subjectivity of action research and its potential effect on activity of the persons involved in the research has been noted by Chandler and Torbert (2003). Finally, also the subjectivity of thematic analysis due to requiring intensive involvement and interpretations from the researcher (Guest, MacQueen & Namey 2012, 17) constitutes as a limitation in this thesis.

Future research may include re-evaluating the current state of interfunctional coordination of the principal company after significant enhancement methods have been implemented for some time. Also, various tools for enhancing information coordination and usefulness of PR from the point of view of an SME could be further investigated and evaluated. Similar evaluation of current state of interfunctional coordination within Chinese subsidiaries could be conducted and evaluated based on a wider scale of Asian research literature.

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## Ohjeistus fasilitoijalle Syysseminaari 2017

### Nominal Group Technique (NGT) –menetelmä

#### ALKUOSUUS

- Kukin kirjaa ajatuksiaan itsenäisesti 15 min. ajan, 1 ajatus per paperiarkki
- Ajatukset käydään läpi vuorotellen yksi kerrallaan, kunnes kaikki uniikit ajatukset on listattu ja numeroitu (eli kootulla listalla ei saisi olla toistoa)
- Läpikäynnin aikana syntyneitä uusia ajatuksia saa esittää ja lisätä listalle
- **AJATUKSIA EI SAA ARVOSTELLA**, täsmentäviä kysymyksiä voi tarvittaessa kysyä, jotta ajatus tulisi ymmärrettyä oikein

#### ÄÄNESTYS

- Kun kaikki ajatukset on listattu ja numeroitu, kullekin jaetaan paperi, johon kukin listaa omasta näkökulmastaan 3 merkittävintä vahvuutta ja 3 merkittävintä heikkoutta
- Paperit kerätään ja fasilitoija laskee pisteet ja niiden perusteella priorisoi vahvuudet ja heikkoudet
- Tulokset esitetään päivän päätteeksi

## Ohjeistus fasilitoijalle Kevätseminaari 2018

### Nominal Group Technique (NGT) -menetelmä

#### ALKUOSUUS

- Kukin kirjaa paperille ajatuksiaan itsenäisesti 15 min. ajan
- Ajatukset käydään läpi vuorotellen yksi kerrallaan, kunnes kaikki uniikit ajatukset on listattu ja numeroitu (eli kootulla listalla ei saisi olla toistoa)
- Läpikäynnin aikana syntyneitä uusia ajatuksia saa esittää ja lisätä listalle
- **AJATUKSIA EI SAA ARVOSTELLA**, täsmentäviä kysymyksiä voi tarvittaessa kysyä, jotta ajatus tulisi ymmärrettyä oikein

#### ÄÄNESTYS

- Kun kaikki ajatukset on listattu ja numeroitu, kullekin jaetaan paperi, johon kukin listaa **paremmuusjärjestyksessä 3 omasta mielestään implementoinnin arvoista ajatusta**
- Paperit kerätään ja toimitetaan Ingalle, joka laskee pisteet ja priorisoi niiden perusteella ajatukset