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CONFLICTS IN CULTURAL DIVERSITY AND THEIR ECONOMIC IMPACT MEASURED BY LOST TIME

By

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1. GENERAL INTRODUCTION

1.1 Research Motivation

In today's business environment companies face a strong competition with a constant drive for excellence and earnings. Cost management, human capital or efficiency increases are common discussions of any organization. It is therefore getting more important to go beyond common economical indicators and look for alternative ways to affect a company's financial performance and ensure a sustainable competitive advantage (Dirrler and Podruzsik 2022). The costs of conflicts therefore play a vital role in the identification of opportunity costs and future potential for cost cuttings and are already claimed by some scholars to be the largest reducible costs (Buss 2011). Besides this constant drive for financial results, globalization marks our current organizational lives with multicultural working teams, cross border communication, as well as global sourcing. The world economy is growing with new markets being emerged. Intercultural diversity is shifting to the core of most companies, adding more complexity into daily operations, with one being conflict (Dirrler and Podruzsik 2023a). It is therefore essential to understand the effect of cultural diversity on conflicts in general, but more precisely on the costs of conflicts.

1.2 Literature Review

1.2.1 Conflict

Conflict is a common part of human interaction (Wang et al. 2007). Driven by team-oriented workgroups and decentralized structures it is unavoidable at the workplace (Nohria and Garcia-Point 1991). There are different perspectives on conflict, while some scholars focus on the conflict types and their effects (e.g. Jehn and Bendersky 2003, Jehn 1995, De Dreu and Weingart 2003), the alternative approach looks at conflict root causes and how to mediate conflict

(Moore 2003). In conflict research focusing on conflict outcomes, it is common to distinguish relationship-, task- and process conflict (Jehn 1995; Jehn 1997), an approach used by the majority of scholars (De Dreu and Weingart 2003; Shaukat et al. 2017; Kuriakose et al. 2019). In comparison, Moore (2003) identified five causes of conflict, being relationship and value conflict, structural conflicts, data and interest conflicts. Looking at the distinct approaches, the conflict categorization differs, however, the content of the different elements of conflict mostly overlaps. The focus of this dissertation is purely on the outcomes of conflict and therefore definitions and categorizations were chosen accordingly. There is no unique definition of conflict, however most definitions incorporate common characteristics like the incompatibility of goals (Lewicki et al., 1997), divergent interests (Pruitt et al., 1994) or perceived differences (De Dreu et al., 1999b). Chaudhry and Asif (2015) underline the difficulty of defining conflict and suggest the definition of "a cohesive framework of behavior and perception of organizational members, which is triggered (or maintained) by the feelings of being deprived with an awareness of incompatibility with others" (Chaudhry and Asif 2015, p. 219). In this research conflict is defined as "perceived incompatibilities or discrepant views among the parties involved" (Jehn and Bendersky 2003, p. 189). As already implied by the name, relationship conflict describes personal conflicts, involving topics like political beliefs, cultural practices or personal traits (Jehn 1997; Jehn and Bendersky 2003; Jehn 1995). It is about incompatibilities of personal issues and non-work-related topics. It always involves feelings such as tension, frustration or annoyance (Jehn 1997; Jehn 1995; Jehn and Mannix 2001). In contrast, task conflict refers to content and task related disagreements, viewpoints or opinions (Jehn 1995; Jehn 1997). It can be described as task or work conflict (Jehn and Bendersky 2003). Process conflict involves logistical aspects of a task, such as resource allocations or task delegation (Jehn 1997). Process conflict is also considered to be a work

conflict, however, it is more about planning and delegating in comparison to task conflict that is mainly about the content of the task itself (Jehn et al. 2008b). Conflicts can be viewed in two ways. On the one hand, there is the positive view of conflict. This involves positive results, which arise from conflict. According to previous research, task conflict in particular can achieve such positive outcomes in form of improved decision making, a better task understanding, enhanced performance and commitment, as well as higher creativity and innovation. All triggered by the availability of different viewpoints, alternatives and the absence of group think (see figure 1) (Parayitam and Dooley 2007; Tjosvold and Hui 2003; Jehn 1995; Pelled et al. 1999; Yousaf et al. 2020).
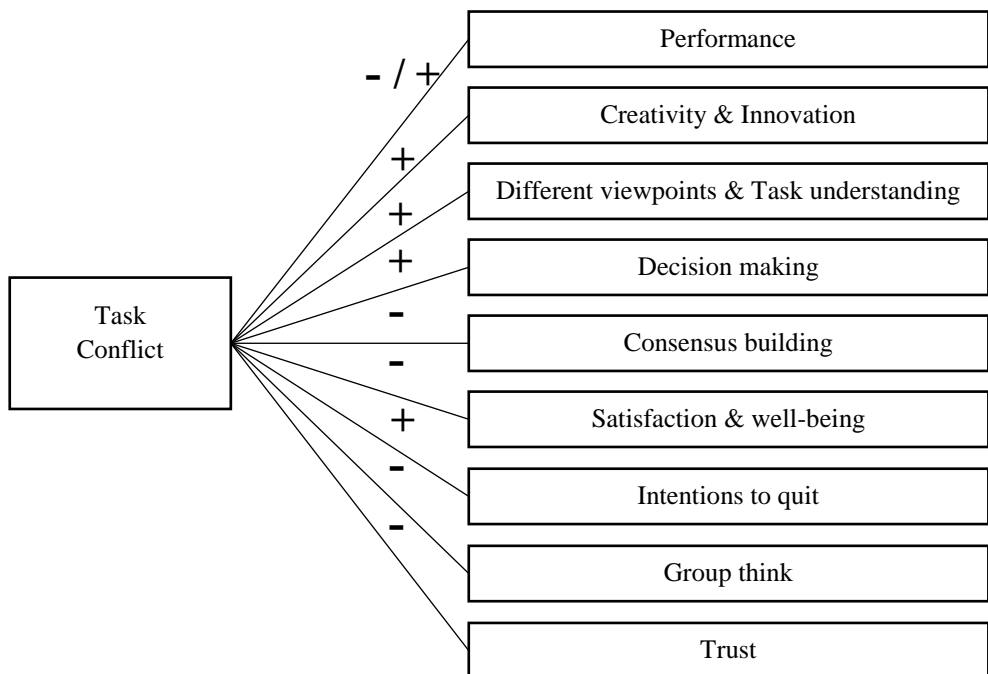

Figure 1: Task Conflict

Source: Author's own representation

Process conflict can also have positive impacts on performance, because better planning and resource allocation can take place and roles and responsibilities are better distributed (Jehn and Bendersky 2003; Jehn and Mannix 2001; Karn

2008). Especially in the beginning or at the end of a project, process conflict is claimed to be beneficial (see figure 3) (Jehn et al. 1999). On the other hand, there is the negative view of conflict, which describes harmful consequences of conflicts. Almost without exception, relationship conflict falls under this category and consequences are far-reaching. In general, researchers claim relationship conflict to lower performance and productivity (De Dreu and Weingart 2003; Greer and Jehn 2005; Li and Hambrick 2005; Rau 2005; Evan 1965; Wit et al. 2012; Vodosek 2005). Individuals involved in relationship conflict waste their time on the conflict, instead of spending it on value-adding tasks (Pelled 1996; Jehn and Bendersky 2003; Jehn et al. 2008b; Evan 1965). Their ability to focus on a task or assess new information of others declines significantly (Pelled 1996). In addition, research results indicate that it decreases creativity, innovation, consensus-building, advice-seeking and mutual understanding. It also increases dissatisfaction and the intentions to quit (see figure 2) (Evan 1965; Wall, Jr. and Nolan 1986; Deutsch 1969; Jehn 1997; Jehn 1995; Jehn and Bendersky 2003; Marineau et al. 2018; Ismail et al. 2012; Wit et al. 2012; Matsuo 2006). For task conflict, researchers also found that negative consequences are possible to arise. These are again decreased satisfaction, well-being, consensus-building and trust (Jehn and Bendersky 2003; De Dreu and Weingart 2003; Dijkstra et al. 2005; Medina et al. 2005; Jia et al. 2021; Jehn 1995; Jehn et al. 2008b; Baron 1990; Ross 1989), as well as higher intensions to quit (DeChurch and Marks 2001; Simons and Peterson 2000), and more counter-productive work behaviors (Wit et al. 2012). The mentioned researchers claim negative effects on performance (Jehn and Bendersky 2003; De Dreu and Weingart 2003; Dijkstra et al. 2005; Medina et al. 2005; Jia et al. 2021), or that at least the people involved in task conflict evaluate the work results as negative, despite the actual outcomes (see figure 1) (Jehn 1995; Jehn et al. 2008b; Baron 1990; Ross 1989). For process conflict, too, conflict outcomes can be negative. Mainly in form of the known variables,

such as lower performance (Vodosek 2005; Jehn and Mannix 2001; Jehn 1997), creativity and innovation (Matsuo 2006; Jehn and Bendersky 2003; Kurtzberg and Mueller 2005). Some researchers claim a close relation between process and relationship conflict, as process conflict involves evaluations of individuals and their skills, which in turn can evoke negative emotions and reactions and finally also result in dissatisfaction or intentions to quit (see figure 3) (Jehn et al. 1999; Jehn and Mannix 2001; Behfar et al. 2008).
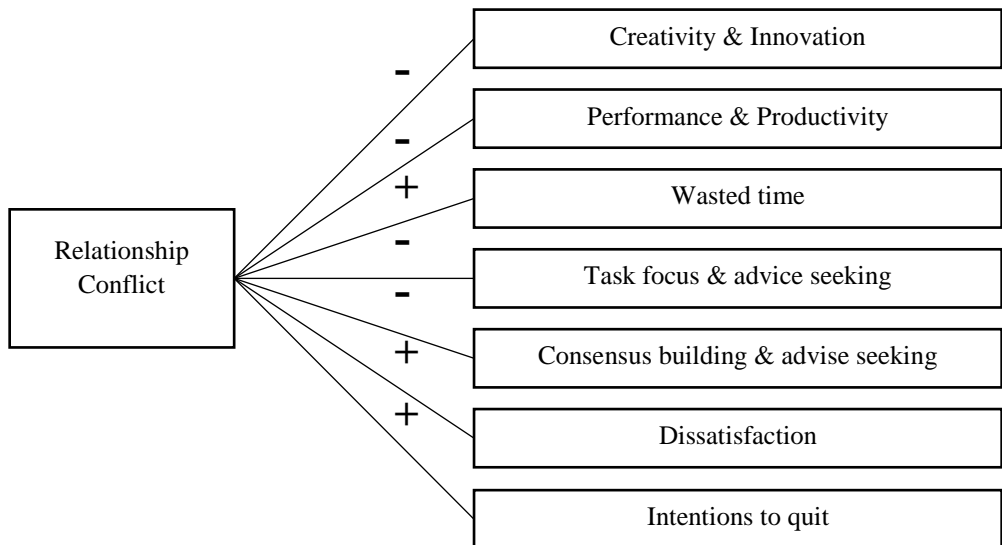
Figure 2: Relationship Conflict

Source: Author's own representation

It can be summarized that all of the researched conflict consequences for relationship-, task-, and process conflict are rather of qualitative nature. Researchers mostly researched the absence or presence of these conflict outcomes.
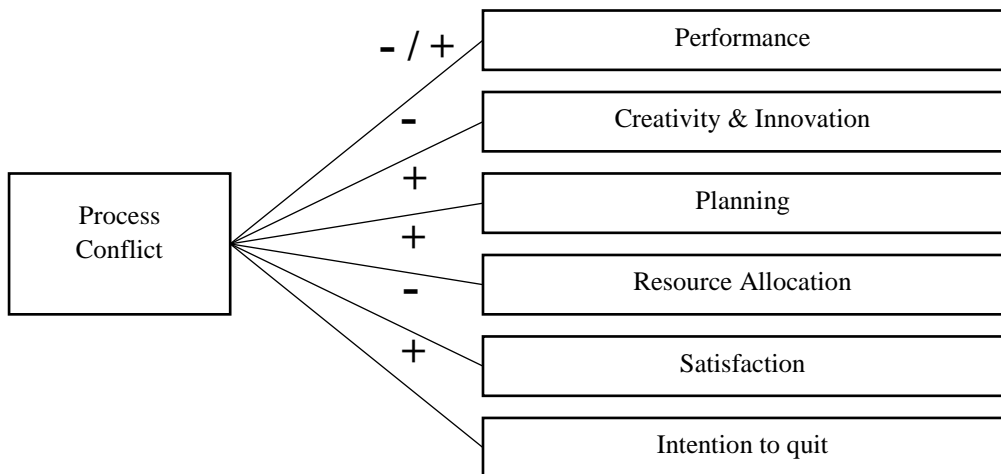
Figure 3: Process Conflict

Source: Author's own representation

1.2.2 Conflict Costs

An approach to express conflict consequences more quantitatively is the measurement of conflict costs. Audi et al. (2009) define these costs as the financial costs of conflict, that negatively influence a company's financials. Desired outcomes are either achieved, but with lower revenue or with reduced outcomes. Buss (2011) differentiates conflict costs for an organization, for employees and for clients, whereas Freres (2013) defined eight cost themes. Costs to an organization affect the company itself, compared to costs to employees that rather impact employees individually. Costs to clients describe the company image and its customer relations (Buss 2011). Freres' (2013) themes start with medical health, referring to different forms of illness, as implied by the name. The themes of wasted time and individual psyche again describe more individual consequences of employees. Counter-productive work, legal and dispute fees are categories describing more severe conflict outcomes. Team behavior includes costs, such as bad decision making or organizational citizenship behavior and a last category refers to different HR costs (also see table 1). None of the authors, however, provided precise

definitions of the clusters and their roles, but rather focused on variable statements. A definition of conflict costs in the beginning of the studies is also missing.

Table 1: Cost categorizations of Buss (2011) and Freres (2013)

Buss (2011)	
Cost Cluster	Variables/ Definition
Costs to an organization	Productivity, absenteeism, presenteeism, turnover, reputation, theft, damage
Costs to employees	Attacking behavior, increased stress-levels, burnout, illness, lower motivation, avoiding or attacking behavior, interruptions, not listening, finding unnecessary fault
Costs to clients	Damages on a company's reputation or on customer satisfaction
Note: Precise definitions of the term conflict costs or the clusters are not provided	

Freres (2013)	
Cost Cluster	Variables/ Definition
Medical health	Sick leave, accidents, physical disability, health insurance premium
Individual psyche	Job motivation, satisfaction or commitment and diligence
Wasted time	Absenteeism, presenteeism, time spent on conflict, pretending to work
Counter-productive work	Theft, violence, sabotage, vandalism, incivility
Team behavior	Decision making, individual's morale, organizational citizenship behavior
Customer	Complaint handling or customer service
Human Resource and Organizational development	Turnover, employer reputation, relationship instead of task driven assignment of people, distrust and change resistance
Legal and dispute fees	Grievance, litigation, discrimination claims, compensation
Note: Precise definitions of the term conflict costs or the clusters are not provided	

Source: (Dirrler and Podruzsik 2023b)

When analyzing the cost variables of different conflict cost studies more closely, it can be found that conflict costs are similar in all studies (see table 2). On a more personal level they mostly stated individual consequences, like a loss in time or sickness. Then, there are more severe consequences, different kinds of legal fees, reduced outputs and the loss of staff. Last, effects on the organizational culture and on customers and the market were stated frequently (Dirrler and Podruzsik 2022). Examples of single conflict cost variables are

the time spent on a conflict (Porath and Pearson 2009; Buss 2011; Freres 2013), lawyer fees, absenteeism and presenteeism, damaged brand images, turnovers, illness and sick leaves, as well as lower commitment, satisfaction or motivation (Buss 2011; Freres 2013).

Table 2: Conflict cost variables

Legal Fees		*Organizational Culture*	
Compensation Claims	(Buss 2011; Freres 2013)	Unpleasant work environment	(Buss 2011)
Legal Fees	(Freres 2013; CIPD 2011)	Avoidance culture	(Buss 2011)
Fees of lawyers and other professionals	(Levine 1998; Riaz and Junaid 2011; Harris 2008)	Quality and frequency of decision making	(Dana 2001; Freres 2013; Riaz and Junaid 2011)
Harassment Cases	(Buss 2011)	Less organizational citizenship behavior	(Freres 2013)
Incivility, Grievances, Litigation, Discrimination Claims	(Freres 2013)	Loss of ongoing relationship	(Levine 1998; Riaz and Junaid 2011)
		Miscommunication	(Buss 2011)
Customers & market		*Sickness*	
Customer Service & customer complaint handling	(Freres 2013)	Sickness costs	(Buss 2011; Riaz and Junaid 2011; Dana 2001; OPP & CIPD 2008; CPP 2008; Freres 2013)
Image, reputation & branding	(Buss 2011; Freres 2013)	Health insurance premium	(Freres 2013)
Missed opportunities	(Buss 2011)	Physical & psychological disabilities	(Freres 2013)
Individual Consequences		*Wasted Time*	
Loss of Trust	(Buss 2011; Freres 2013)	Waste of Time/ Lost time	(Levine 1998; Riaz and Junaid 2011; Dana 2001; Harris 2008; OPP & CIPD 2008; CPP 2008)
Loss/ less commitment	(Buss 2011; Freres 2013)	Pretension to work	(Freres 2013)
Loss/ lower motivation	(Buss 2011; Freres 2013; Riaz and Junaid 2011; Dana 2001)	Absenteeism	(Buss 2011; Freres 2013; CPP 2008; Riaz and Junaid 2011; Dana 2001; Harris 2008; OPP & CIPD 2008)

Aggressive behavior, stress & loss of sleep	(Buss 2011)	Searching for alternative employment & resignation	(Harris 2008)
Less satisfaction, diligence & morale	(Freres 2013)	Disruptions	(Riaz and Junaid 2011; Dana 2001)
Pain of being held by emotions	(Levine 1998; Riaz and Junaid 2011)	Time spent resolving a conflict	(Freres 2013)
Change resistance	(Freres 2013)	Presenteeism	(Buss 2011; Freres 2013)
Loss of Staff		*Reduced outputs*	
Difficulty to attract talent	(Buss 2011)	Productivity loss & underperformance	(Buss 2011; Conbere 2000)
Departure of staff / turnovers/ loss of employees	(Buss 2011; Dana 2001; Freres 2013; Riaz and Junaid 2011; CPP 2008; OPP & CIPD 2008)	Only doing the minimum/ working to rules/ dropping voluntary activities	(Conbere 2000; Harris 2008)
Severe Consequences			
Sabotage/ Stealing	(Buss 2011; Freres 2013)		
Vandalism	(Freres 2013)		
Violence	(Freres 2013)		
Accidents	(Buss 2011; Freres 2013)		

Source: (Dirrler and Podruzsik 2022)

Regarding actual financial costs of conflicts, there is no data available for all cost variables. Buss (2011) proposes a matrix with the scales "measurability" and "visibility", which can be used to rank the different cost variables. Legal fees or sickness costs are for example easy to measure and are highly visible, whereas missed opportunities or loss of trust are difficult to detect and to measure. Freres (2013) identified some studies presenting real quantitative data, that are amongst others the following. CPP (2008) states that employees lose on average 2.8 hours on conflicts per week. Porath & Pearson (2009) conducted a study were 80% of the respondents said to have lost time, because of worrying about a conflict, 48% stated to have decreased their time at work and 63% claimed to avoid the defender. Other studies indicate time losses of 20% for managers, 18% for CEOs and 26% for middle managers (Thomas and Schmidt 1976) or 1 – 5 hours per week for HR staff (OPP & CIPD 2008; CPP

2008). Turnover costs are claimed to vary between 25 – 240% of annual salary costs (Conbere 2000; Kreisman 2002) and legal fees can reach more than $100.000 per case (Murtha 2005).

1.2.3 Cultural Diversity

Internationalization, outsourcing and cross-border cooperation have led to cultural diversity being an integral part of companies today. Culture can be defined in various ways, whereas Tylor (1977) focuses on "the complex whole acquired by man as a member of society" or Hofstede (1980) pointing out the "collective programming of the mind that can be used for the distinguishment from others". "The mind stands for the head, heart, and hands – that is, for thinking, feeling, and acting, with consequences for beliefs, attitudes, and skills" (Hofstede 2001, p.9). A culture is used to indicate the uniqueness of a group, compared to individuals that have their personality to demonstrate uniqueness (Hofstede 2001). These are just some definitions amongst many, however, they possess most frequent elements, which are values, rituals, heroes and symbols (Jones et al. 2007). Mainly, culture is referring to nationalities and their differences (Suwannarat and Mumi 2012), but theoretically organizations, families and many other groups can have a culture too (Hofstede 2001). Diversity is anything that can be used by people to differentiate themselves from others (Williams and O'Reilly, III 1998; Mannix and Neale 2005). Diversity is strongly marked by social identity theory, social categorization theory and similarity theory. The first two describe that people use observable characteristics, such as a different culture, to make comparisons, which then lead to in-groups and out-groups. In general, people tend to favor in-groups and demonstrate more negative attitudes towards out-groups (Tajfel and Turner 1979; Tajfel and Turner 1986). Similarity theory supports that by stating that we favor similar others (Byrne 1971).

In this thesis, cultural diversity describes the cooperation of people of at least two different nationalities.

1.2.4 Conflict and Cultural Diversity

Cultural diversity is an important variable in conflict research (Friedman et al. 2006; Chen et al. 2003; Doucet et al. 2009). There are studies indicating the relationship between conflict and cultural diversity, making it essential for organizations to understand and carefully manage that interlink (Vodosek 2005, 2007; Wickramasinghe and Nandula 2015; Friedman et al. 2006; Chen et al. 2003; Doucet et al. 2009). Vodosek (2005) presents a positive relationship between cultural diversity and task-, relationship-, and process conflict. In addition, it is investigated how cultural diversity affects group outcomes, which is further clustered into satisfaction, commitment, perceived performance and intention to quit. The results suggest that cultural diversity is negatively related to satisfaction, affective commitment, and the subjective performance within the group, and positively related to the intention to quit. Vodosek (2007) conducted a second study based on the same research topic, which supports the initial results that cultural diversity increases relationship, task and process conflict. Cultural diversity is also negatively related to satisfaction and perceived performance. All three different conflict types negatively affect satisfaction and perceived performance in work groups as well. In addition to prior research, Wickramasinghe and Nanduna (2015) hypothesized that diversity increases relationship conflict, which in return reduces team performance. Both hypotheses are supported, meaning that diversity increases relationship conflict and that the latter decreases performance. Kankanhalli and Tan (2006) conducted an in-depth analysis on Global Virtual Teams, with the basic assumption that these teams work in different countries and cultures, as well as in different time zones. The results of the research conclude that cultural diversity is the antecedent of many

conflicts. They further concluded that linguistic differences foster conflict, as well as national differences, resulting in stereotyping, prejudice, and generalizations. It is therefore determined that cultural diversity fosters both, relationship, and task conflict. In addition, when looking at the causes of conflict, Moore (2003) stated different ways of life, ideologies or world views as potentials for conflicts to arise. Stereotyping that can rapidly happen in case of intercultural diversity, is considered as an additional cause for conflict, followed by miscommunication (Moore 2003). Akhtar and colleagues (2016) support the hypothesis that cultural diversity increases conflict, identifying language problems and misapprehensions as the leading contributors. They further state that teamwork in heterogeneous teams can never be as easy as in homogeneous teams. Opute (2012) conducted a literature review on cultural diversity, conflict and its management. It is summarized that team performance depends on diversity, as it can negatively affect group results, cohesion or commitment and increase conflict. Cultural diversity is considered to be an important antecedent of team conflict. Based on a literature review (Chuang et al. 2004), the authors suggest that the negative effects of visible diversity, which is amongst others cultural diversity, can be reduced by a strong organizational culture, team orientation or respect for each other.

Other research findings suggest cultural diversity to have mixed results on conflict. Based on prior research, it was investigated that cultural diversity can have positive and negative outcomes on virtual teams (Liu et al. 2008). Positive effects are possible due to diverse perspectives and backgrounds. However, negative feelings, due to diversity, can rapidly cause misunderstandings or communication errors, as well as difficulties in consensus finding. Furthermore, the authors claim cultural diversity to mainly increase conflict levels.

Paul and Ray (2009) partly oppose to the already presented findings. Even though they find support on global virtual teams that cultural diversity increases task conflict, this is expected to be a positive effect mainly. In their publication, they suggest the work atmosphere being the determining key factor, which strongly influences further group functioning. If the work atmosphere is regarded positive, this increased group members participation and led to task conflict. Strengthening the positive effects of task conflict, at least at moderate levels, the research findings mainly suggest positive outcomes of cultural diversity. In a second study (Paul and Ray 2013), they discovered that interaction is highest in homogeneous groups. Surprisingly, it is second highest in completely heterogeneous teams and lowest in moderate heterogeneous teams, suggesting that in case of moderate levels of heterogeneity, sub-groups are formed, which hinders an open communication. In completely heterogeneous teams, individuals cannot form sub-groups, which forces them to understand each other.

Other researchers strengthen the complexity of cultural diversity and the diverse consequences it can have. Worchel (2005) points out the complexity of culture and conflict management and proposes that culture has two important roles for conflict. It enables individuals to distinguish in-group and out-group members, which can serve as an identification tool for conflict parties. Culture is built on history and religion, as well as how individuals dress, what language they speak, or which beliefs and values they mostly represent. This makes it mostly easy to differentiate different cultures and to cluster individuals accordingly. Culture determines how individuals perceive and react to conflict. If people do not feel as part of a group, but are more connected to out-group members, this is most often the starting point of conflict. This is in line with social identity theory, in which it is also claimed that dividing people into different groups can already be the base for conflict.

It can be summarized that culture and conflict are a complex and multifaceted research area, in which culture serves as the building block of boundaries in groups, which can be the foundation of conflict. VanderPal and Ko (2014) emphasize that culturally diverse people react to conflict and its resolution differently, as for example Americans directly discuss diverging opinions, whereas people from Hong Kong would involve upper management. As this can quickly lead to misunderstandings, cultural toleration, respect, and education are essential to good international cooperation.

1.2.5 Cultural Distances

Cultures differ from each other, as values, rituals or symbols can vary. Within cultural research, the model of cultural distance exists, to describe these differences. It is also believed that cultural differences can vary a lot. It is suggested that a group of Indians, Russians, Egyptians and Chinese people may not have the identical cultural diversity like a second group consisting of Japanese, Chinese, American and French people (Ayub and Jehn 2014). To describe the magnitude of these differences, cultural distances are used. Different methodologies exist reaching from cultural dimensions of Hofstede (1980; 2001), nine cultural dimensions of House et al. (2004) or up to seven clusters of Schwartz (1994, 1999). Hofstede's clusters derive from a survey at IBM and are the dimensions of power distance, uncertainty avoidance, individualism, masculinity, and long-term orientation. Inequality is present in any society and power distance describes how people accept and live with it. The same applies for the dimension of uncertainty avoidance, whereas the presence of unknown and uncertain situations is also a given. The dimension again explains how people deal with it. Individualism describes loose relationships between people, in contrast to collectivism describing stronger ties. The cluster of individualism describes the general tendency towards one or the other. Masculinity stands for pre-determined gender roles that are

followed by a society to a stronger or weaker degree. Long-term orientation refers to future orientation, compared to short-term orientation in which societies stronger value the present and past (Hofstede 2001; Hofstede 1980). Some of the dimensions of House (2004) are similar to the ones of Hofstede (2001; 1980), main differences are in the dimensions of assertiveness, performance and humane orientation. Schwartz (1994, 1999) based his study on individuals' values and introduced clusters that are predominantly different to Hofstede's (1980; 2001) and House (2004) work (see table 3). All findings have in common that each one defined specific scores for each dimension for each country. These scores allow better comparison and evaluations of different countries. There are not many studies presenting the link of cultural distances and conflicts, however, Ayub and Jehn (2014) found a positive link between national separation and relationship and process conflict. However, it was negatively linked to task conflict. In addition, they proved that it lowered performance. National separation in their research was studied in from of social distances and national stereotypes. In general, there is support that cultural distance can cause conflict, because of intensified "us versus them" feelings and there can be different viewpoints about appropriate behaviors (Huntington 1993; Cartwright and Cooper 1992; Datta and Puia 1995). Furthermore, conflicts can easily escalate, if not managed well (Vaaland et al. 2004). Vaaland et al. (2004) focused their study on uncertainty avoidance and power distance and found support that cultural diversity can be a challenge in intercultural relationships. It was found that cultural distance can potentially be a reason for more difficult conflict resolution, in the end leading to complete escalation and relationships to end. Contrasting findings are available, too, stating that cultural distances do not predict conflict (Shupe 2007).

Table 3: Cultural clusters

Hofstede (1980; 2001)*	
Cultural dimension	**Variables/ Definition**
Power distance	How inequality is handled
Uncertainty avoidance	How people deal with uncertainty
Individualism	Degree of integration between individuals and groups
Masculinity	Degree of masculine attributes within a society
Long-term orientation	Degree of valuing persistence and thrift
*Model used in the present study	
House et al (2004) – GLOBE model	
Cultural dimension	**Variables/ Definition**
Uncertainty avoidance	Desire for structure and consistency and reliance on norms, rules and procedures
Power distance	How inequality is handled
Institutional collectivism	Degree of collective actions encouraged by social institutions
In-group collectivism	Importance of pride, loyalty and cohesiveness
Gender egalitarianism	Degree of minimizing gender inequality
Assertiveness	Degree of aggressive or confrontational behavior
Future orientation	Importance of planning or long-term success compared to immediate benefits
Performance orientation	Extent to which performance, innovation, high standards or excellence are encouraged
Humane orientation	Value representation such as fairness, friendliness, or generosity
Schwartz (1994; 1999)	
Cultural dimension	**Variables/ Definition**
Embeddedness	Avoidance of disturbances of traditional order
Intellectual autonomy	Autonomy or freedom in regards to the pursuit of ideas, thought and creativity
Affective autonomy	Autonomy or freedom in regards to the pursuit of pleasure, stimulation and excitement
Hierarchy	Degree of clear social order
Egalitarianism	Everyone is considered as equal
Harmony	Protection of environment, desire of harmony and emphasis on the group
Mastery	Success through personal action and efforts to get ahead of others

Source: (Dirrler and Podruzsik 2023b)

1.3 Conclusions

The analysis of conflict consequences can take place in two ways, a more qualitative approach or via quantitative measurements. The research of qualitative conflict outcomes is advanced, and a variety of findings is available.

These studies largely present consistent results, where the only discrepancies lie in part with the consequences of process and task conflict. Results on quantitative conflict consequences are rare and also have more gaps. It starts with the lack of a definition of the term conflict costs in most studies, and precise explanations and definitions are also mostly missing when analyzing costs and dividing them into different clusters. Instead, only possible cost variables are mentioned. However, it is not shown how the determination or assignment of the variables takes place and how the variables interact with each other. The first significant research gap therefore is:

Gap 1: No conflict cost definition and determination of corresponding conflict cost variables. No uniform clustering of conflict costs, including cluster definitions.

Looking at the actual quantitative data, several weaknesses become visible. In most studies, only individual cost variables were analyzed, detached from all other variables, and a holistic measurement of costs is completely missing. The procedure of how the data was generated and analyzed is hardly or not at all described. A replication of the research would not be possible.

Gap 2: No scientific methodology for the conflict cost measurement of all conflict costs.

Researchers often distinguish task-, relationship- and process conflict and the outcomes of the different types are divergent. Existing studies on conflict costs do not take this into account and only talk about conflict in general terms. This can be problematic, because not all conflict consequences need to be negative. For example, by looking at the cost variable "time spent on a conflict", outcomes can be negative in case of relationship conflict. However, there is the possibility for task and process conflict that this time is spent positively on

a conflict and has positive consequences. Therefore, one could not talk about costs in that case. The next major research gap therefore is:

Gap 3: No data on the link of task-, relationship- and process conflict to conflict costs.

When looking at cultural diversity and its relationship to conflict, there is already a large number of studies available. The majority presents a positive relation between diversity and conflicts and mostly indicates positive correlations between the two variables. It can be assumed that this is also applicable for conflict costs, but there are no studies yet that analyze the relationship between cultural diversity and conflict costs.

Gap 4: No data on the link between cultural diversity and conflict costs.

Analyzing cultural diversity as one variable can be too short-sighted. Therefore, the concept of cultural distance was introduced to better analyze the degree to which cultures differ. Even there, there are only few studies researching the effect of cultural distance on conflicts. So far, there are no findings on the extent to which greater cultural distances influence conflict costs and whether they correlate.

Gap 5: No data on the correlation between cultural distance and conflict costs.

1.4 Objective of the dissertation

The goal of this work is two-folded. Firstly, it is about creating a baseline for conflict cost research that can be used in the future. It is about precise definitions, clusters, variable determinations and a better understanding of the costs itself, how they are influenced and interact with each other and different conflict types. Secondly, it is about understanding the link between conflict costs and cultural diversity in general and how cultural distance influences conflict costs.

Multiple steps are necessary to gain insights on these two elements. These steps are reflected in four publications that are related to each other. Figure 4 summarizes the approach by listing the respective problem and objective of each publication and their overall contribution.

The first publication (Dirrler and Podruzsik 2022) serves as the basis for all subsequent publications, as it is the basic building block for analyzing conflict costs. At first, a literature review was conducted to understand the status-quo of today's conflict cost research. Following this review, four conflict cost clusters are suggested, including definitions and variables for each of them. One main finding is the variety of cost variables and the impossibility to use one measurement approach for all cost variables. This led to the decision to limit the work related to this publication, but also all further publications on only one cost type (see figure 5). This type is called internal indirect conflict costs and reflects costs that arise within an organization but are difficult to observe by managers or ordinary performance indicators. Their measurement normally requires extensive analysis or in-depth interviews. Cost variables are for example wasted time worrying about a conflict, sick leaves or extra-time gathering information. For all internal indirect conflict costs, that can be measured in terms of lost time, a precise measurement approach is developed and tested.

The overarching research question of this publication can be summarized as follows:

RQ 1: What are conflict cost clusters and their variables and how can internal indirect conflict costs be measured?

In a second publication (Dirrler and Podruzsik 2023c), internal indirect conflict costs that are measured by lost time are analyzed in terms of their relation to relationship-, task- and process conflict. People of course always spend time

on a conflict, irrespective of the type. However, internal indirect conflict costs describe harmful conflict consequences, that can be clearly entitled as a loss of time. The goal of this research is to understand whether all conflict types cause lost time and respectively cause opportunity costs.

RQ 2: Is there a relation between relationship-, task and process conflict and lost time, measured by internal indirect conflict cost variables?

In a third publication (Dirrler and Podruzsik 2023a), the variable of cultural diversity is added to the research of internal indirect conflict costs, measured in terms of lost time. It is about understanding whether cultural diversity causes more conflicts and higher costs, in terms of more wasted time.

RQ 3: Does cultural diversity cause higher internal indirect conflict costs in form of more time being wasted on conflicts?

In a fourth publication (Dirrler and Podruzsik 2023b), cultural diversity is researched more precisely in form of cultural distances, with the objective to analyze whether larger cultural distances cause higher amounts of wasted time.

RQ 4: Do higher cultural distances also lead to higher internal indirect conflict costs, in form of more time being wasted?

The four publications with the respective research questions, serve the overarching research question:

RQ: How are conflict costs, measured in terms of lost time, linked to cultural diversity?

Publication 1:	Publication 2:	Publication 3:	Publication 4:
Companies can lose time over conflicts: An analysis of internal indirect conflict costs	Time lost on task-, relationship- and process conflict	Conflict costs in national and international business: A comparative analysis	Cultural distance and its association to time spent on conflicts

Definition of all relevant terms and precise clustering of costs. Measurement and understanding of first cost variables (internal indirect conflict costs, measured in terms of lost time).	Analysis if time is wasted on all conflict types by researching the link between task-, relationship- and process conflict and its relation to internal indirect conflict costs, measured in terms of lost time.	Study if more conflict costs arise in case of international cooperation, compared to national working groups. With a focus on wasted time, reflected in internal indirect conflict costs.	Research if higher cultural distances lead to higher conflict costs, that are measured regarding the time wasted on a conflict.

Analysis of conflicts and their costs, with a focus on internal indirect conflict costs, measured in terms of lost time.	Analysis of conflict costs, with a focus on wasted time and their link to cultural diversity

What are conflict costs and how are they linked to cultural diversity?
(With a focus on internal indirect conflict costs, measured in terms of lost time)
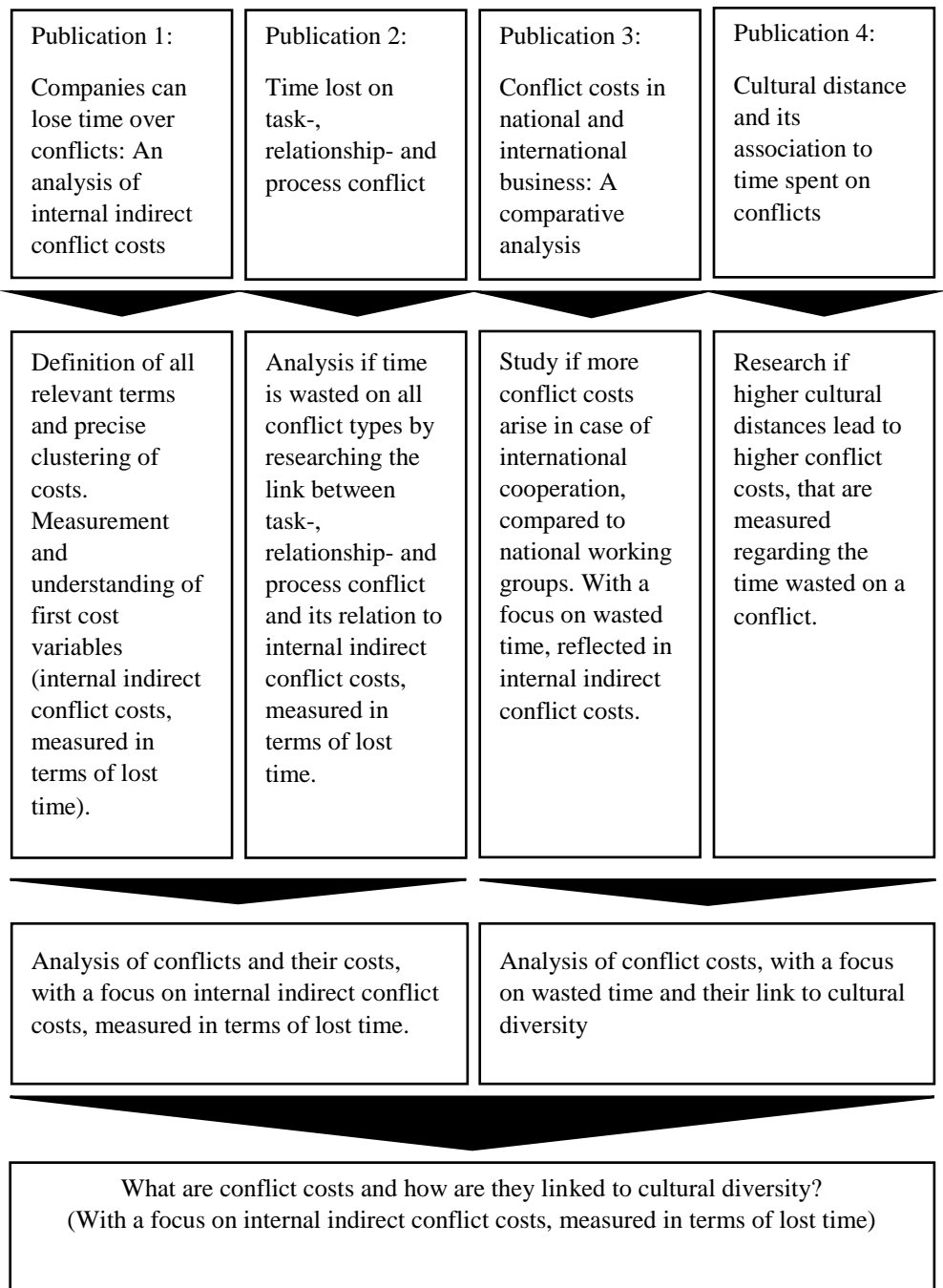
Figure 4: Research objective
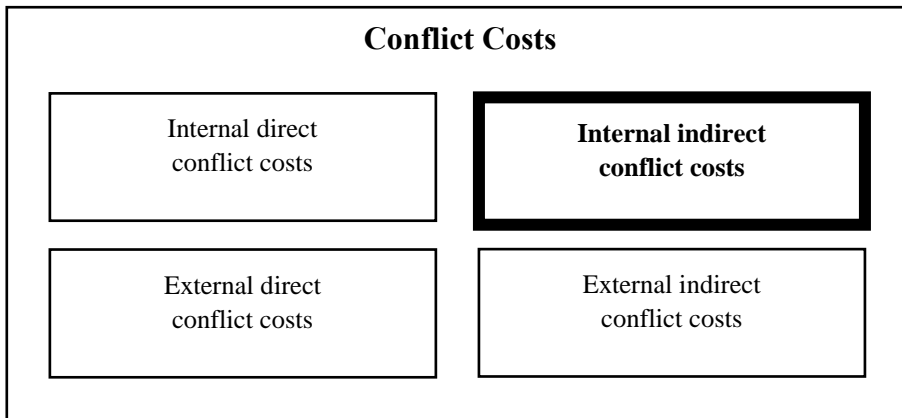
Source: Author's own representation

Figure 5: Focus of thesis (Dirrler and Podruzsik 2023a)

1.5 Methodology

For the analysis of conflict costs and the introduced variables above, different methodological approaches were used. In the first publication (Dirrler and Podruzsik 2022) a literature review was conducted to establish a baseline on conflict cost research. These findings were then used for a new cluster creation and a first statistical analysis of internal indirect conflict costs. For the literature review GoogleScholar, ScienceDirect and Ebsco were screened for relevant articles, using the search terms "Conflict Costs" and "Measurement of Conflict costs". Only ten research papers were found, which, however, is in line with similar studies that identified 12 articles (Freres 2013), as the amount of conflict cost research is very limited (Dirrler and Podruzsik 2022). The objective of the review was to find relevant cost variables, possible clusters and existing quantitative data. Using these results, the definition of conflict costs as "the financial costs caused by conflicts that negatively affect an organization's overall financial performance. A company can either achieve its desired outcomes, but with reduced revenue due to the additional financial costs of conflict, or achieve lower outcomes due to the extra costs" was chosen (Dirrler and Podruzsik 2022, p. 291). In a subsequent step, all identified cost variables were crosschecked whether they fitted the chosen definition and if

additional variables had to be added. The cost variables were then analyzed for common criteria to create new conflict cost clusters. Considering the newly defined clusters, it became obvious that the measurement of these costs with one approach was not possible. Therefore, the focus for the statistical analysis was set on internal indirect conflict costs, measured in terms of lost time. To obtain the data, an online survey was conducted with 675 respondents, who were asked to think of a concrete conflict situation they have been involved in in the past, or they currently face. This was a prerequisite and individuals who could not think of a conflict they once faced, were excluded from the survey. In the questionnaire, the respondents were asked to indicate how much time they had spent on each individual cost variable. In addition to that, they were asked about the conflict duration in general and its severity. Spearman's correlation testing was used to test the relation between conflict duration (H1a) or severity (H1b) and internal indirect conflict costs. Followed by a Kruskal-Wallis analysis to evaluate how different durations and severities of conflicts indicated differences in the overall amount of lost time. Lastly, internal indirect conflict costs were analyzed in terms of their correlation (H2a), using Spearman's correlation testing and how the contribution of individual cost variables differed to the overall costs, using the Monte Carlo multinomial test (H2b). The relationship between the hypotheses is also indicated in figure 6.

The second publication (Dirrler and Podruzsik 2023c) had the objective to indicate the relation between lost time, measured in form of internal indirect conflict costs and the three conflict types, expressed in task-, relationship-, and process conflict (Figure 7). A quantitative research approach was chosen, for which data was collected from 507 respondents via an online survey. Internal indirect conflict costs were measured as described in the first publication. To identify and differentiate the three different conflict types, the questions of Behfar et al. (2011) were used. Each conflict type has a number of questions

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through which an identification can take place. For task conflict this is amongst others "how often do members of your team discuss evidence for alternative viewpoints?". Confirmatory factor analysis was used to identify the conflict types, checked with the Kaiser Criterion and Eigenvalues. Multiple linear regression was used to analyze the relation between the amount of wasted time and the conflict types. The conflict types were then also analyzed in terms of their differences with Kruskal-Wallis testing.
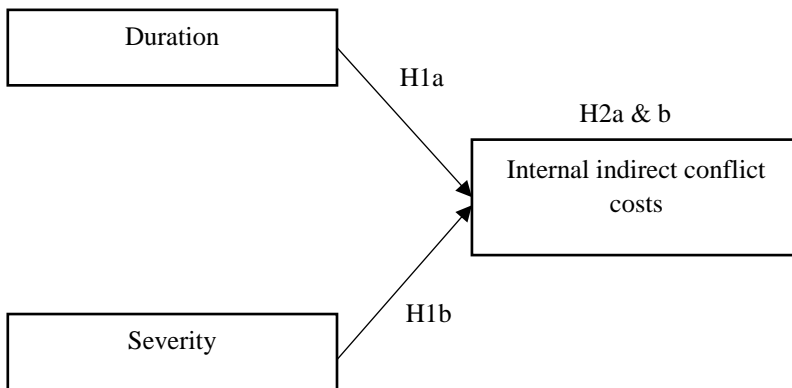

Figure 6: Hypotheses testing – Publication 1
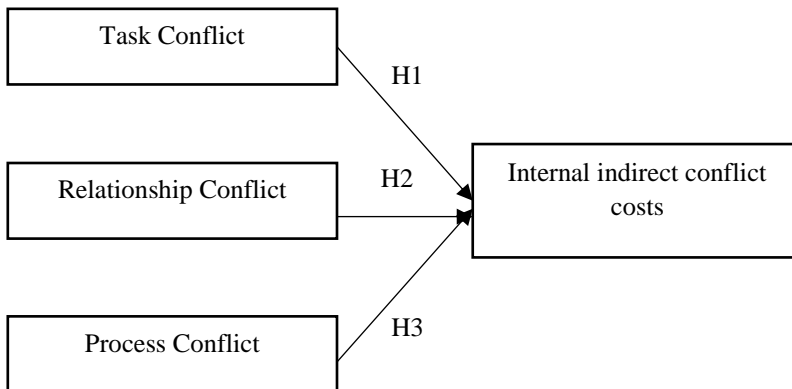
Source: Author's own representation

Figure 7: Hypotheses testing – Publication 2

Source: Author's own representation

The goal of the third publication (Dirrler and Podruzsik 2023a) was to compare international and national groups and their amount of wasted time on internal indirect conflict costs (see figure 8). Data was collected with a questionnaire with 490 people in a national work set-up and 185 in an international one. Similar to the first publication, respondents were asked to indicate the amount of wasted time on individual cost variables, their conflict duration, severity, in addition to the total amount of conflicts per year. A Kruskal-Wallis test was used to evaluate whether the amount of conflicts per years differed according to different degrees of international work. Wilcoxon rank-sum tests were conducted to analyze if the central tendencies for conflict duration and severity differed in the national and international group. This test was also used to analyze whether wasted time on internal indirect conflict costs differed in the two groups.

In the fourth publication (Dirrler and Podruzsik 2023b), data for internal indirect conflict costs was gathered as described previously. However, all survey participants had to have a conflict situation in an international work environment, which was in the end 226 people. Each participant was asked to state his or her own nationality and up to five nationalities of their conflict parties. The goal of the publication was to test whether larger cultural distances also caused higher amounts of wasted time (Figure 9). To measure cultural distances, the model of Hofstede was used, by assigning his cultural distance scores to the indicated countries. For the statistical analysis, linear regression analysis was applied, as well as a multiple regression analysis.
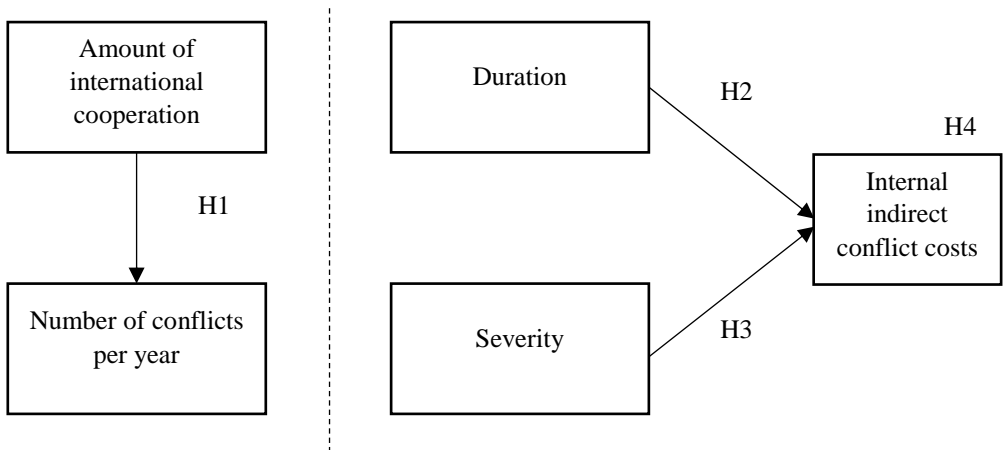
Figure 8: Hypotheses testing – Publication 3

Source: Author's own representation
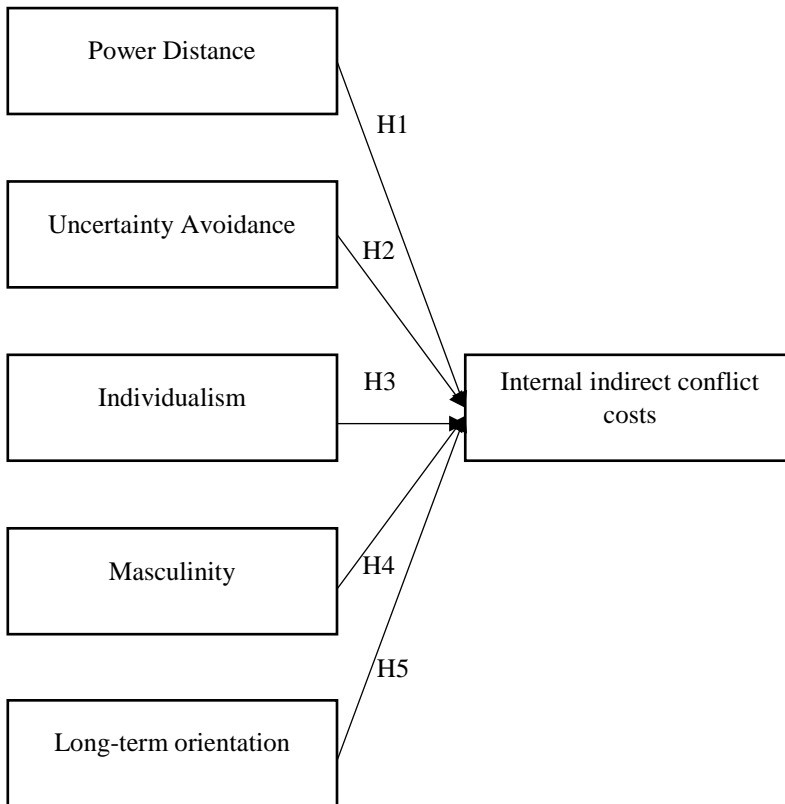
Figure 9: Hypotheses overview – Publication 4

Source: Author's own representation

Table 4 presents a summary of the publications, their methodology and data set.

Table 4: Overview Publications and their methodology and data

Publication	Methodology	Data
Companies can lose time over conflicts: an analysis of internal indirect conflict costs	Online questionnaire and Spearman's correlation test, Kruskal-Wallis test and Monte Carlo multinomial test	675 respondents with a concrete conflict situation
Time lost on task-, relationship and process conflict	Online questionnaire and Multiple Regression analysis and Kruskal-Wallis testing	507 respondents with a concrete conflict situation
Conflict costs in national and international business: A comparative analysis	Online questionnaire and Kruskal-Wallis testing, as well as Wilcoxon rank sum test	490 respondents with a concrete conflict situation in a national set-up and 185 respondents for an international conflict situation
Cultural distance and its association to time spent on conflicts	Online questionnaire and linear and multiple regression analysis	226 respondents with a concrete conflict situation in an international work environment

Source: Author's own representation

2. COMPANIES CAN LOSE TIME OVER CONFLITS: AN ANALYSIS OF INTERNAL INDIRECT CONFLICT COSTS

This article was originally published as:

Abstract - Consequences of conflict are widely researched qualitatively, but quantitative data on the costs of conflict are lacking. This study aims to explore conflict costs by categorizing and testing them and providing preliminary quantitative data. The focus lies on internal indirect conflict costs, which are

measured in terms of lost time. This research is based on self-reports of 675 survey participants, who evaluated the amount of time they spent on internal indirect conflict costs of a personal conflict. The costs are analysed in form of their explanatory power, as well as the extent to which they are affected by conflict duration and strength. All identified internal indirect conflict costs were positively correlated. The duration and intensity of the conflict affect the amount of time wasted, meaning that groups with shorter duration or weaker intensity differ from higher groups. The results indicate that conflict costs lead to remarkable costs for organizations. To remain competitive, managers need to balance the opportunities and difficulties of conflicts and carefully manage their costs. This study contributes to the unexplored research area of conflict costs and is one of the first research findings to scientifically analyse the topic.

2.1 Introduction

Conflict is an inevitable part of human interaction (Wang et al., 2007) thus, it is a permanent component of our daily lives and workplaces (Buss, 2011; Canary et al., 2001). There is no one definition of conflict, but in this research, conflict takes place between two or more interdependent people and can be defined as "perceived incompatibilities or discrepant views among the parties involved" (Jehn & Benderksy, 2003, p. 189). Scholars often differentiate task, relationship and process conflict (Jehn, 1995, 1997). Considering relationship conflict, research results are consistent and mostly claim that it has negative effects on team performance (De Dreu & Weingart, 2003; Jehn & Bendersky, 2003; Vodosek, 2017; Wit et al., 2012; Shaukat et al., 2017) and team functioning, as it reduces the satisfaction among team members, (Jehn & Bendersky, 2003; Wit et al., 2012; Jehn, 1997) decreases the cooperation, commitment, communication, (Jehn & Bendersky, 2003) and advice-seeking, (Marineau et al., 2018) reduces trust levels towards each other, (Wit et al., 2012; Ismail et al., 2012) and increases emotional exhaustion (Benitez et al.,

2018). Researchers present competing views on task conflict, ranging from negative effects on team performance (De Dreu & Weingart, 2003; Vodosek, 2017; Puck & Pregernig, 2014; Woerkom & Engen, 2009), none at all (Wit et al., 2012), to positive outcomes (Jehn & Bendersky, 2003; Pazos & Canto, 2013; Pelled et al., 1999; O'Neill et al., 2013; Yousaf et al., 2021; Marineau et al., 2018). For process conflict, most research underlines the negative effects on performance outcomes (Jehn, 1997; Wit et al., 2012; Vodosek, 2017; Greer et al., 2007, 2011) and claims it to increase uncertainty, dissatisfaction, higher intentions to quit, and, finally resulting in higher turnover rates and decreased well-being (Jehn, 1997; Jehn & Bendersky, 2003; Wit et al., 2012; Kuriakose et al., 2019). Given the range of conflict consequences, the question arises as to what this means to companies in concrete terms. One approach to present conflict consequences in a tangible way is the determination of conflict costs. Conflict costs reflect the various types of costs triggered by conflicts. Many scientists agree that conflict costs exist, and highlight their importance (De Dreu, 2008; Buss, 2011; Riaz & Junaid, 2011; Freres, 2013; Lipsky & Avgar, 2008; Katz & Flynn, 2013; Dana, 2001; Brockman, 2014). Findings on conflict costs mostly refer to the identification of cost variables and their categorization (Buss, 2011; Freres, 2013; Levine, 1998; Riaz & Junaid, 2011) or the quantification of individual costs (Chartered Institute of Personnel and Development [CIPD], 2011; Canada Pension Plan [CPP], 2008; Katz & Flynn, 2013; Kreisman, 2002; OPP & CIPD, 2008). However, it must be emphasized that the existing literature (Freres, 2013) is very limited and that the findings show significant differences. Regarding the categories, there are approaches to three (Buss, 2011), four (Levine, 1998) or even eight (Freres, 2013) categories, which mostly include similar cost variables. A weakness in terms of cluster development is the lack of definition of conflict costs (Freres, 2013) and the clusters up front. Quantitative results on actual costs mostly refer to costs arising from litigation (Murtha, 2005; CIPD, 2011) or turnover (Conbere,

2000; Kreisman, 2002). In addition, studies have measured how much time people spend on conflicts, mostly with a focus on Human Resources (HR) employees or managers (CPP, 2008; OPP & CIPD, 2008; Murtha, 2005; Katz & Flynn, 2013; Thomas & Schmidt, 1976). Considering these cost measurement approaches; they all refer to serious debates with drastic consequences. Time must have passed to give the conflict room for escalation to trigger outcomes such as management or HR involvement, turnovers or lawsuits. However, when looking at conflict consequences, they appeared much earlier in the form of trust reduction (Wit et al., 2012; Ismail et al., 2012), dissatisfaction (Jehn & Bendersky, 2003), emotional exhaustion (Benitez et al., 2018) or reduced well-being (Kuriakose et al., 2019). These are conditions that take place at a personal and individual level prior to conflict escalation and are not taken into account by any of today's quantitative data. Our study has two main objectives. First, to establish a theory of conflict costs by clearly defining and distinguishing concepts, terms and variables. In this way, our work can serve as a fundamental building block for future research on the topic of conflict costs. Second, we introduce the measurement of conflict cost variables, which have hardly been studied so far. These are internal indirect conflict costs, which refer to costs incurred at the individual and very personal level. Here in particular, measurement is a major challenge, which we propose to circumvent in the context of wasted time. At the beginning of our research and based on extensive literature research, we defined the concept of conflict costs as well as our newly identified clusters and allocated all cost variables accordingly. In our quantitative analysis, we focus on internal indirect conflict cost variables that can be measured in the form of lost time. In order to obtain the required data, we conducted a survey with 675 participants and performed correlation testing and Kruskal-Wallis tests. We investigated how lost time is related to conflict duration, severity and cost variables. We explored different conflict durations and severities and how the time lost on internal indirect

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conflict costs varies among these groups. In addition, we investigated cost variables in terms of their correlation and overall time contribution. Our goal is to demonstrate that, as soon as a conflict arises, people spend time on it, mostly in a variety of different forms, instead of working on their ordinary tasks. In the discussion, we propose multiplying the lost time results with hourly salaries to come up with opportunity costs. Opportunity costs indicate how much time and money companies spend on conflicts rather than consistent value-adding activities. Our study does not aim to assess whether conflicts are bad. Rather, our aim was to show that conflicts always entail opportunity costs. In times where cost management, human capital and efficiency increases are at the center of discussion in almost any organization, we see an urgent need to start the research on conflict costs and to consider the findings in future organizational planning.

2.2 Theoretical foundation

Literature Review - An extensive literature review found only 12 articles relevant to the topic of conflict costs (Freres, 2013). Our literature review in GoogleScholar, ScienceDirect and Ebsco with the search terms of "Conflict Costs" and "Measurement of Conflict costs" also only indicated very limited results of 10 research papers that were complimented by evaluating the bibliography of the identified papers. In the study of Freres (2013), eight themes that capture conflict costs were identified. These are medical health, individual psyche, wasted time, counterproductive work behavior, team behavior, customer relationships, human resources and organizational development, followed by legal and dispute costs (Freres, 2013). They were able to obtain quantitative data for four categories. Individual psyche refers to a decrease in motivation, satisfaction, commitment, and diligence. Freres (2013) identified two studies that confirmed a respective decline (Harris, 2008; Porath & Pearson, 2009). In summary, approximately half of the respondents

stated that they had decreased their work effort (48%), quality (38%), and time at work (47%), whereas more than half reported losing working time because of worrying about the conflict (80%) or avoiding the defender (63%) (Porath & Pearson, 2009). Porath and Pearson (2009) stated that 66% of survey participants reported performance declines, and Harris (2008) commented on productivity reductions of 5–20%. According to Freres (2013) time can be wasted because of absenteeism, presenteeism, pretension to work, and conflict management. Different studies point out that managers lose time due to conflict involvement, which can reach 20% for managers, 18% for CEOs, 26% for middle managers (Thomas & Schmidt, 1976) 30–40% for managers (Murtha, 2005) and 38% for C-level executives (Katz & Flynn, 2013). Studies are also available on HR personnel, where HR employees spent between 1–5 hours per week on conflicts (OPP & CIPD, 2008; CPP, 2008). The comprehensive study of CPP (2008) provides data at the employee level, stating that they lose 2.8 hours per week on conflicts and people in Germany even 3.3 hours (CPP, 2008). The theme of human resources and organizational development comprises predominantly quantitative data on turnover costs, which account for 25–240% of annual salary costs (Conbere, 2000; Kreisman, 2002). Finally, there are financial data on legal and dispute costs, such as >$100.000 per case (Murtha, 2005) or an average of £750 of legal fees and £1000 of management time (CIPD, 2011). Riaz and Junaid (2011) clustered conflict costs into direct costs, productivity costs, continuity costs and emotional costs (Levine, 1998), as well as eight hidden costs of Dana (2001). Buss (2011) established three conflict cost categories, separated into costs for an organization, employees, and clients. Additional quantitative findings are in line with the presented results, stating that American workers spend almost three hours per week on conflict, and that this number is exceeded in Germany (Toussaint et al., 2019). Despite the different categorization approaches, there are many similar conflict cost variables (see Table 1).

Table 1. Conflict cost variables

Legal Fees		Organizational Culture	
Compensation Claims	(Buss 2011; Freres 2013)	Unpleasant work environment	(Buss 2011)
Legal Fees	(Freres 2013; CIPD 2011)	Avoidance culture	(Buss 2011)
Fees of lawyers and other professionals	(Levine 1998; Riaz and Junaid 2011; Harris 2008)	Quality and frequency of decision making	(Dana 2001; Freres 2013; Riaz and Junaid 2011)
Harassment Cases	(Buss 2011)	Less organizational citizenship behavior	(Freres 2013)
Incivility, Grievances, Litigation, Discrimination Claims	(Freres 2013)	Loss of ongoing relationship	(Levine 1998; Riaz and Junaid 2011)
		Miscommunication	(Buss 2011)
Customers & market		Sickness	
Customer Service & customer complaint handling	(Freres 2013)	Sickness costs	(Buss 2011; Riaz and Junaid 2011; Dana 2001; OPP & CIPD 2008; CPP 2008; Freres 2013)
Image, reputation & branding	(Buss 2011; Freres 2013)	Health insurance premium	(Freres 2013)
Missed opportunities	(Buss 2011)	Physical & psychological disabilities	(Freres 2013)
Individual Consequences		Wasted Time	
Loss of Trust	(Buss 2011; Freres 2013)	Waste of Time/ Lost time	(Levine 1998; Riaz and Junaid 2011; Dana 2001; Harris 2008; OPP & CIPD 2008; CPP 2008)
Loss/ less commitment	(Buss 2011; Freres 2013)	Pretension to work	(Freres 2013)
Loss/ lower motivation	(Buss 2011; Freres 2013; Riaz and Junaid 2011; Dana 2001)	Absenteeism	(Buss 2011; Freres 2013; CPP 2008; Riaz and Junaid 2011; Dana 2001; Harris 2008; OPP & CIPD 2008)
Aggressive behavior, stress & loss of sleep	(Buss 2011)	Searching for alternative employment & resignation	(Harris 2008)
Less satisfaction, diligence & morale	(Freres 2013)	Disruptions	(Riaz and Junaid 2011; Dana 2001)

Pain of being held by emotions	(Levine 1998; Riaz and Junaid 2011)	Time spent resolving a conflict	(Freres 2013)
Change resistance	(Freres 2013)	Presenteeism	(Buss 2011; Freres 2013)
Loss of Staff		*Reduced outputs*	
Difficulty to attract talent	(Buss 2011)	Productivity loss & underperformance	(Buss 2011; Conbere 2000)
Departure of staff / turnovers/ loss of employees	(Buss 2011; Dana 2001; Freres 2013; Riaz and Junaid 2011; CPP 2008; OPP & CIPD 2008)	Only doing the minimum/ working to rules/ dropping voluntary activities	(Conbere 2000; Harris 2008)
Severe Consequences			
Sabotage/ Stealing	(Buss 2011; Freres 2013)		
Vandalism	(Freres 2013)		
Violence	(Freres 2013)		
Accidents	(Buss 2011; Freres 2013)		

Cluster development - In our research, conflict costs are the financial costs caused by conflicts that negatively affect an organization's overall financial performance. A company can either achieve its desired outcomes, but with reduced revenue due to the additional financial costs of conflict, or achieve lower outcomes due to the extra costs (Audi et al., 2009). Owing to the rather inconsistent state of literature regarding the clustering of conflict costs and a lack of precise definitions, we created and defined four new conflict cost clusters, based on newly identified cost variables. We analyzed the existing conflict costs presented in the current research (Buss, 2011; Riaz & Junaid, 2011; Freres, 2013) and evaluated whether they could be classified as conflict costs, according to our definition. Suggested cost variables, such as lower satisfaction and motivation (Buss, 2011; Freres, 2013) or conflict outcomes as the destruction of the organizational culture and disintegration of team dynamics were excluded, as no direct relationship with firm performance was found. Instead, we conclude that these are conflict consequences that result in conflict costs, such as decreased performance, productivity, and quality. In

addition, we cross-checked the identified cost variables with the conflict consequences (De Dreu & Weingart, 2003; Jehn & Bendersky, 2003; Vodosek, 2017) and analyzed whether new conflict costs had to be added, which was, however, not the case, because all relevant costs were already stated in one of the existing conflict cost articles (Freres, 2013; Buss, 2011; Riaz & Junaid, 2011). We identify and present a list of all conflict cost variables in Table 2. In a second step we analyzed the cost variables for common criteria that could be used for a logical clustering approach. We identified that all costs were either internally or externally driven and could either be classified as direct or indirect costs, leading to the four clusters introduced in Table 2. This approach allowed all cost variables to be assigned to a cluster in a logical and unambiguous way. Internal direct costs are costs with a direct effect on a company's business revenue or desired outcomes, involving internal stakeholders such as employees. Managers are expected to be aware of these costs, as they can be detected by monitoring regular key performance indicators, such as revenue and quality levels. No deeper analysis or interviews are required to measure the expenses. These costs include various legal costs, such as litigation and discrimination claims, or loss of performance and quality.

Table 2. Conflict cost clusters

	Direct	*Indirect*
Internal	*Internal Direct* Direct effect on companies' business revenue or desired outcome and correlated to internal stakeholders	*Internal Indirect* Solely indirect effect on companies' business revenue or desired outcome and correlated to internal stakeholders
External	*External Direct* Direct effect on companies' business revenue or desired outcomes and correlated to external stakeholders	*External Indirect* Solely indirect effect on companies' business revenue or desired outcomes and correlated to external stakeholders

Table 3. Conflict costs

Internal Direct		Internal Indirect	
Legal & Dispute Costs	Vandalism	Wasted time worrying about conflict (L)	Attacking behavior (L)
Discrimination claims	Sabotage	Wasted time dealing with conflict (L)	Psychological & physical disease (L)
Grievance	Performance declines	Time spent resolving conflict (L)	Sick leave (L)
Compensation settlements	Decreased Quality	Pretending to work (L)	Less diligence
Litigation	Inability to meet deadlines	Absenteeism (L)	Voluntary departure from team
Theft & Damage	Loss in productivity	Presenteeism (L)	Voluntary departure from organization
Fees of lawyers & professionals	Increased supervision costs	Decreased time at work (L)	Decreased work effort
Accidents		Avoiding behavior/ shun contact (L)	Change resistance
		Extra time gathering information (L)	Bad quality decision making
		Counter-productive work behavior (L)	No decision making
External Direct		External Indirect	
Legal suits	Customer complaint handling	Employer Reputation	Damage to brand image
Compensation claims	Loss of ongoing relationship	Difficulty to attract talent	

Note: (L) – Variables measured in terms of lost time.

Internal indirect costs indirectly affect companies' business revenues or desired outcomes and internal stakeholders. These costs are generally less visible and more difficult to measure, because they require analysis, in-depth observations, or interviews. Fewer companies are expected to possess a profound understanding of the actual costs they pay. Many of these costs are correlated with time, such as lost time, because people deal with or worry about conflict.

External direct costs demonstrate direct effects on a company's results but imply external stakeholders, such as customers. They comprise legal suits, compensation claims, and overall complaint handling. External indirect costs have indirect impacts on a company's financial results and are triggered by external stakeholders.

2.3 Hypotheses formulation

The existing quantitative data on the measurement of conflict costs are far from providing a complete picture. Even in our study, it is not possible to measure all conflict costs holistically, as the measurement approaches vary widely. We deliberately focus on internal indirect conflict costs, which can be measured in terms of lost time. Here, we distinguish ourselves from the existing studies in two ways. First, we focus on the amount of time each employee spends on a conflict. This means that all respondents were personally affected by a conflict and provided their information on the time lost to an individual conflict. It is not a question of how much time managers and HR employees spend on conflict management of their employees (Thomas & Schmidt, 1976; Murtha, 2005; Katz & Flynn, 2013; OPP & CIPD, 2008). Second, we explicitly asked about different conflict cost variables compared to other studies that only asked, in general terms, how much time employees spent on conflicts (CPP, 2008). Thus, we want to show that conflict costs arise at a personal level in the form of lost time. With our hypotheses, we plan to demonstrate how much the lost time differs depending on conflict duration and severity, and how much individual cost variables contribute to the total amount of lost time.

Conflict duration and strength - An underlying assumption for all our hypotheses is that conflict demands time spent on the conflict instead of other activities (De Dreu, 2008; Toussaint et al., 2019; Freres, 2013; Levine, 1998).

There is limited research on the effects of the duration of conflict (Meier et al., 2013). However, Illies et al. (2011) have shown that conflicts lead to an

immediate and short-lived negative feeling, which disappears after a few hours. This is further reinforced by the fact that daily, non-chronic, or independent conflicts have immediate consequences, in the form of emotions such as anger (Andersson & Pearson, 1999). This leads to our assumption that, even in the case of short conflicts, people spend time on conflict costs, such as worrying about a conflict or resolving it. We expect longer conflicts to be prone to a prolonged storming phase, which demands more time spent on more conflict costs for the following reasons. The storming phase, referring to interpersonal conflicts, is in a more ideal work environment overcome, followed by a period of norming and performing (Tuckman, 1965). However, researchers have already indicated that, in the case of a storming phase not being overcome, the negative consequences of conflict continue (Bettenhausen & Murnighan, 1985). Deutsch (1969) states that unresolved destructive conflict is likely to expand and escalate over time, becoming independent of the initial causes of the conflict. Expansion can involve different attributes of conflict, such as the number of motives and people involved, the costs participants are willing to accept, the size and number of issues involved, and the overall intensity of negative attitudes. Finally, this is supposed to lead to a shift away from conflict resolution towards more confrontive and competitive behavior (Deutsch, 1969). Other studies have found that conflicts have the potential to result in an incivility spiral, harm the work climate (Andersson & Pearson, 1999), or extend stress-related activations if people do not stop thinking about a conflict (Brosschot et al., 2006). The longer a conflict occurs, the more time is expected to be spent on single cost variables, and more costs are assumed to arise.

H1a: As time loss occurs over the duration of all conflicts, total time loss increases as the duration of the conflict increases.

Scientists have not yet developed a generally accepted method for measuring conflict intensity (Diederich, 2003). A widely used model are the conflict stages of Pondy (Spaho, 2013; Lebrague et al., 2020; Turner et al., 2017). Pondy (1967) defined five conflict stages, starting with latent conflict, derived from a situation of scarce resources, drives for autonomy, or divergent goals. At this stage, the conflict is not yet on the surface, but the potential for conflict is given. At this stage, we expect people to start spending time in a conflict. This time is most likely still limited and only spend on a few conflict cost variables, like worrying about a conflict. In each of the following stages, we expect employees to spend more time on conflict as the conflict becomes stronger. The second stage is perceived conflict, where the parties involved recognize a disagreement among each other, but are not yet confronted with intrapersonal or emotional components, such as anxiety or tension. In the stage of felt conflict, conflict parties start to be affected by the conflict on a personal level and feel the conflict, for example, in the form of anxiety, discomfort or stress. At this stage, the presence of several conflict cost variables is assumed. Because of emotional involvement, we assume that costs such as counterproductive work or offensive behavior begin to emerge. The fourth stage, called manifest conflict, is characterized by more severe behavioral changes and reactions, such as aggression, resistance, or even violence. Conflict aftermath represents the last conflict stage in which the conflict continues or even intensifies until it is resolved, or the relationship ends. In the last two stages, we suppose that all costs can potentially be present and that prolonged time is lost on them.

> H1b: As time loss occurs for all levels of conflict severity, the total time loss increases with the severity of the conflict.

Internal indirect conflict cost variables - Considering conflict Consequences like decreased well-being (Jehn & Bendersky, 2003; Kuriakose et al., 2019;

Wit et al., 2012), performance declines (Vodosek, 2017, 2007; Puck & Pregernig, 2014; De Dreu & Weingart, 2003), reduced satisfaction (Jehn, 1997; Jehn & Bendersky, 2003; Wit et al., 2012) or increased turnover intention (Jehn & Bendersky, 2003), we expect a number of conflict costs to be triggered simultaneously. For example, in the case of the desire to leave a company, we would expect the person to reduce their time at work and, depending on the emotional involvement, to get involved in counter-productive work, sick leave or the pretension to work. In the case of decreased well-being, we would suppose that a person worries about a conflict, is involved in it, but potentially also requires more time to gather information. We could not find any scientific evidence dealing with the extent to which conflict consequences or costs can occur in isolation or in parallel. However, there are a large number of studies that describe different conflict consequences simultaneously (Jehn & Bendersky, 2003; Wit et al., 2012). We assume the same phenomenon is applicable to conflict costs. By examining the individual cost variables for possible correlations, we present confirmed results on the relationship between the variables. In our research, we state a correlation from 0.1 onwards. This reflects a small correlation, followed by a medium correlation starting at 0.3 and a large correlation of 0.5 (Cohen, 1988).

> H2a: The internal indirect conflict cost variables, measured in lost time correlate.

Previous studies have focused on individual cost variables, such as legal costs (Murtha, 2005; CIPD, 2011), turnover costs (Conbere, 2000; Kreisman, 2002), or the general lost time of managers, HR staff, or employees (Katz & Flynn, 2013; CPP, 2008; Thomas & Schmidt, 1976). Here, it can be seen that the importance of individual costs differs significantly. Previously, no study has measured wasted time on such a personal level. Therefore, there are no insights into how individual cost variables behave and their contribution to the total

amount. However, we assume that owing to the diversity of the individual cost variables, the respective amounts vary greatly.

> H2b: The internal indirect conflict cost variables contribute differently to the overall conflict costs.

2.4 Methodology

Data Collection - We tested the hypotheses using data gathered through an online survey distributed to German employees. The first part of the survey consisted of general demographic questions. The second part referred to a concrete conflict situation of the respondent. Each participant was asked whether they could think of a conflict situation in which they had been or were currently involved. All subsequent questions referred to the personal conflict situations of the respondents. If a person was unable to think of a conflict, participation was not possible. Survey participants were recruited via a panel provider located in Germany. In total, 1302 surveys were collected; however, 627 interviews were excluded because the members were unemployed, did not complete the survey, or they could not think of a conflict situation they had been or are currently involved in. As a result, 675 questionnaires met all the requirements and could be considered for statistical analysis. Comparing our study to similar studies, the number of participants exceeded that of many other studies (Thomas & Schmidt, 1976; Katz & Flynn, 2013; CIPD, 2011). Aiming at a confidence level of 95 percent and assuming a margin of error of 5 percent, the threshold for a representative survey of 45.3 million employed people in Germany is N = 385. Accordingly, the given sample of N = 675 can be considered as representative. In addition, we provide concrete information on how the data were collected, which is sometimes lacking in existing studies (Murtha, 2005; Conbere, 2000; Kreisman, 2002). Of the participants, 336 were women, and 339 were men. The age distribution is also evenly balanced, with only the over-60s being less represented. However, this is because of the

average retirement age in Germany. Most participants (71%) were employees or managers at different hierarchical levels (24%), while only a minority (5%) were self-employed. The majority of the respondents (85%) stated that they work in small-to medium-sized companies and, roughly 15% reported working in companies with more than 10,000 employees.

Prior to the survey, a pre-test was conducted in the form of telephone interviews with 20 participants. The participants were asked to answer the questions and report any difficulties they faced in answering them. Problems ranged from technical problems to problems of understanding or definition. The results showed that no major adjustments were needed; however, some terms needed to be defined more precisely. A second round of the pre-test was not necessary, as most of the participants reported the same difficulties, and the methods of resolution had already been discussed with interviewees.

Measures & pretests - All variables used to test the hypotheses were derived from the specific conflict situations of each respondent.

Conflict duration was measured using a five-point Likert scale with only one Likert item. Respondents were asked to rate the duration of their personal conflict on a scale ranging from very short to very long. A very short conflict duration is defined as a conflict occurring for one week or less, a short conflict with a duration of up to one month, a medium duration of 1–6 months, whereas long conflicts are defined as taking place for 6 to 12 months and very long conflicts longer than 12 months.

The measurement of conflict strength was based on the five conflict levels of Pondy (1967), reaching from very weak to very strong. A very weak conflict strength is based on the latent stage and is defined as an argument without noticeable consequences to the respondent. A weak strength is related to perceived conflict, referring to a disagreement, but with only very light

consequences on the individual, such as shortly thinking about the conflict, but not yet facing any actual tension or anxiety levels. A medium conflict strength rests on felt conflict and describes conflicts, where employees are affected at an emotional level, by facing stress or anger. Manifest and strong conflict strength correlate such that individuals are faced with behavioral changes and stronger effects on their well-being. A very strong conflict can be seen as part of an aftermath conflict and describes a strong conflict that intensifies and can only be resolved by active intervention or the end of a relationship. Explanations were provided in short in the questionnaires.

We gathered data on the internal indirect conflict cost variables by measuring the time spent on a certain cost variable. Respondents were asked to rate how much time they spent within their specific conflict situation for each of the costs. This was done for the variables wasted time, time spent on the conflict, presenteeism, and different forms of less time at work up to sick leave and various forms of misbehavior (see also Table 2). The lost-time measurement was performed via a drop-down field from 0 to 50 hours. The scale named every number from 0 to 4, and then every second number was stated. The variables presenteeism, absenteeism, sick leave, and psychological and physical diseases were measured using the same scale, but in the form of days. Cronbach's alpha had a reliability coefficient of 0.9, indicating that the items were reliable.

2.5 Results and discussion

Data analysis - For Hypotheses 1a and 1b, we conducted Spearman's correlation test to evaluate whether a relationship was present between conflict duration or strength and internal indirect conflict costs. To test the two hypotheses, Kruskal-Wallis tests were applied using the five conflict duration categories or conflict strength categories respectively. In each case, internal indirect conflict costs represented the dependent variable. For our hypothesis

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testing, we used the median of lost time for all internal indirect conflict costs. Using the Kruskal-Wallis test, the aim was to evaluate whether the five groups of duration or strength deviated in terms of their overall amount of time lost. To precisely detect deviations among the groups, a post-hoc Bonferroni test was added. Hypotheses 2a and 2b focus only on internal indirect conflict costs. In the correlation matrix, using Spearman's correlation test, each internal indirect conflict cost was tested in terms of its correlation with all other costs (H2a). The means and total values of the different conflict cost variables indicate that they contribute differently to overall conflict costs (H2b). To find further statistical support for the hypothesis, we applied a Monte Carlo multinomial test to indicate whether the number of survey replies for each cost variable differs from a normal distribution. In our case, a normal distribution means that all the survey responses per cost variable are equal.

The computed means, standard deviations, minimum, maximum, and total amount of lost time are listed in Table 3. The column "total" represents the sum of all the indicated time values by the 675 survey participants for each internal indirect conflict cost. Depending on the variable, the mean and total vary to a large extent. According to the survey results, most of the time was lost because of more severe conflict costs, such as diseases. Other costs, such as counterproductive work or pretending to work, contributed less to the overall costs. For all costs, there were participants who did not face any of the stated costs (minimum 0) and participants who expressed a maximum value of 50 hours or 50 days/ 1200 hours respectively.

The correlations of all the internal indirect conflict costs are presented in Table 5. We found consistent positive relationships among the majority of cost variables. However, the values did not exceed 0.7, indicating that all the variables could be maintained and were useful in explaining the overall conflict costs.

Table 4. Means, Standard deviations, minimum/maximum and total amounts

	M	SD	Min	Max	Total
Wasted time due to involvement in conflict	3.96	4.16	0	50	2,944
Wasted time worrying about conflict	4.04	4.24	0	50	3,035
Pretended to work	1.94	2.59	0	50	905
Counter-productive working behavior	1.80	2.45	0	50	773
Additional time for information gathering	2.86	3.30	0	50	1,753
Lost time due to avoiding behavior	2.38	3.01	0	50	1,301
Lost time due to not listening purposely	1.64	2.04	0	50	584
Lost time due to personal attacks	2.15	3.03	0	50	1,163
Lost time due to pointing out mistakes	2.28	3.01	0	50	1,241
Less time at work	2.10	2.93	0	50	1,087
Wasted time solving a conflict	4.34	4.49	0	50	3,407
Sick leave to avoid conflict	30.22	129.51	0	1200	20,400
Psychological/ physical disease due to conflict	62.54	208.15	0	1200	42,216
Presenteeism	60.48	200.56	0	1200	40,824

Spearman's correlation coefficient results indicated a general relationship between conflict duration and internal indirect conflict costs, as well as between conflict strength and cost variables. For conflict duration, the results indicated a medium (Cohen, 1988) correlation of rs = 0.32, p < 2.2e–16, and for conflict strength, a medium to strong (Cohen, 1988) correlation of rs = 0.47, p < 2.2e-16. We found support for Hypothesis 1a that the longer the duration of a conflict, the more time was spent on it. Most of the survey participants reported experiencing conflicts lasting up to one week or one month. The number of long conflicts was low. A Kruskal-Wallis test was used to explore the amount of lost time as the conflict duration increased from very short to very long conflicts. The test results showed that conflict duration significantly

affects the overall amount of conflict costs, and that there is a significant difference between the conflict duration and the conflict cost amounts, $H(4) = 71.428$, $p = 1.134e–14$. Mean duration score of 5.52 is for very short conflicts, 11 for short conflicts, 15.2 for medium conflicts, 44.3 for long and 40.6 for very long conflicts (Table 6). The results of the Bonferroni post-hoc test show a significant difference between conflicts up to one week and all other conflict duration groups. As expected, in the case of short conflicts, absenteeism due to illness or to avoid conflicts was lower. In a second step, we aimed to understand which conflict cost variables caused most of the time losses per conflict duration category (Table 7). However, surprisingly these costs were still present and accounted for a significant proportion of the total costs. The remaining costs were distributed among variables, such as lost time worrying about a conflict, resolving it, or being involved in it. For longer conflicts, the main cost drivers were absences due to psychological diseases or conflict avoidance. Interestingly, the amount of time spent worrying about a conflict, deliberately not listening or personal attacks, increased but did not increase dramatically even for conflicts lasting up to one year. Presenteeism is a conflict cost that is widely present for all conflict durations.

We conducted the same tests for the conflict strength Hypothesis (H1b) and only replaced conflict duration by conflict strength. We found support for this hypothesis, meaning that the total amount of lost time varied according to conflict strength. The majority of the survey participants rated their conflicts as weak-to-medium strength. The results of the Kruskal-Wallis test, $H(4) = 79.823$, $p = 2.2e–16$, indicate that the conflict costs per conflict strength group vary significantly. Applying a post-hoc Bonferroni test, the difference between the latent conflict strength and the remaining conflict strength groups was significant. Mean strength score of 8.69 is for latent conflicts, 5.15 for weak conflicts, 9.24 for medium conflicts, 31.6 for manifest and 79.7 for aftermath

conflicts. We also performed a second step for this hypothesis by examining the mean values of individual conflict costs per conflict severity (Table 8). This picture is similar to that of conflict duration. Absence causes the most lost time, regardless of the conflict strength. However, it becomes apparent that the mean value of time people spend worrying, resolving, or being involved in a conflict is much higher in the case of aftermath conflict than in the case of all weaker conflict forms.

Table 6. Conflict duration & conflict strength

	Count	Mean	Rho	Chi-Squared	Df
Hypothesis 1a – Conflict Duration					
Conflict Duration			0.3210**	71.428**	4
Up to 1 week	317	5.52			
Up to 1 month	167	11.0			
1 to 6 months	110	15.2			
6 to 12 months	37	44.3			
Longer than 12 months	44	40.6			
Hypothesis 1b – Conflict Strength					
Conflict Strength			0.4669**	79.823**	4
Latent	83	8.69			
Weak	199	5.15			
Medium	303	9.24			
Manifest	63	31.6			
Aftermath	27	79.7			

Note: *p < 0.05, ** p < 0.01.

Table 5. Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11
1 Wasted time due to involvement in conflict											
2 Wasted time worrying about conflict	0.56**										
3 Pretended to work	0.26**	0.25**									
4 Counter-productive working behavior	0.27**	0.30**	0.34**								
5 Additional time for information gathering	0.52**	0.46**	0.31**	0.30**							
6 Lost time due to avoiding behavior	0.33**	0.41**	0.35**	0.35**	0.43**						
7 Lost time due to not listening purposely	0.14**	0.18**	0.36**	0.37**	0.26**	0.46**					
8 Lost time due to personal attacks	0.28**	0.38**	0.32**	0.32**	0.44**	0.44**	0.43**				
9 Lost time due to pointing out mistakes	0.35**	0.35**	0.30**	0.34**	0.46**	0.40**	0.39**	0.61**			
10 Less time at work	0.23**	0.30**	0.41**	0.32**	0.34**	0.38**	0.37**	0.33**	0.29**		
11 Wasted time solving a conflict	0.72**	0.52**	0.22**	0.24**	0.51**	0.30**	0.14**	0.33**	0.34**	0.22**	
12 Sick leave to avoid conflict	0.12**	0.21**	0.33**	0.27**	0.26**	0.39**	0.43**	0.42**	0.36**	0.48**	0.18**
13 Psychological/ physical disease due to conflict	0.16**	0.27**	0.29**	0.22**	0.29**	0.32**	0.34**	0.44**	0.35**	0.35**	0.14**
14 Presenteeism	0.11**	0.26**	0.26**	0.27**	0.26**	0.32**	0.31**	0.41**	0.33**	0.33**	0.11**

* $p < 0.05$ ** $p < 0.01$

Table 7: Conflict duration & mean values of lost time

	Very short	Short	Med.	Long	Very long
Wasted time due to conflict involvement	2.26	3.86	5.99	9.59	12.9
Wasted time due to worrying about a conflict	2.53	3.72	4.73	10.5	15.9
Pretension to work	0.86	1.12	2.26	2.86	2.05
Counterproductive working behavior	0.69	0.71	2.05	2.35	2.8
Additional time for information gathering	1.5	2.07	3.28	5.95	8
Lost time due to avoiding behavior	0.877	1.65	2.34	5.43	6.57
Lost time due to not listening purposely	0.489	1.01	1.44	1.35	1.2
Lost time due to personal attacks	0.814	1.37	2.17	4.05	6.52
Lost time due to pointing out mistakes	0.946	1.6	2.55	3.89	5.99
Less time at work	0.836	1.62	1.93	4.43	4
Wasted time solving a conflict	2.47	5.12	6.06	11.9	15
Sick leave to avoid conflict	10.4	31.3	35.3	78.5	116
Psychological or physical disease due to conflict	24.2	49	78.8	286	162
Presenteeism	28.5	50	63.7	193	211

Table 8. Conflict strength & mean value of lost time

	Latent	Weak	Med.	Man ifest	After math
Wasted time due to conflict involvement	1.46	2.06	4.19	8.14	23.4
Wasted time due to worrying about a conflict	1.41	1.82	4.07	10.5	24.6
Pretension to work	1.05	0.693	1.15	2.71	5.93
Counterproductive working behavior	0.627	0.513	1.05	2.9	4.41
Additional time for information gathering	1.29	0.95	2.51	5.6	12.7
Lost time due to avoiding behavior	1.11	0.714	1.68	3.02	13.7
Lost time due to not listening purposely	0.759	0.412	0.97	1.41	2.07
Lost time due to personal attacks	0.699	0.588	1.51	3.43	11.6
Lost time due to pointing out mistakes	0.988	0.553	1.92	3.51	9.07
Less time at work	1.05	0.628	1.45	2.83	9.52
Wasted time solving a conflict	1.1	1.84	4.97	12.6	24.1
Sick leave to avoid conflict	25.2	11.6	21.8	57.1	215
Psychological or physical disease due to conflict	36.1	23.2	42	170	426
Presenteeism	48.9	26.7	41	159	334

We found support for Hypothesis 2a by performing Spearman's correlation tests for all internal indirect conflict costs measured in lost time. The minimum requirement for weak correlations between all the variables was met. However, the correlation matrix (see Table 4) presents medium to strong positive correlations for most internal indirect conflict costs, with most of the values

between 0.2 and 0.5 and p < 0.01. This supports our assumption that conflict costs appear simultaneously instead of isolated in the form of individual costs.

In the first part of the Results section, we introduced Table 3 and the "total" column. The total amount of time lost varied significantly according to the different cost variables. While the 675 survey participants in total only lost 584 hours (which equals 24 days) due to not listening purposely, triggered by a conflict, the same participants reported that they had lost 42,216 hours (which equals 1759 days or 4.8 years) due to physical or psychological diseases. This range demonstrates that the conflict cost variables contribute differently to overall costs, supporting Hypothesis 2b. In addition, we performed a Monte Carlo multinomial test to test for normal distributions among survey responses. The test results indicated 10258185 events, 91.5269 chi² observations, and p < 0.01. The findings show that the total amount per group differs significantly from an even distribution, which means that each conflict cost variable contributes differently to overall conflict costs.

2.6 Discussion

We started with a definition of conflict costs, followed by a determination of cost variables and a new clustering approach. Looking at these results, to the best of our knowledge, it is the most detailed approach to present conflict costs holistically.

Considering the number of survey participants, our approach represents a very large sample size compared with many other studies (Thomas & Schmidt, 1976; Katz & Flynn, 2013; CIPD, 2011). By asking survey participants to answer all questions about a personal conflict situation, we aimed to get as close as possible to real conflicts and their time loss. We needed to rely on the participants' personal feelings, however, there were no comments about possible problems with this procedure, neither in the pre-test nor in the study itself. In addition, our collected data refers to a very personal level, and we

consider it advantageous to have these individual feelings and perceptions directly reflected in our data.

For our conflict categories, initial quantitative data on internal direct conflict costs are available mainly in the form of legal costs (Murtha, 2005; CIPD, 2011). There are also general findings on the amount of time employees lose due to conflict (CPP, 2008; Murtha, 2005), but it is not clear how this time is spent. The measurements are made at the level of very detailed individual cost variables to obtain information to show the exact extent to which people spend their time. As leading conflict costs, we can unambiguously point out sick leave to avoid conflicts, presenteeism, and psychological and physical diseases. This is followed by time actually spent on a conflict, either by worrying about it, dealing with it, or resolving it. Various studies have already emphasized the importance of lost time (De Dreu, 2008; Toussaint et al., 2019; Freres, 2013) due to conflicts, and we can reinforce these findings with the developed quantitative data. Further, we can add that the high correlations among the variables indicate that different cost variables are present at the same time, driving the overall costs.

Looking at the temporary aspect first, people indicated that even in cases of conflicts that lasted only up to one week, they spent an average of six hours on it. This time doubles in the case of conflicts lasting up to one month and even increases to 15 hours for conflicts of up to six months. Longer conflicts between 6 and 12 months result in 40–45 hours of time lost. It is important to emphasize that these time figures apply to only one person. According to our definition conflicts involve two people or more, so that the time spent on a conflict is likely to double our increase even further, when considering all conflict parties. Of course, it is assumed that the second person is similarly affected. Various researchers (Bettenhausen & Murnighan, 1985; Deutsch, 1969; Andersson & Pearson, 1999) have already shown that in the case of

longer conflicts that escalate, more resources, also in the form of people, are usually involved, so that the time figures can rise. Another aspect is that our data refer only to one conflict. The study results of CPP (2008) indicated that 85% of the surveyed employees said dealing with conflicts, and 29% reported doing so always or frequently. In Germany, this figure increased to 56%. These findings strengthen the assumption that many people face more than one conflict per year, which would further increase the time lost to conflict. Regarding conflict intensity, the amount of lost time is similar in the case of weak-to-medium conflicts. For all groups, a similar amount of time was spent on conflict. The time lost rises sharply with a certain escalation and reaches a stronger conflict strength.

To link lost time with financial terms, Insam's and Reimann (2009) approach was followed to multiply lost time with an average hourly salary. According to the Statistisches Bundesamt (2021), the average gross German hourly salary of a man in 2020 was 22.78€. If we multiply the six hours spent on short conflicts with the average hourly salary, this results in 137€ of conflict costs per person and per conflict. Conflicts lasting up to one month lead to costs of approximately 251€, whereas long conflicts between 6 and 12 months already cost organizations 911€ per person. By transferring time data into financial data, we present the potential costs of conflict to companies in a more tangible way. However, we want to highlight that these costs represent opportunity costs, which can cost an organization money. In addition, conflicts can yield benefits (Jehn & Bendersky, 2003; Pazos & Canto, 2013; O'Neill et al., 2013) that need to be considered.

Research & managerial implications - This study is a step forward towards holistic conflict cost measurement, relevant for academia and organizations, and is expected to increase awareness of the topic. Our research results emphasize the importance of including additional costs in the overall cost

measurement. Businesses can do this using the questionnaire presented in our study to measure most indirect costs in terms of lost time and link them to average hourly wages. Thus, a broader variety of costs can be measured and used for further derivation. The results justify early conflict resolution approaches, encourage new management styles, and explain the relevance of conflict management training. In a permanent drive to stay competitive, companies are constantly looking for new ways to cut costs or stay efficient. Beyond the classical approach of production gains, the reduction of conflict costs can enable companies to outpace competitors and achieve a more sustainable competitive advantage. It is important to carefully evaluate conflicts and determine when they cause costs that should be reduced. In addition, conflicts can be consciously accepted and managed as they yield benefits. Our study identified time and strength as important variables influencing the course of a conflict and amount of conflict cost. This study can provide further inputs for managers to deal with conflicts and intervene when the intensity or duration of the conflict increases. Overall, this study should encourage academia and organizations to better investigate conflict root causes, actively manage conflicts, or present sustainable and successful conflict resolution methods. Within scientific research, the results can shed light on the continuous debate regarding whether conflicts have positive or negative effects. All conflict benefits and costs can be measured in monetary terms and presented in comparison, which enables researchers to draw unambiguous conclusions.

Limitations & future research suggestions - The first limitation of the investigation is that it was based on self-report measures instead of real group interactions. Self-reports could lead to individuals overestimating the time spend on conflicts and indicating greater time losses. Owning to the large and representative sample size and real conflicts of working individuals, the results

are considered reliable. Future research should continue to study conflict costs and include observational or experimental techniques to gain greater insight and ensure a more uniform measurement by adding a researcher's perspective. Time indications could then be challenged, and the number of conflict parties considered. Still, it will never be possible to fully control the indicated information, as especially internal indirect conflict costs take place on a personal and individual level hard to measure for anyone else. In that case, it could also be beneficial to conduct the study at one company only to calculate the total amount of their conflict costs, irrespective of the conflict cost clusters. In our study, we focused on internal indirect conflict costs measured in terms of lost time, which can easily be expressed in monetary terms. The second limitation is that the research focuses on internal indirect conflict cost variables measured in lost time and do not provide a holistic cost overview. Future research should address this gap and analyze methods to measure all the conflict costs introduced in the four clusters. Most researchers differentiate relationship-, task- and process conflict (Jehn, 1997; De Dreu & Weingart, 2003) and report different effects of each conflict type. Thus, research can add this differentiation and assess the extent to which conflict costs vary across conflict types. Our study was conducted in Germany only and can be extended to other countries. Existing studies indicate that Germany has an active conflict culture with more people involved in conflicts (CPP, 2008). It can be beneficial to include other countries to see if conflict costs vary between countries and if national cultures influence the measurement itself or the results.

2.7 Conclusions

This work is the first research to take a holistic approach to the issue of conflict costs by providing clear definitions and a clear identification of variables based on previous research. We first present an approach that clearly defines conflict costs and distinguishes them from other conflict consequences, examines and

categorizes conflict variables, and finally assigns them to one of four new conflict cost clusters. These are the dimensions of internal and external costs, as well as direct and indirect ones. In this way, we would like to set a basic building block for future work. We note that a single measurement approach for all conflict costs seems impossible and some focus is required. Our measurement is therefore limited to internal indirect conflict costs, which until now have been very little researched. These costs arise at a very personal and individual level and need to be measured at that level. In our study, we limit ourselves to the element of lost time by evaluating how much time people spend on conflicts instead of doing their actual work. Our study shows that even in short or rather weak conflicts, a significant amount of time is spent on it, increasing up to 45 hours in longer conflicts and up to 80 hours in stronger conflicts. It also presents that a number of different cost variables contribute to the total amount of time lost, while different types of absence cause largest losses. This is to draw the attention of both academics and businesses to the fact that conflicts, whether perceived as positive or negative, have opportunity costs that should be more carefully examined. Future research should investigate which types of conflict waste the most time and whether there are other variables that influence costs. Furthermore, this study only looks at a small fraction of the total costs, so a holistic view of costs remains to be developed.

3. TIME LOST ON TASK-, RELATIONSHIP AND PROCESS CONFLICT

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Abstract - There are various ways to measure conflict costs, however no study has considered the distinction of conflict types in the approaches yet. The purpose of this study is to measure internal indirect conflict costs in terms of lost time and to evaluate the association to task-, relationship-, and process conflict. An online survey with 507 respondents was conducted to gather data on individual conflict situations. The measurement of internal indirect conflict costs and different conflict types was based on former research. Multiple Regression and Kruskal-Wallis testing was used to test our hypotheses. We found support that relationship conflict influences the amount of lost time on internal indirect conflict costs. Task conflict did not indicate any significant association. Process conflict demonstrated mixed results. The overall variable did not have a significant effect, however in case of international conflict set-ups process conflict was significantly linked to conflict costs. The multiple regression has an explanatory power of approximately 25%. Future research should consider other variables to be included affecting internal indirect conflict costs. Process conflict should also be researched thoroughly again. The distinction of logistical and contribution conflict was not possible.

3.1 Introduction

Within the last decades organizations have increasingly shifted to team-oriented workgroups (Boyett & Conn,1991), emphasizing decentralized structures and decision-making, as well as flatter hierarchies and higher independences of individuals (Nohria & Garcia-Point, 1991). This shift away from bureaucratic organizations can on the one hand side promote flexibility, efficiency, creativity, motivation or the acceptance of ideas (Levine & Moreland, 1990; McGrath & McGrath, 1984). On the other side it can foster new or more conflict (Janssen et al., 1999), encourage free rider trends or keep back ideas (Jehn & Mannix, 2001). In today's organizations groups have become the center of work and despite the advantages it provides, conflict

becomes inevitably due to increased interdependence and complexity (DeChurch & Marks, 2001; Jehn, 1995). Not surprisingly, many management studies have investigated the field of conflict (McMillan et al., 2012), but up to now presenting divergent research findings whether conflict can be beneficial or not (Jehn & Bendersky, 2003; Jehn,1995). In line with the outcome divergence presented by scientists, academics also lack a jointly accepted definition of conflict. However, many researchers include common characteristics in their definitions, which are amongst others incompatible goals (Lewicki et al., 1997), divergent interests (Pruitt et al., 1994) or perceived differences (De Dreu et al., 1999b), as well as an interdependence and interaction among the group members (Brockman, 2013). For this research study conflict is described as "perceived incompatibilities or discrepant views among the parties involved" (Jehn & Bendersky, 2003, p. 189). Most scholars don't consider conflict as a whole and instead analyze different conflict types that are task conflict, relationship and process conflict (Jehn, 1995; Jehn & Bendersky, 2003; De Dreu et al., 1999b; Jehn & Mannix, 2001). Disregarding the debate whether conflict can be constructive or not, most research articles focus on similar variables in respect to conflict outcomes, which are amongst others satisfaction levels (Jehn & Bendersky, 2003; Wit et al., 2012; Jehn,1997), group performances (De Dreu & Weingart, 2003; Jehn, 1997; Wit et al., 2012; Vodosek, 2005; Greer et al.,2011), trust amongst the members (Wit et al., 2012), intentions to quit (Jehn, 1997; Ismail et al., 2012) and group commitment (Wit et al., 2012; Jehn & Bendersky, 2003). A distinct approach to capture conflict outcomes, is the measurement of conflict costs (Dirrler and Podruzsik 2022). Conflict costs are claimed to be the highest reducible costs of today's organizations (Buss, 2011). Other researchers emphasize that companies might not be able to overcome increased competitiveness by focusing on economic and academic factors only (Canen & Canen, 2008), which can also stress the importance of conflict costs. Due to a high variety of

different cost variables, measuring conflict costs has been a challenge so far (Dirrler & Podruzsik, 2022). There are studies that state costs such as lawyer expenses (Murtha, 2005; Chartered Institute of Personal and Development [CIPD], 2011), turnover costs (Conbere, 2000; Kreisman, 2002) or productivity declines (Harris, 2008). In addition, scholars researched the element of lost time and indicate the amount of time spent on conflicts, instead of conducting clearly value-adding activities (Canada Pension Plan [CPP], 2008; Dirrler & Podruzsik, 2022). A limitation for all of these studies is the neglection of the conflict types task-, relationship- and process conflict. In our study we address this research gap and investigate internal indirect conflict costs in terms of lost time, but associated with the three conflict types. By doing so, we detach from the classical views about conflict consequences and replace it with the element of lost time, but respect the division of conflict. We want to work out whether there is a link between time wasted on conflicts and all conflict types. There is always time spent on a conflict, regardless of the conflict type. This however does not automatically imply to be negative, since in case of task conflict the time can for example be used to discuss different viewpoints and perspectives (Jehn, 1997). In the end, this can contribute to a positive result and might not be perceived as negative or a waste of time. However, the focus of this study is clearly on the aspect of lost time, which is reflected in internal indirect conflict costs. Meaning that the internal indirect conflict cost variables only reflect situations in which the involved conflict parties actually consider time to be wasted or lost due to a conflict. The research aim is to provide a new perspective on the continuous debate whether conflicts are beneficial or harmful. Taking task conflict as an example, conflicting results exist on the impact of performance. On the one hand, there are arguments that task conflict is good because it generates new ideas and enables cautious evaluation (Jehn, 1997). On the other hand, it is said to be detrimental because it decreases productivity and increases frustration (Greer

et al., 2011). Both approaches have received statistical confirmation and justify the difficulty of evaluating conflict consequences. The variable of lost time can contribute to better decision making, when conflicts yield benefits or are detrimental as the negative consequences and costs outweigh. It also provides new insights into how conflict parties themselves evaluate conflicts and to what extent they consider conflicts to be actually disruptive or aggravating. Especially for task and process conflict, where different viewpoints exist, these findings are beneficial.

3.2 Theoretical Foundation

Task Conflict - Researchers have studied various aspects of conflict, with task conflict being a leading area of research (Parayitam & Dooley, 2007; Amason, 1996; Greer & Jehn, 2005), which was firstly introduced by Jehn (1995). Task conflict refers to disagreements or different perspectives about the content of a task, which can entail divergent ideas, opinions or viewpoints. Arguments in these conflictual situations are always task-oriented, involving non-relationship aspects (Jehn, 1997, 1995). Examples for task conflict are discussions about strategic choices, the correct calculation method for capacity utilization or which information to include in a project report (De Dreu & Weingart, 2003; Jehn & Bendersky, 2003). This conflict type can also be summarized as "work conflict" or a "task problem" (Jehn & Bendersky, 2003). A high number of studies exist on the effects of task conflict, however academics present mixed results, stimulating an on-going debate (De Dreu & Weingart, 2003). Research studies emphasizing the negative impacts of task conflict point out lower satisfaction levels, wellbeing and performances, as well as difficulties reaching a consensus and increased anxiety on an individual, group and organizational level (Jehn & Bendersky, 2003; De Dreu & Weingart, 2003; Dijkstra et al., 2005; Medina et al., 2005; Jia et al., 2021). According to information processing theory, a widely used concept in conflict

management, little conflict can benefit information processing, but as soon as it strengthens information processing is hindered, the cognitive system stops functioning, consequently negatively affecting team performance (De Dreu & Weingart, 2003). Considering this baseline, De Dreu and Weingart (2003) strengthened these assumptions with their meta-analysis indicating a negative relation between team performance and task conflict, thus finding support for information processing theory and task conflict. Other researchers investigated that despite the actual outcomes, the perceived performance was always negatively rated in work teams (Bang & Park, 2015) and that people preferred to work on a task with low task conflict (Schuch & Dignath, 2021). This is in line with former research that people generally react negatively to disagreements or in case someone is questioning their viewpoints and that these situations lead to negative reactions, dissatisfaction and frustration of individuals, despite the outcomes (Jehn, 1995; Jehn et al., 2008b; Baron, 1990; Ross, 1989). In addition, academia adds that task conflict lowers consensus building, causes tension, unhappiness (Jehn & Bendersky, 2003), anxiety (Hoffman, 1978; Jehn & Bendersky, 2003), lower trust (Wit et al., 2012), leads to poor decision making and increases the intention to quit (DeChurch & Marks, 2001; Simons & Peterson, 2000), as well as counter-productive work behaviors (Wit et al., 2012). Generally stating that team members with higher consensus about a task were more satisfied and indicated a stronger desire to stay in the group (Schweiger et al., 1986; Jehn et al., 2014). The positive aspects of task conflict are based on the absence of group-think, the availability of divergent viewpoints and the consideration of alternatives. This leads to improved decision making and understanding of a task, higher creativity and innovation, and some researchers even stating improved performances and increased commitment within groups (Parayitam & Dooley, 2007; Tjosvold & Hui, 2003; Jehn, 1995; Pelled et al., 1999; Yousaf et al., 2020). In case of the absence of task conflict, the risk arises that alternatives are overlooked and that

new perspectives are left out, because of an inability of the group to view problems from different angles (Nemeth, 1995; Peterson et al., 1998; Tjosvold et al., 1992). Some researchers, point out that it is essential to consider the whole situation, when evaluating the effects of task conflict, because studies indicated that moderate levels of task conflict were beneficial (Jehn, 1995; Jehn & Mannix, 2001). Additional findings present that positive consequences appeared when the work involved nonroutine jobs and an open and trusting environment was present (De Dreu & Weingart, 2003; Jehn et al., 2008b). More generally speaking, De Dreu et al. (2004) stated that the outcomes of task conflict could be beneficial when relationship conflict was absent.

Relationship Conflict - Relationship Conflict is a second widely studied discipline of conflict research (Parayitam & Dooley, 2007; Greer & Jehn, 2005; Amason, 1996). It describes conflictual situations involving incompatibilities about personal issues, such as languages, personal traits, fashion, political beliefs or cultural practices (Jehn, 1997; Jehn, 1995; De Dreu & Weingart, 2003; Ayub & Jehn, 2014; Jehn & Bendersky, 2003). In contrast to task conflict, relationship conflict addresses non-work related issues and these conflicts are triggered by and involve feelings such as tension, annoyance, animosity, frustration or irritation (Jehn & Mannix, 2001; McMillan et al., 2012; Jehn, 1995). Research findings on the effects of relationship conflict are more consistent than on task conflict, primarily strengthening negative results on individuals, groups and organizations (Huang, 2010). Researchers found negative effects on performance and productivity (De Dreu & Weingart, 2003; Greer & Jehn, 2005; Li & Hambrick, 2005; Rau, 2005; Evan, 1965; Wit et al., 2012; Vodosek, 2005) that can be explained by different triggers. Firstly, people spend time on the conflict by discussing, resolving or ignoring it, thus waste their energy on it, instead of focusing on the task, which can already influence performance negatively

(Pelled, 1996; Jehn & Bendersky, 2003; Jehn et al., 2008b; Evan, 1965). Secondly, performance can be lowered due to members inability to assess new information and ideas of others (Pelled, 1996). Thirdly, creativity is claimed to decrease, too (Jehn & Bendersky, 2003), based on similar assumptions that conflicts distract members and reduce their energy, which is needed for a creative process (Cummings & Jehn, 1999; Cohen, 1984). Besides the outcome related effects, such as performance (Jehn & Bendersky, 2003; Pelled, 1996), creativity (Jehn & Bendersky, 2003; Cohen, 1984), innovation (Matsuo, 2006) or group processes (Amason, 1996; Jehn, 1995), relationship conflict is further stated to be harmful for group functioning and well-being in forms of dissatisfaction, lower consensus- building, less advice-seeking and mutual understanding or goodwill (Evan, 1965; Wall, Jr. & Nolan, 1986; Deutsch, 1969; Jehn, 1997; Jehn, 1995; Jehn & Bendersky, 2003; Marineau et al., 2018). As a consequence, relationship conflicts can lead to irrational behaviors and damaged individual's moral, such as misinterpreting constructive discussions, disagreeing despite of a lack of rational reasons or fostering more aggressive attitudes (Jehn & Bendersky, 2003; Amason & Schweiger, 1994; Gabriel, 1998). Lastly, relationship conflict is claimed to lower trust, increase the intentions to quit (Ismail et al., 2012; Wit et al., 2012), emotional exhaustion (Benitez et al., 2018) and that group members were more willing to work on a task in the same group setting again, if relationship conflict was low and satisfaction and performance high (Jehn et al., 2014). A minority of research pointed out situations, in which relationship conflict can benefit performance, such as when relationship conflict is well managed (Greer & Jehn, 2005), in case of very close relationships among the team members and high interdependencies (Rispens et al., 2006) and in case of the necessity to set boundaries and to clear the air (Bernstein et al., 1997).

Process Conflict - Among the three conflict types defined by Jehn (1995, 1997) process conflict has received least attention (Jehn et al., 2008b; Jehn & Mannix, 2001). Academics often solely researched task and relationship conflict (Behfar et al., 2011), which is however criticized as an oversimplification of the topic (Jehn, 1997; Jehn et al., 2008a; Mooney et al., 2007). Process conflict refers to conflictual situations about logistical aspects of a task accomplishment, which can be disagreements about the distribution of resources or task responsibilities and about the delegation of tasks (Jehn, 1997). For example teams can argument about the composition of their project team, about the tasks each one has to accomplish or how to best schedule the tasks (Jehn & Bendersky, 2003). As well as task conflict, process conflict involves task-related aspects, but they vary widely, as process conflict is more concerned about planning or delegating a task, whereas task conflict mainly focuses on the content itself (Jehn et al., 2008b). More precisely it can be exemplified as follows; in case of researchers arguing about the interpretation or meaning of data and results, task conflict is present, if they discuss who is presenting the final results or who is writing a report, they are clearly involved in process conflict (Jehn & Bendersky, 2003). The conflict outcomes are claimed to be two-folded, as researchers do not yet commonly agree on the effects of process conflict. On the one hand, academia points out positive impacts on performance, due to reevaluations of processes and standards, which can lead to general upgrades and improvements (Tjosvold, 1991; Jehn & Bendersky, 2003). This can also enable teams to plan deadlines and timelines accurately, to use resources most efficiently and to ensure clear roles and responsibilities (Jehn & Bendersky, 2003; Jehn & Mannix, 2001; Karn, 2008). It is strengthened that when starting or ending a task or project, it is often essential to discuss task assignments or resource delegations to ensure perfect fits of individual abilities and task requirements (Jehn et al., 1999). On the other hand, researchers claim process conflict to have negative outcomes

on performance (Vodosek, 2005; Jehn & Mannix, 2001; Jehn, 1997), creativity and innovation (Matsuo, 2006; Jehn & Bendersky, 2003; Kurtzberg & Mueller, 2005), as people use their energy on the conflict, instead of focusing their cognitive capabilities on the task itself (Jehn & Bendersky, 2003). Process conflict often deals with the evaluation of personal abilities, skills and values and can therefore be negatively related to the overall satisfaction, intention to remain and commitment within a group (Jehn et al., 1999; Jehn & Mannix, 2001). It can also evoke emotions (Behfar et al., 2008; Jehn et al., 2008a; Greer et al., 2008) that can be expressed in form of anger and animosity (Jordan et al., 2006; Passos & Caetano, 2005). These feelings can be triggered by elements of process conflict such as wasted time, free riding or absenteeism of individuals (Behfar et al., 2008). The consequences of process conflict can result in disliking of group members or perceived unfairness or irritation (Behfar et al., 2008; Behfar et al., 2011), as well as decreased well-being (Kuriakose et al., 2019). This may also explain the close correlation of relationship and process conflict, as it can easily and fast turn into a more emotional conflict and individuals involved in the conflict behave similar like in relationship conflict situations (Jehn & Bendersky, 2003; Behfar et al., 2011). Due to difficulties related to the differentiation of process conflict towards task and relationship conflict, scholars have established further sub-categories of process conflict. Greer and Jehn (2007) distinguished between emotional and non-emotional process conflict, whereas Behfar et al. (2002) used a task and people-centered distinction. Behfar and colleagues (2011) separated process conflict into logistical and contribution conflict. Logistical process conflict describes situations around the organization and utilization of resources, responsibilities and timing, whereas contribution process conflict deals with situations focusing on the people, either caused by free rider problems or disruptions (Behfar et al., 2011).

Conflict Costs - Conflict costs can be defined as "the financial costs caused by conflicts that negatively affect an organization's overall financial performance. A company can either achieve its desired outcomes, but with reduced revenue due to the additional financial costs of conflict, or achieve lower outcomes due to the extra costs" (Dirrler & Podruzsik, 2022, p. 291). One categorization of conflict costs differentiates between costs to employees, customers and the organization (Buss, 2011). Freres (2013) introduced eight themes, which contain amongst others dimensions such as wasted time, legal and dispute costs or counter-productive work. In these studies, no cost measurement approaches were introduced, however, some quantitative data from other studies (CPP, 2008; Harris, 2008; Kreisman 2002; OPP & Cartered Institute of Personnel and Development [CIPD], 2008; Conbere, 2000) was presented. None considered task-, relationship or process conflict (CIPD, 2011; CPP, 2008; OPP & CIPD, 2008; Kreisman, 2002; Conbere, 2000; Harris, 2008). Dirrler and Podruzsik (2022) introduced four clusters that are internal direct and indirect conflict costs, as well as external direct and indirect conflict costs. Internal costs can be directly related to internal stakeholders in contrast to external costs correlated with external parties. Direct costs define directly visible effects on financial results or desired outcomes and indirect costs describe a more invisible, indirect effect on an organizations' outputs. As an example, internal direct costs can be costs associated with lawyer fees, legal disputes, sabotage, decreased quality, lower productivity or the inability to meet deadlines. In contrast, internal indirect costs involve more individual results, such as wasted time, sick leaves, psychological or other health-related problems or counter-productive work. External costs contain costs related to customers, such as customer complaint handling or a damaged brand image (Dirrler & Podruzsik, 2022). Dirrler and Podruzsik (2022) present a measurement approach for all internal indirect conflict costs that can be captured in form of lost time. They found that employees on average spent 6

hours for short conflicts and 40 to 45 hours for long conflicts but did not consider a more precise conflict distinction. In our research, we phase the known problem, that it is very difficult to measure all cost variables with one approach. Therefore, we decided to use the categorization approach of Dirrler and Podruzsik (2022) and narrow down our research scope to internal indirect costs also measured in terms of lost time. Their precise definition is that "internal indirect costs indirectly affect companies' business revenues or desired outcomes and internal stakeholders. These costs are generally less visible and more difficult to measure, because they require analysis, in-depth observations, or interviews. Fewer companies are expected to possess a profound understanding of the actual costs they pay. Many of these costs are correlated with time, such as lost time, because people deal with or worry about conflict" (Dirrler & Podruzsik, 2022, p. 292). The researched cost variables are: Wasted time worrying about a conflict, dealing with it, or resolving it, the pretension to work, counterproductive work behavior, additional time for information gathering, lost time due to avoiding behavior, not listening purposely, personal attacks or pointing out mistakes, as well as less time at work, sick leaves to avoid conflicts, presenteeism and psychological and physical diseases.

3.3 Hypotheses

Internal indirect conflict costs are claimed to be present on an individual level and represent more emotional and behavior driven conflict consequences, such as counter-productive work behavior, absenteeism or attacking behavior (Dirrler & Podruzsik, 2022). All cost variables come into play, because an individual is personally affected by a conflict situation and reacts in form of internal indirect conflict costs to it. In contrast, task conflict is described as a task-oriented conflict, detached from relational aspects that is about different viewpoints or opinions and about the content of a task (Jehn, 1995; Jehn, 1997).

We therefore assume the weakest relation between internal indirect conflict costs and task conflict, compared to the other conflict types. However, we hypothesize a positive association of the variables. This is mainly driven by research findings that state negative effects of task conflict on the individual, such as decreased satisfaction and wellbeing (Jehn & Bendersky, 2003; De Dreu & Weingart, 2003), increased tensions, unhappiness, anxiety or lower trust (Jehn & Bendersky, 2003; Wit et al., 2012; Hoffman, 1978). We expect these consequences to occupy a person and to be reflected in form of internal indirect conflict costs, such as worrying about a conflict or extra-time gathering information. In addition, we expect respondents to negatively rate the time involved in task conflict, which is reflected in wasted time dealing with a conflict or resolving it. This assumption is based on findings that present group members to negatively rate their work performance, despite the actual outcomes (Bang & Park, 2015), that people generally dislike disagreements or being questioned by someone else (Jehn, 1995; Jehn et al., 2008b; Baron, 1990; Ross, 1989) and that people prefer to work on tasks with low task conflict (Schuch & Dignath, 2021).

> H1: The more task conflict is present, the more time is spent on internal indirect conflict cost variables.

Relationship conflicts take place because of disagreements about personal issues (Ayub & Jehn, 2014; De Dreu & Weingart, 2003; Jehn, 1995) and are claimed to cause feelings such as tension, frustration, emotional exhaustion or annoyance (Jehn & Mannix, 2001; McMillan et al., 2012; Jehn, 1995; Benitez et al., 2018). This conflict type is judged to distract members, as they spend time on the conflict or its management and waste their energy instead of working on the value-adding task (Pelled, 1996; Jehn & Bendersky, 2003; Jehn et al., 2008b; Evan, 1965; Cohen, 1984). In addition, people are more likely to demonstrate irrational or more aggressive behavior, misinterpret, disagree or

reject arguments without rational reasons (Jehn & Bendersky, 2003; Amason & Schweiger, 1994; Gabriel, 1998). Relationship conflict is also presented to foster dissatisfaction, lower trust and increase turnovers (Ismail et al., 2012; Wit et al., 2012; Jehn & Bendersky, 2003). We hypothesize the strongest association between internal indirect conflict costs and relationship conflict, compared to process or task conflict. The cost variables, measured in this study mostly describe the individual's reaction to a conflict, which are triggered by emotions and feelings. Many of the researched relationship conflict effects are directly represented in the internal indirect cost variables, such as wasted time (Pelled, 1996; Jehn & Bendersky, 2003; Evan, 1965) or irrational behavior (Jehn & Bendersky, 2003; Amason & Schweiger, 1994), as for example attacking behaviors or counterproductive work. Less advice seeking (Marineau et al., 2018) can for example also result in extra-time gathering information. We also expect relationship conflict to foster most of the absences, measured in terms of absenteeism and sick leaves, resulting in the highest amount of lost time.

> H2: The more relationship conflict is present, the more time is lost on internal indirect conflict cost variables.

In order to clearly distinguish process conflict from relationship and task conflict, we break it down into logistical process conflict and contribution conflict, as described earlier. Logistical process conflict is less associated with the personal component of process conflict, but refers to organizational elements like resource allocation or responsibilities (Behfar et al., 2011). Due to the low personal component of logistical conflict, we assume parallels to task conflict, resulting in an overall weaker association to internal indirect conflict costs. However, since people react negatively to conflict despite the actual results (Bang & Park, 2015) and generally do not like to be challenged (Jehn, 1995; Jehn et al., 2008b; Baron, 1990), we still expect a certain relation

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with the amount of lost time. In addition, we question the possibility of resource or responsibility allocation without individuals being affected on a more personal level. Former findings presented that the evaluation of personal abilities evoked emotions and was negatively related to satisfaction or group consensus (Jehn et al., 1999; Jehn & Mannix, 2001; Behfar et al., 2008). We therefore anticipate logistical conflict to be associated with lost time, for example in form of worrying about a conflict or counterproductive work.

> H3a: The more logistical process conflict is present, the more time is lost on internal indirect conflict cost variables.

Contribution process conflict entails psychosocial aspects and can be linked to the more emotional part of conflict. In return, it is suggested that it lowers satisfaction and commitment within teams, as well as their enthusiasm (Greer & Jehn, 2007; Behfar et al., 2011, 2008; Desivilya & Yagil, 2005). Contribution conflict can be easily interpreted as a form of disrespect or unfairness towards group members (Greer & Jehn, 2007; Behfar et al., 2011, 2008; Desivilya & Yagil, 2005). It is assumed that similar to relationship conflict, it affects individuals on a very personal level, and that some of the emotions are expressed in internal indirect conflict costs. We expect conflict consequences like dissatisfaction and interpretations of disrespect or unfairness to lead to wasted time worrying about a conflict, but also irrational behaviors like counter-productive work. Overall, we assume most internal indirect cost variables to be present in case of contribution process, fostering a high amount of lost time, only marginally lower than relationship conflict.

> H3b: The more contribution process conflict is present, the more time is lost on internal indirect conflict cost variables.

3.4 Method

Data Collection – The data to test our hypotheses was gathered via an online survey, distributed to 1302 people. In order to reach a large number of participants, a German panel provider was used. For surveys in German, the panel consists of a pool of just under 40,000 participants, who are, however, only contacted once or twice a month for possible surveys. The goal is to keep the quality of the survey results high. In addition, our survey included a control question that tested the attention of the participants. In case the question was answered incorrectly, the survey ended. The panel consists of slightly more female participants, but this is not reflected in our survey results. Anyone who currently has a job and is involved in a conflict or has been involved in a conflict in the past could participate in our survey. Due to these requirements, our data set ended up consisting of 507 participants. With 45.3 million people employed in Germany, a confidence level of 95 percent and a margin of error of 5 percent, $N = 385$. Consequently, the survey is considered as representative. 49.1% of the participants were female and 50.9% were male. The majority of participants reported working in a company with up to 10.000 employees. 349 people entered operational employee as their profession, compared to 121 managers at various levels. A very small number of participants were self-employed. The age distribution was balanced reaching from respondents younger than 30 years to people older than 60 years. Following the general part, all participants were asked to think of a concrete conflict situation in which they are or were personally involved. All subsequent questions then had to be answered in relation to this concrete conflict situation. Our approach is based on the study of Dirrler and Podruzsik (2022). We tested this procedure in a preliminary study with 20 participants. The subjects were asked to answer question by question in a telephone interview and, in case of ambiguity, to discuss the open points with the scientific team. The main issues were that some participants had not read the description properly and therefore it was

unclear that all answers should be given for a specific situation. This was emphasized in the final questionnaire in a larger, bold font. The second difficulty was translating the questions on the types of conflict. Particularly in the case of relationship and task conflicts, it was sometimes difficult to distinguish the issues. Therefore, an information field has been included in the final questionnaire to describe in more detail which aspects of the question are covered.

Measures and Pre-tests - Task and Relationship conflict can be measured in form of a Likert-Scaling introduced by Jehn (1995). Questions such as "how much conflict of ideas is there in your work group?", "How often do people in your work group have conflicting opinions about the project you are working on?" were used for task conflict. Relationship conflicts were identified by the following questions "How much emotional conflict is there in your work group?" or "How often do people get angry while working in your group?" (Jehn, 1995; Greer et al., 2011; Jehn & Mannix, 2001). Process conflict was introduced later (Jehn, 1997) and measured by questions such as "How often are there disagreements about who should do what in your work group?" or "How often do you disagree about resource allocation in your work group?" (Jehn, 1997; Greer et al., 2011; Jehn & Mannix, 2001). Using these questions the results often indicated close correlations between the three conflict types (Jehn, 1997; Jehn & Mannix, 2001), which encouraged criticism that the distinction was not sufficiently precisely formulated (Behfar et al., 2011). Using these questions as a starting point, Behfar et al. (2011) derived more precise items by introducing revised questions on task and relationship conflict and new items on process conflict, taking into account the distinction of logistical and contribution process conflict. Among others the questions for task conflict are "how often do members of your team discuss evidence for alternative viewpoints?" and "how frequently do

members of your team engage in debates about different opinions or ideas?". Elements that illustrate relationship conflict are "how much are personality conflict evident in your team?" and "how much friction is there among members of your team?". As an example, logistical process conflict was detected by "how often do members of your team disagree about who should do what?" or "how frequently do your team members disagree about the optimal amount of time to spend on different parts of teamwork?". Contribution conflict was measured by "To what extent is there tension in your team caused by member(s) not completing their assignment(s) on time?" and "how often is there tension in your team caused by member(s) not performing as well as expected?" (Behfar et al., 2011). Revised questions from Behfar et al. (2011) were used to develop the hypotheses introduced, which have been preserved in their original form and were only translated into German. To fit the questions to our survey type, involving a concrete conflict situation, we replaced "work unit" or "team members" by conflict parties. We provided a description that the term "conflict parties" comprises the survey respondent, as well as the people involved in the conflict. The results of the confirmatory factor analysis indicated mixed results, not fully consistent with the research of Behfar and colleagues (2011). Relationship and task conflict were clearly identified with loadings above 0.7 for relationship and 0.6 for task conflict. The differentiation between contribution and logistical was more difficult, whereas logistical conflict could not clearly be identified. The respective questions only showed loading of 0.1 and 0.2, as well as one loading with 0.7. Following the vague result, we checked the Kaiser Criterion, which only resulted in three factors with Eigenvalues above 1.0. The corresponding Eigenvalues were 7.206, 1.528 and 1.183. We conducted the confirmatory factor analysis a second time with three factors only, assuming that contribution and logistical conflict could be summarized in process conflict. Relationship and Task conflict stayed

unchanged and their loadings remained. Process conflict was now also clearly represented in Factor two and loadings between 0.5 and 0.8 (Table 1). The Cronbach alpha values were 0.93 for relationship conflict, 0.88 for task conflict and 0.91 for process Conflict. Based on the results, we decided to proceed with process conflict and summarize the hypotheses 3a and 3b to one hypothesis referring to process conflict.

Table I: Confirmatory Factor Analysis

Item	Relationship Conflict	Process Conflict	Task Conflict
How much friction is there among the conflict parties?	**0.750**	0.303	0.211
How much are personality conflicts evident between the conflict parties?	**0.778**	0.253	0.155
How much tension is there among the conflict parties?	**0.844**	0.264	0.173
How much emotional conflict is there among the conflict parties?	**0.821**	0.170	0.211
To what extent do the conflict parties argue the pros and cons of different options?	0.266	0.207	**0.630**
How often do the conflict parties discuss evidence for alternative viewpoints?	0.166	0.211	**0.847**
How frequently do the conflict parties engage in debates about different opinions or ideas?	0.164	0.218	**0.875**
How frequently do the conflict parties disagree about the optimal amount of time to spend on different parts of teamwork?	0.384	**0.588**	0.310
How frequently do the conflict parties disagree about the optimal amount of time to spend in meetings?	0.271	**0.696**	0.243
How often do the conflict parties disagree about who should do what?	0.497	**0.561**	0.245
How often is there tension between the conflict parties caused by member(s) not performing as expected?	0.443	**0.654**	0.233
To what extent is there tension between the conflict parties caused by member(s) no completing their assignment on time?	0.241	**0.808**	0.250
How much tension is there between the conflict parties caused by member(s) arriving late to meetings?	0.211	**0.750**	0.213

Internal indirect conflict costs were measured in terms of lost time. This approach is based on Dirrler and Podruzsik (2022) and the identical drop-down menu was used. Respondents were asked to state the amount of time they spend on the individual conflict costs, such as "how much time was wasted due to a conflict", "how much time they were absent due to the conflict, despite of not being sick" or "how much time was spent on the pretention to work". The time values reached from 0 to 50 hours/ days. The Cronbach alpha indicated a high reliability with a value of 0.92.

3.5 Results

Table 2 summarizes the conflict type variables, with none of the variables demonstrating any anomalies. The three variables indicated correlations of 0.46 between task and relationship conflict, 0.57 between task and process conflict, followed by 0.67 for relationship and process conflict.

Table II: Descriptive statistics conflict types

	Mean	Median	SD	Min	Max	Kurtosis
Relationship Conflict	3.96	3.75	1.99	1	9	-0.84
Task Conflict	4.10	4.00	1.87	1	9	-0.51
Process Conflict	3.76	3.50	1.91	1	9	-0.73

To analyze our hypotheses, we used the mean values of the internal indirect conflict costs, which we logarithmized to achieve a more symmetric distribution. The factors were used for the conflict types, as independent variables. Our hypotheses only differ in terms of the conflict type, so that the same tests could be applied. Multiple linear regression was used to test if relationship, task and process conflict significantly predicted internal indirect conflict costs. All regression assumptions were pretested. The overall regression was statistically significant ($R^2 = 0.2331$, F-statistic = 50.96 and p < 0.001). The explanatory power of the model is given by significantly explaining 23% of the variance of internal indirect conflict costs, especially

as it is one of the first studies analyzing conflict costs. It was found that relationship conflict significantly (H2) predicted conflict costs (B = 2.1718, p < 0.001). Task (H1) and Process (H3) conflict however do not affect conflict costs. Task conflict indicated non- significant results of B = 0.00183 and p = 0.9458 and process conflict of B = 0.05314, p = 0.0942. In a subsequent step, we included three control variables in the regression model, which were gender, age and whether the conflict took place in a national or international work environment. National referred to conflicts where all people had the same nationality. International work environments described a conflict with at least one person having another nationality. On top, we built interaction terms for each conflict type and the international set-up, that we also included in the second regression analysis (table 3). The variables did however not influence the model to a large extent. The overall model remained statistically significant with R² = 0.2417, F-statistic = 17.6 and p < 0.001. The explanatory power of the model slightly increased to 24%. Relationship conflict remained significant with B = 0.239910, p < 0.001 and task conflict non-significant with B = 0.008375 and p = 0.7962. The interaction terms of relationship and task conflict did not indicate significant results. Process conflict indicated mixed results. Process conflict in a national set-up did not influence the dependent variable of conflict costs (B = 0.018136, p = 0.6461). The interaction term, meaning process conflict with conflict parties of more than one nationality however demonstrated an almost significant prediction of conflict costs with B = 0.132324, p = 0.0562. Gender, age and the set-up itself did not have any effect on the model (Table 3). As the interaction effect in case of process conflict was almost significant, we calculated the confidence intervals of the process conflict effect of the two groups and can conclude that there is an overall effect of process conflict in international conflict situations on internal indirect conflict costs (Figure 1).

Table III: Multiple Regression Model incl. control variables

	B	Std. Error	T- value	P-value
Intercept	0.036458	0.251658	0.145	0.8849
Relationship Conflict	0.239910	0.033018	7.266	1.44e-12
Relationship Conflict International	-0.105475	0.064508	-1.635	0.1027
Task Conflict	0.008375	0.032405	0.258	0.7962
Task Conflict International	0.001670	0.058928	0.028	0.09774
Process Conflict	0.018136	0.039475	0.459	0.6461
Process Conflict International	0.132324	0.069133	1.914	0.0562
Gender - Female	0.090993	0.084883	1.072	0.2842
International Set-up	-0.151800	0.243568	-0.623	0.5334
Age	-0.008169	0.032717	-0.250	0.8029

Figure 1: Interaction term Process Conflict – Test for significance
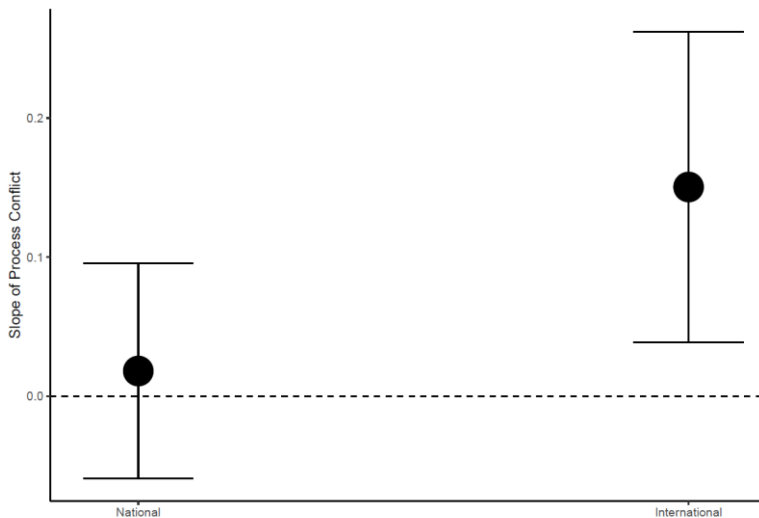
In a second step, we differentiated relationship, task and process conflict based on the highest mean values and compared the three conflict types in terms of their internal indirect conflict costs, using Kruskall-Wallis analysis. The test results indicated significant differences between the groups H(2) = 15.506, p = 0.0004. We applied Bonferroni correction with a new level of significance of 0.0167 and a Wilcox rank sum test to determine significant differences between process and task conflict (W = 11582, p = 0.0017) as well as Task and Relationship conflicts (W = 12578,

p = 0.0006). Process and Relationship Conflict did not differ significantly (W = 8129, p = 0.9418) (Table 4).

Table IV: Differences between Conflict Types

	diff	W	p
Relationship – Process Conflict	0.08	8129	0.0006*
Task – Process Conflict	-0.36	11582	0.0017*
Task – Relationship Conflict	-0.44	8129	0.9418
*p < 0.0167			

Hypothesis 1 needs to be fully rejected, as task conflict did not indicate any effect on internal indirect conflict costs. Hypothesis 2 can be approved, as Relationship Conflict indicated a prediction of internal indirect conflict costs in both models. It can be stated that an increase of relationship conflict results in an increase of international indirect conflict costs. Hypothesis 3 can partially be approved, as process conflict in general did not predict conflict costs, however in case of an international conflict set- up there was an effect on the dependent variable. Meaning that people of different nationalities having a process conflict predicted internal indirect conflict costs.

3.6 Discussion

The research goal was to test whether time is lost for all conflict types, referring to task-, relationship-, and process conflict and how the conflict types vary. This is a pioneering study that takes these variables together, with the aim of presenting a new perspective in the ongoing debate on the impact of conflict. The hypotheses were partially approved, demonstrating a link between relationship conflict and conflict costs, as well as for process conflict in certain situations.

The strongest relation was between relationship conflict and time spent on internal indirect conflict costs. This supports existing research findings that relationship conflict is rather unambiguously detrimental (Jehn & Bendersky, 2003; Jehn, 1995; Wit et al., 2012; Vodosek, 2005). Our results indicate that

relationship conflict also contributes significantly to employees wasting their time on conflicts, instead of value adding activities. Relationship conflict refers to a more personal and emotional level (Jehn, 1995; Jehn, 1997; Ayub & Jehn, 2014), which also applies to internal indirect cost variables such as worrying about a conflict, attacking behaviors or absenteeism (Dirrler & Podruzsik, 2022). For both items a conflict goes beyond ordinary work-related topics and worries the individual beyond the time actively involved in the conflict. The relationship conflict variable also provides the highest explanatory power to the model of internal indirect conflict costs.

Process Conflict is only linked to time spend on internal indirect conflict costs, in case of more nationalities being involved. Otherwise, there was no significant effect. The multiple regression analysis did not demonstrate that process conflict often has an interrelation to relationship conflict and is experienced similarly (Jehn & Bendersky, 2003; Behfar et al., 2011). Internal indirect conflict costs measure conflict effects on an individual level, where people are emotionally and personally involved and affected. Our study does not show a general link to process conflict. This can be due to the ability of individuals separating the conflict content of process conflict from an individual and emotional level. This is in line with the general definition of process conflict (Jehn, 1997) but contradicting to findings that process conflict has a rather personal component and is mostly considered as detrimental (Jehn & Bendersky, 2003; Behfar et al., 2011). The Kruskal-Wallis test on the other hand did not indicate any significant differences between relationship and process conflict and time lost on conflicts. In addition, process conflict was partially significant, when including the nationalities of the conflict parties. Cultural diversity is considered as a possible amplifier of conflict (Vodosek, 2005, 2007; Wickramasinghe & Nandula, 2015; Akhtar et al., 2016; Opute, 2012), due to individuals distinguishing themselves to others, preferring similar others and forming in-

groups (Ko & Vander- Pal, 2014; Worchel, 2005; Mannix & Neale, 2005; Tajfel & Turner, 1979; Tajfel & Turner, 1986; Byrne, 1971). This can explain the significant association to process conflict, as it can get more difficult for people involved in a conflict to focus on the process conflict content only, instead of getting more involved on a personal level. Our study results demonstrate that process conflict remains a conflict type that needs to be carefully evaluated and analyzed. Firstly, its characteristics were less obvious, and it was more difficult to unambiguously identify process conflict. Secondly, we found mixed results on time spent on conflict cost variables.

Per definition task conflict refers to task-oriented arguments and is detached from relationship-elements (Jehn, 1995; Jehn, 1997). Our study supports that argument, as we did not find any significant association between task conflict and the cost variables. Task conflict also differed significantly from process and relationship conflict. Most of the cost variables, measured in our study describe conflict consequences that might go beyond a task-oriented discussion. Examples are counterproductive work, absences due to illness or presenteeism. Therefore, we did not expect a strong link between these items and task conflict, which is also reflected in our results. Against our initial assumption based on Bang and Park (2015), the survey participants did not have negative feelings about the task conflict that were reflecting in time lost due to a conflict.

Research and Managerial implications - Given the ongoing debate on the consequences of conflict, the results of this research support existing studies (Jehn, 1995; Jehn, 1997; Jehn & Bendersky, 2003), and also provide new insights. Relationship conflict is claimed to be detrimental (Jehn & Bendersky, 2003; Jehn, 1995), which is also supported by our study. Our results present a significant amount of time spent on relationship conflict that is considered as harmful or wasted. This at least causes opportunity costs (Dirrler & Podruzsik, 2022). According to our study, people do not lose time

on conflicts, in case of task conflict and in case of process conflict only in very specific set-ups. Especially in companies where working groups and teamwork is essential, this is a new and important finding. Even though people are involved in these conflict types, they do not evaluate it as negative or perceive it as a loss of time. This is controversial to research findings that stated more severe consequences of task conflict, such as dissatisfaction or frustration despite the results (Jehn, 1995; Jehn et al., 2008b; Baron, 1990; Ross, 1989). For companies this is a positive finding and indicates that people can distinguish task-oriented discussions well and do not feel personally attacked by it. Therefore, our research results suggest that the positive aspects of the conflict types predominate and within our study the negative consequences such as frustration or dissatisfaction could not be confirmed. Although these variables were not measured directly, it can be concluded that feelings such as the ones mentioned before would lead to internal indirect conflict costs and would be reflected in our variables. This supports research findings, stating that task and process conflict have positive elements to group functioning and work results (Tjosvold, 1991; Jehn & Bendersky, 2003; Jehn & Mannix, 2001; Karn, 2008; Parayitam & Dooley, 2007; Tjosvold & Hui, 2003; Jehn, 1995; Pelled et al., 1999; Yousaf et al., 2020). However, the findings must be viewed critically, as conflicts often have different phases, and the conflict types cannot be completely separated from each other in practice. Within a conflict, conflict parties can experience different conflict types and a task conflict can quickly become a relationship conflict, for example (Curseu et al., 2012; Krajcsák, 2021; Dahlan et al., 2021). It is therefore particularly important for companies to take a close look at conflicts and to intervene at the latest when they turn into relationship conflicts or show the first signs of it. Because as soon as this point is reached within the conflict, costs can arise for companies in the form of wasted time and the positive aspects of the conflicts recede into the background. In order

to exploit the full potential of teamwork, efforts must be made to take advantage of the positive types of conflicts, while avoiding relationship conflict. Many factors can play an important role in achieving that, such as training, development, commitment, or transformational leadership (Dahlan et al., 2021; Krajcsák, 2021).

Limitations and Future Research Suggestions - Behfar et al. (2011) highlighted the difficulty of process conflict and its distinction from relationship and task conflict. They separated it into logistical and contribution conflict and introduced a new set of questions for each conflict type to overcome the problem. Our results were still weakened by equivocal questions, forcing us to summarize logistical and contribution conflict to process conflict as one variable. Future research should consider the difficulty and potentially use different categorizations for task-, relationship and process conflict. The explanatory power of the overall model can be improved further. Future research needs to come up with more variables to be included in the model, explaining internal indirect conflict costs, measured in form of lost time. A starting point can be known conflict amplifiers, such as diversity (Vodosek, 2005) or the point of time the conflict takes place (Jehn et al., 1999). In addition, the cultural effect on internal indirect conflict costs also needs to be researched thoroughly, as our work only gives a first indication of its effect. This paper only measured some internal indirect conflict costs in terms of lost time. Future studies could conduct a more comprehensive study with more than one measurement approach to capture more conflict costs and provide actual quantitative data for each conflict type. The sample size of the study is large, however it comprises people from different workplaces, industries and even nationalities. So the way the respondents experienced their conflict can vary significantly in terms of the conflict itself, its length or frequency. Future research should conduct a

similar study with a more homogenous sample group, for example within one company or profession.

3.7 Conclusions

There are various ways to measure conflict outcomes. Our study is a new approach to analyze the effects more quantitatively in terms of lost time. Conflicts always demand time and energy of the parties involved. Our study enables scholars, but also managers to carefully evaluate when to stop conflicts immediately, but also situations where conflict can bring advantages. Overall, it can be stated that according to previous findings, relationship conflict is harmful and makes individuals spend time on non-value adding activities, instead of performing their work. Task and Process conflict did not indicate clear losses in time. Respondents of our survey did not have the impression of having lost time due to task or process conflict. This can be promising to managers, as task and process conflict yield positive consequences that can be captured in the right set-ups, when relationship conflict is kept low.

4. CONFLICT COSTS IN NATIONAL AND INTERNATIONAL BUSINESS: A COMPARATIVE ANALYSIS

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Abstract - Studies presented the importance of conflict costs. Cultural diversity adds more complexity to working groups, fostering conflict. The aim of this research is to investigate how cultural diversity affects conflict costs, measured in terms of lost time & cost amplifiers. Data was collected through an online survey with 490 respondents for national conflicts and 185

respondents for culturally diverse conflict situations. The differences between the two groups are explored by examining their impact on conflict cost amplifiers and the costs themselves. We found that intercultural diversity increases the number of conflicts per year. However, cultural heterogeneity did not affect conflict intensity, duration or the time spent on cost variables. This research is the first one to investigate the effects of cultural diversity on different facets of conflict costs. The results demonstrate the potential, as well as the need for further research.

4.1 Introduction

The world economy has been growing steadily over the past decades, so that geographical borders were overcome and new markets emerged. The overall workforce has become more ethnically diverse (Ascalon et al. 2008), which has put diversity at the heart of organizational life (Williams and O'Reilly, III 1998; Lozano and Escrich 2017). These culturally diverse teams and organizations trigger the need for a management across various countries and add overall complexity, one being conflict (Vodosek 2007). Even though academia does not yet agree on a commonly accepted definition of conflict, main attributes are frequently represented. These are amongst others incompatible goals (Lewicki et al. 1997), differences (De Dreu et al. 1999b) or interests (Rubin et al. 1994), as well as the interdependence and interaction between two or more individuals (Brockman 2014; Deutsch 1969). In this paper the definition of a conflict as "perceived incompatibilities or discrepant views among the parties involved" (Jehn and Bendersky 2003, p.189) is used. Jehn (1997) clustered conflict into relationship, task and process conflict, which is a concept widely used by scholars today (De Dreu and Weingart 2003; Wit et al. 2012; Vodosek 2005; Greer et al. 2011). Although scientists do not unanimously agree on the outcome of conflict, most research suggests that relationship and process conflicts have negative outcomes. Examples are

weakened performance levels (De Dreu and Weingart 2003; Jehn and Bendersky 2003; Vodosek 2005), lower satisfaction, well-being (Jehn and Bendersky 2003; Wit et al. 2012; Jehn 1997; Kuriakose et al. 2019), advise seeking (Marineau et al. 2018) and trust (Ismail et al. 2012; Wit et al. 2012) or increased desires to quit (Ismail et al. 2012) and emotional exhaustion (Benitez et al. 2018). Debates about task conflict are more diverse, whereas some scholars point out the negative effects on performance (De Dreu and Weingart 2003; Vodosek 2005; Puck and Pregernig 2014), while others indicate positive consequences on performance outcomes (Pelled et al. 1999; Jehn and Bendersky 2003; O'Neill et al. 2013). Despite positive effects, task conflict is expected to negatively affect group characteristics such as trust and group-commitment, by increasing anxiety and tension (Jehn and Bendersky 2003). A distinct approach to determine conflict outcomes is the measurement of conflict costs introduced by (Buss 2011; Freres 2013; Dirrler and Podruzsik 2022). In this research, conflict costs are defined as costs that are triggered by conflict and have a negative effect on the overall financial performance of an organization. A company can either achieve its desired results, but with lower revenues, or the outputs themselves are lower (Audi et al. 2009; Dirrler and Podruzsik 2022). There is no one method for measuring conflict costs holistically, which leads scholars to focus on individual cost variables only. By adding cultural diversity as an additional variable to conflict research, the results stay complex and divergent. Scientific findings present a positive correlation between cultural diversity and the three conflict types, for example in form of increased dissatisfaction (Vodosek 2005, 2007; Wickramasinghe and Nandula 2015), increased difficulties in teamwork (Akhtar et al. 2016) and lower cohesion (Opute 2012). Others strengthen the complexity of cultural diversity and that it holds two important roles within conflict, which are the distinguishment between in-group and out-group members, as well as differences on how individuals perceive and react to conflict (VanderPal and

Ko 2014; Worchel 2005). Despite the confirmed impact of intercultural diversity on conflict (Vodosek 2005, 2007; Wickramasinghe and Nandula 2015), there have been no studies on the implications for conflict costs. In our study, we compare national and international conflict situations in terms of different conflict cost elements. Our first objective is to investigate the effect of cultural diversity on three cost amplifiers, which are the number of conflicts per year, conflict duration and strength. We compare the culturally diverse and cultural homogeneous set-up and evaluate to what extent the variables differ in the two groups in terms of intensity. Our second target is to evaluate how much time people spend on internal indirect conflict cost variables in the two distinct sample groups. As cost variables differ significantly in their measurement, a focus on specific variables is essential. Internal indirect conflict costs were chosen, because a profound measurement approach is available, suggesting to measure these variables in terms of lost time. Overall, our study aims to indicate whether culturally diverse working groups have the potential risk to face higher or more conflict costs, by investigating different cost elements. Companies face increasing competitiveness, which forces them to consider factors going beyond economic and academic indicators to reach sustainable and long-lasting success (Canen and Canen 2008). To address this prevailing problem in today's business world, the research of conflict costs can be of importance for business owners and scholars. On the one hand side, conflict costs are claimed to be the largest reducible costs (Buss 2011; Freres 2013) and on the other hand, the research of international cooperation can provide new approaches on how to face problems in a more globally interconnected world.

4.2 Theoretical Foundation

Conflict Costs - There is only a small number of scientific papers dealing with the topic of conflict costs, where two main themes can be distinguished. First,

it is the identification of conflict cost variables and the assignment to categories. Scholars differentiate various conflict cost clusters, which are among others the costs of conflict to organizations, employees and customers (Buss 2011). Another separation approach are eight conflict cost categories reaching from medical costs, individual psyche-, wasted time-, counter-productive work-, team behavior-, customer relationship-, human resource-finally to legal and dispute costs (Freres 2013). Four conflict cost clusters were introduced by Dirrler and Podruzsik (2022). These are internal direct conflict costs, which represent costs with a direct effect on the revenues or business outcomes of a company and which are caused by internal stakeholders. These costs are more visible, and companies are expected to measure them via monitoring their key performance indicators such as revenue, performance or quality parameters. Internal indirect costs are also caused by internal stakeholders, however they are less visible and only indirectly affect the outcomes and revenues of a company. In line with a lower visibility, they are more difficult to measure and companies need to conduct in-depth analysis, observations, or interviews. This results in less organizations measuring or knowing these costs. External direct and indirect costs are caused by external stakeholders (Dirrler and Podruzsik 2022). Despite different clustering approaches, the conflict costs comprise mostly the same variables that are also predominantly included in Table 1 (Dirrler and Podruzsik 2022). Second, scholars have introduced methodologies to determine the financial burden of conflict. Considering the direct financial results, Murtha (2005) claims legal and dispute costs to reach >$100.000 per case, whereas CIPD (2011) states costs of £750 of legal fees and £1000 resulting from the time managers spend on a case. Turnover costs are expected to reach 25%- 240% of annual salary costs (Conbere 2000; Kreisman 2002). From a temporal aspect, researchers highlight that conflicts demand time that is spend on a conflict instead of other activities, which can in return trigger costs (De Dreu 2008; Toussaint et al.

2019; Freres 2013; Levine 1998; Dirrler and Podruzsik 2022). CPP (2008) findings demonstrate employees to spend approximately 2.8 hours per week on conflicts, compared to HR personnel who are expected to deal 1-5 hours with conflicts (OPP & CIPD 2008). Studies present managers to lose 20% - 40% of their time due to the management of conflicts (Murtha 2005; Katz and Flynn 2013; Thomas and Schmidt 1976). Dirrler and Podruzsik (2022) focused their time measurement on specific internal indirect conflict cost variables and found that people spend 6 hours on these conflict cost variables for conflicts lasting one week and 40 hours on conflicts of 6 to 12 months. According to an average German salary that resulted in 137€ for short conflicts and 911€ for long conflicts for each person involved.

Table 1: Conflict Cost Clusters including Cost variables

	Direct	Indirect
Internal	**Internal Direct:** Legal & dispute costs, discrimination claims, grievance, compensation settlements, litigation, theft & damage, fees to lawyers & professionals, vandalism, sabotage, performance declines, decreased quality, inability to meet deadlines, loss in productivity, increased supervision costs, accidents	**Internal Indirect:** **Wasted time worrying about conflict, - dealing with conflict, - resolving conflict, pretending to work, absenteeism,** presenteeism*, **decreased time at work,** decreased work effort, less diligence, **avoiding behavior/ shun contact**, **sick leave**, **psychological and physical disease**, voluntary departures from team or organization, **attacking behaviors**, change resistance, **extra time gathering information**, **counter-productive work behavior**, lost **time due to not listening**, lost time pointing out mistakes**,** bad quality decision making, no decision making,
External	**External Direct:** Legal suits, compensation claims, customer complaint handling, loss of ongoing relationship	**External Indirect:** Employer Reputation, difficulty to attract talent, damage to brand image

* Variable not considered in our study for lost time measurement
** Variables added in our study to be measured in terms of lost time
Note: Internal indirect conflict costs written in bold print are measured in terms of lost time & included in this study

In our research the clusters of Dirrler and Podruzsik (2022) are utilized and the focus of our work is on internal indirect conflict costs that can be measured in terms of wasted time (see Table 1). This allows us to use the approved methodology of Dirrler and Podruzsik (2022) and concentrate on the cultural comparison. Narrowing the scope of our research does not affect the validity of our research question and hypotheses, as they are based on pure comparison. One cost variable was neglected in our study, because we considered the calculation to be distinct to the other variables. Two new variables were added, because to our assumption they were missing in the variable overview of Dirrler and Podruszik (2022).

Cultural diversity - Trends like the internationalization of business activities, the outsourcing of jobs to foreign countries and cross-border cooperation increased tremendously over the last years and brought cultural diversity to the center of organizations and increased the scientific work on the topic. Although it is daily business for companies to break down geographical borders and hire people from different cultural backgrounds (Ascalon et al. 2008), scientific definitions, measurements and conclusions are diverse. There is no uniform understanding of culture yet (Werner 2002; Hofstede 2006; Tsui et al. 2007), which leads to a continuous debate about the theory of culture, related methodologies and effects (Aycan 2000; Gonzalez 2008). Tylor (1977) entitled culture as "that complex whole which includes knowledge, belief, art, law, morals, customs and any capabilities and habits acquired by a man as a member of society". Hofstede (1980) refers to culture as a "collective programming of the mind which distinguishes the members of one human group from another". Based on the work of Hofstede (1980) and Lane et al (2009) culture also comprises beliefs and values that people expect a certain group of society to have in common (Suwannarat and Mumi 2012). In spite of the fact that some researchers claim culture to not only exist between nationalities, but also

within organizations in form of organizational cultures for example; research still mostly differentiates culture based on different countries (Suwannarat and Mumi 2012). Dressler and Carns (1969) define different functions of culture, which entails the communication with others using a common language and the expectation of members of our society on how they behave in certain situations. Culture also helps to define a standard for judgment of right and wrong, safe and dangerous and it enables people to identify similar others.

Diversity can be anything that enables people to identify differences between themselves and others (Williams and O'Reilly, III 1998; Mannix and Neale 2005). The most widely used distinction of diversity is the split into visible and invisible diversity, whereas cultural diversity along with diversity based on gender, traits or age belongs to the visible categorization and functional or value diversity form the invisible diversity cluster (Harrison et al. 2002; Harrison et al. 1998). Diversity research is mostly based on three underlying theories. Social identity theory and social categorization theory are based on the concept that individuals use observable characteristics such as cultural features to compare themselves with others and within that process automatically form in-group and out-groups. People tend to favor in-group members and often over evaluate the positive attitudes within their own group and make more negative judgements about out-group members (Tajfel and Turner 1979; Tajfel and Turner 1986). Similarity theory strengthens these findings by stating that individuals are more attracted to and favor more similar people (Byrne 1971) and consequently cooperate more with people sharing similar values and beliefs (Williams and O'Reilly, III 1998).

When referring to cultural diversity or international cooperation within that study, we refer to a business activity that takes place between people of at least two or more different countries. In contrast, national corporation is based on a team set-up with people from the same country. Former migrations or cross-

cultural experiences are not considered, as the basic goal is to understand the overall impacts of cultural diversity on conflict and cooperation.

4.3 Hypotheses

Divergent research findings exist on the effects of cultural diversity on conflict and its outcomes. A group of researchers present findings that cultural diversity negatively affects group functioning and leads to or is a precursor to conflict (Vodosek 2005, 2007; Kankanhalli et al. 2006; Wickramasinghe and Nandula 2015; Addesa et al. 2017). In addition it is stated that cultural diversity lowers team satisfaction, commitment (Vodosek 2005) and increases stereotyping, prejudices, generalizations (Kankanhalli et al. 2006) as well as the intention to quit (Vodosek 2005). Velten and Lashley (2018) found that cultural diversity can foster conflict, if the dissimilarities are too big, for example in form of attitudes, mentalities or values. Contrasting research findings support the general statement that cultural diversity increases conflict, but in regards to task conflict, this is claimed to have a positive effect due to the rise in experiences and discussions (Liu et al. 2008; Paul and Ray 2013). Based on prior research, we expect international diversity to provoke more conflict.

H1: The more a person is internationally involved at work, the more conflict the person faces.

According to Pondy's (1967) conflict stages, conflict increases over time, starting with a very light form of conflict, which intensifies, if the conflict is not resolved. In the beginning phase, also called latent conflict, divergent interests or scarce resources exist that can be considered as an antecedent of conflict. If this specific situation is not resolved, the next stage, called perceived conflict, arises and the group members start realizing a disagreement, even though it does not yet generate any emotional effects such as anxiety for the individual. Next, the phase of felt conflict is reached and at that stage personal and emotional components of the conflict become visible

and are felt. In the fourth stage, called manifest conflict, the behavior of the conflict party changes towards a more confrontive, aggressive or violent attitude. Within the last phase, the manifest stage, the conflict intensifies. If conflicts are not resolved, they strengthen and escalate and often do not imply the initial conflict cause anymore but become independent of the primary source. At an escalation stage, conflict parties develop more negative attitudes, involve an increased number of motives or people and are willing to accept higher costs. In general, this encourages a confrontive and competitive behavior rather than conflict resolution (Deutsch 1969). It is assumed that conflict resolution is more difficult in culturally heterogeneous teams, because cultural diversity often serves as a building block for boundaries between group members (Worchel 2005), also based on social identity and social categorization stressing the assumption of more difficult conflict management. Followed by the second argument that individuals demonstrate different reactions towards conflicts and also feel differently about it (VanderPal and Ko 2014). Lastly, linguistic differences can further add complexity (Kankanhalli et al. 2006; Martin 2014). Resting on the presumption that conflict resolution is more difficult in international cooperation; we hypothesize two consequences. First, that conflict durations transcend the ones of homogeneous teams and second, that conflict strength automatically intensifies similar to the concept of Pondy (1967).

H2: In case of international cooperation, the conflict duration on average exceeds the duration of conflict in national cooperation

H3: In case of international cooperation, the conflict strength on average exceeds the conflict strength in national cooperation.

In prior research (Dirrler and Podruzsik 2022) support was found that the duration and strength of a conflict influence conflict costs, meaning that the longer a conflict lasted and the more severe it was rated, the higher the conflict

costs were. Based on hypotheses two and three, we assume that conflict in cultural diverse teams lasts longer and enters a more developed conflict strength stage. Consequently, we expect international teams to spend more time on conflicts in general and more precisely on internal indirect conflict cost variables compared to national teams.

H4: There is a relation between international cooperation and the time spent on internal indirect conflict costs, thus international cooperation leads to more time lost.

4.4 Methodology

Sample/ Participants/ Procedure - To test the introduced hypotheses, we developed a questionnaire that was distributed via an online panel provider. To participate in the survey, respondents had to be employed and be able to think of a conflict situation. No further restrictions were made in terms of employment types or industries because we did not assume any influence on our hypotheses. The panel provider is located in Germany and the questions were raised in German language only, so that most of the survey participants were German, too. However, as each respondent had to indicate whether his conflict situation took place in a national or international work environment, the individual nationalities could be neglected. The panel members only receive a limited amount of survey invitations per months and are paid for their participation. To ensure a high quality of the results, a question was included that requested all participants to enter a certain number. In that way it was possible to test the alertness of all attendees and exclude nonserious members. Out of 873 survey respondents, 198 were discarded, because of early dropouts or answering the control question wrong. Due to the unknown work environment of individual participants, it was not possible to determine the two groups of national and international cooperation in advance. Within the survey, respondents could individually choose in which set-up the conflict took place

and answer the questions accordingly. In total, we received 490 answers for national group conflicts and 185 for conflicts with international group members. Striving for a confidence level of 95 percent and a margin error of 5 percent, N = 385 when considering the German working population of approximately 45.3 million. Assuming that more people work in a national environment both sample groups are considered to be representative. On top the overall sample size exceeds the required number of participants by far. Germany is considered to be justifiable for the total population, because it was the place where the survey was carried out and most members come from. Within the national cooperation cluster, 260 were female and 230 male. In the international group the number of male participants (109) slightly exceeded the number of female respondents (76). In both set-ups the majority of people were operational employees (international: 118, National: 341), followed by managers on different hierarchies. Only a minority was self-employed; in the national set-up 17 people compared to 4 in the international environment.

In advance of distributing the survey, a pre-test with 20 participants was performed, in which they were asked to answer the questionnaire and report any difficulties they had in understanding or answering the questions. No major problems were reported and we only had to sharpen some German terms, such as nationality and citizenship. As only minor adaptions were made, we did not conduct a second pre-test round.

Measures and Pretests - The first hypothesis is linked to general questions each survey respondent had to answer, before referring to a concrete conflict situation. Everyone had to indicate the degree of international involvement he or she faces at work ranked from 0 to 100 percent, followed by the total number of conflicts personally involved per year. To gather data for hypotheses 2 to 4, all respondents were asked to think of a concrete conflict situation they currently or previously faced. All subsequent questions had to be answered for

that specific conflict situation chosen by the individual. To measure the international involvement, participants had to indicate whether their chosen conflict, took place in a national or international set-up. This enabled us to form two groups, one being a culturally diverse group and one group being a homogeneous group, at least based on nationality. Cultural diversity was shortly described in the questionnaire as working with people of other nationalities.

The detection of time spent on internal indirect conflict costs was also based on the selected conflict of each individual. We presented all applicable internal indirect conflict costs shown above and asked the participants to indicate how much time they spent on the individual cost variable. The survey respondents had to enter the amount of time lost in a drop-down field, ranging from 0 to 50. The values of 0 to 4 could all be chosen, followed by every second number, starting with 6. The Cronbach alpha reported a high reliability of 0.9.

Respondents had to state the conflict duration for their own conflict situation. For this rating, a five-point Likert scale was chosen, on which participants had to specify their conflict duration, reaching from short to very long. In line with the study of Dirrler and Podruzsik (2022) the terms were shortly described in the questionnaire.

Based on the five conflict stages (Pondy 1967) and the research of Dirrler and Podruzsik (2022) conflict strength was measured, for the specifically chosen conflict, on a five-level Likert scale reaching from a very weak to a very strong conflict. To avoid any interpretations, the terms were specified in the survey according to prior research (Pondy 1967; Dirrler and Podruzsik 2022).

4.5 Results

For the first hypothesis, we tested for possible correlations between the degree of internationalization and the number of conflicts, being the dependent

variable. In addition, we conducted a Kruskal-Wallis test to compare the different value ranks of internationalization and detect whether higher percentage ranks and more conflicts appeared concurrently. For the remaining hypotheses, the differentiation of the two conflict groups into national and international cooperation was necessary. When referring to group one or the national group, we refer to the 490 participants, who assessed a conflict situation with people of the same nationality. Group two, also called the international group, describes the respondents, who answered the questionnaire, based on a conflict situation with people of different nationalities. To test hypotheses two and three, we compared the two groups whether they significantly differ in regards to conflict duration or conflict strength. We conducted Wilcoxon rank-sum tests to test whether the two independent samples (national and international group) indicated different central tendencies for the variables duration and strength. As the results were not significant, no post-hoc tests were conducted. To test hypothesis 4, we conducted a Wilcoxon rank-sum test, to evaluate whether the median of lost time, triggered by internal indirect conflict costs, differs in international and national cooperation. Due to the non-significant Wilcoxon result, no subsequent tests were performed.

For the quantitative measurement of conflict costs, all internal indirect costs are used, which can be measured in terms of lost time. Previous studies have shown that the costs are highly correlated, but the variables are not redundant. Comparing the correlation of the conflict cost variables, this picture is confirmed for both the national and international groups. In both cases, the individual costs correlate, but the majority of the values do not exceed 0.7, so that redundancy can be ruled out (See Table 2 and Table 3).

Table 2: Correlations National conflict situation

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Wasted time solving a conflict	1.00	0.78	0.65	0.28	0.28	0.63	0.46	0.17	0.41	0.48	0.30	0.23	0.30	0.21
2	Wasted time due to involvement in conflict	0.78	1.00	0.69	0.35	0.30	0.65	0.53	0.20	0.43	0.54	0.35	0.27	0.37	0.20
3	Wasted time worrying about conflict	0.65	0.69	1.00	0.36	0.37	0.59	0.57	0.17	0.47	0.54	0.38	0.28	0.36	0.29
4	Pretended to work	0.28	0.35	0.36	1.00	0.36	0.30	0.42	0.34	0.29	0.28	0.44	0.21	0.28	0.21
5	Counter-productive working behavior	0.28	0.30	0.37	0.36	1.00	0.34	0.55	0.53	0.34	0.46	0.31	0.21	0.20	0.11
6	Additional time for information gathering	0.63	0.65	0.59	0.30	0.34	1.00	0.55	0.27	0.56	0.65	0.41	0.27	0.32	0.22
7	Lost time due to avoiding behavior	0.46	0.53	0.57	0.42	0.55	0.55	1.00	0.44	0.55	0.63	0.39	0.40	0.39	0.20
8	Lost time due to not listening purposely	0.17	0.20	0.17	0.34	0.53	0.27	0.44	1.00	0.42	0.36	0.32	0.18	0.08	0.13
9	Lost time due to personal attacks	0.41	0.43	0.47	0.29	0.34	0.56	0.55	0.42	1.00	0.75	0.39	0.41	0.39	0.36
10	Lost time due to pointing out mistakes	0.48	0.54	0.54	0.28	0.46	0.65	0.63	0.36	0.75	1.00	0.38	0.46	0.37	0.21
11	Less time at work	0.30	0.35	0.38	0.44	0.31	0.41	0.39	0.32	0.39	0.38	1.00	0.42	0.39	0.20
12	Sick leave to avoid conflict	0.23	0.27	0.28	0.21	0.21	0.27	0.40	0.18	0.41	0.46	0.42	1.00	0.58	0.22
13	Psychological/ physical disease due to conflict	0.30	0.37	0.36	0.28	0.20	0.32	0.39	0.08	0.39	0.37	0.39	0.58	1.00	0.48
14	Absenteeism	0.21	0.20	0.29	0.21	0.11	0.22	0.20	0.13	0.36	0.21	0.20	0.22	0.48	1.00

When comparing the mean values of lost time of the two setups, no clear difference is visible. The mean values are generally very close to each other. The standard deviations also differ slightly. Regarding the min and max values, there were participants in both groups who did not face certain costs at all, whereas others reached the maximum of lost time.

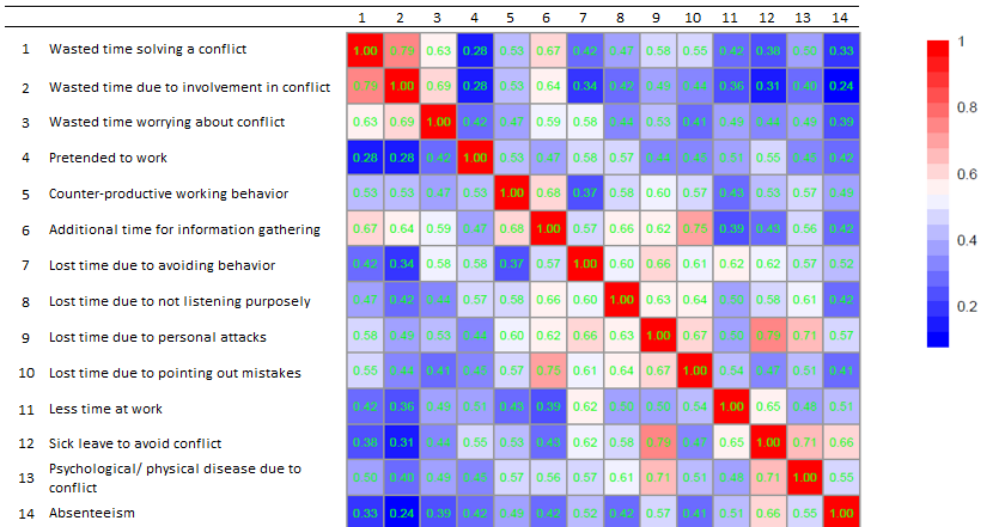Table 3: Correlations International Conflict situation

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Wasted time solving a conflict	1.00	0.79	0.63	0.28	0.53	0.67	0.42	0.47	0.58	0.55	0.42	0.38	0.55	0.33
2	Wasted time due to involvement in conflict	0.79	1.00	0.69	0.28	0.53	0.64	0.34	0.42	0.49	0.46	0.36	0.31	0.40	0.24
3	Wasted time worrying about conflict	0.63	0.69	1.00	0.42	0.47	0.59	0.58	0.44	0.53	0.41	0.49	0.44	0.48	0.39
4	Pretended to work	0.28	0.28	0.42	1.00	0.53	0.47	0.58	0.57	0.44	0.46	0.31	0.55	0.46	0.42
5	Counter-productive working behavior	0.53	0.53	0.47	0.53	1.00	0.68	0.37	0.58	0.60	0.57	0.43	0.53	0.57	0.48
6	Additional time for information gathering	0.67	0.64	0.59	0.47	0.68	1.00	0.57	0.66	0.62	0.75	0.39	0.43	0.56	0.42
7	Lost time due to avoiding behavior	0.42	0.34	0.58	0.58	0.37	0.57	1.00	0.60	0.66	0.61	0.62	0.62	0.57	0.52
8	Lost time due to not listening purposely	0.47	0.42	0.44	0.57	0.58	0.66	0.60	1.00	0.63	0.64	0.58	0.58	0.61	0.42
9	Lost time due to personal attacks	0.58	0.46	0.53	0.44	0.60	0.62	0.66	0.63	1.00	0.67	0.50	0.76	0.71	0.57
10	Lost time due to pointing out mistakes	0.55	0.44	0.41	0.46	0.57	0.75	0.61	0.64	0.67	1.00	0.54	0.47	0.51	0.41
11	Less time at work	0.42	0.36	0.49	0.31	0.43	0.39	0.62	0.58	0.50	0.54	1.00	0.65	0.48	0.51
12	Sick leave to avoid conflict	0.38	0.31	0.44	0.55	0.53	0.43	0.62	0.58	0.76	0.47	0.65	1.00	0.71	0.66
13	Psychological/ physical disease due to conflict	0.55	0.40	0.44	0.46	0.57	0.56	0.57	0.61	0.71	0.51	0.48	0.71	1.00	0.55
14	Absenteeism	0.33	0.24	0.39	0.42	0.48	0.42	0.52	0.42	0.57	0.41	0.51	0.66	0.55	1.00

Table 4: Descriptive Statistics: Mean, Standard Deviation, Min and Max

	National				International			
	M	SD	Min	Max	M	SD	Min	Max
Wasted time – conflict involvement	4.28	8.76	0	50	4.59	9.38	0	50
Wasted time worrying about conflict	4.79	9.35	0	50	3.73	6.80	0	50
Pretended to work	1.31	4.53	0	50	1.42	5.83	0	50
Counter-productive work	0.94	3.73	0	50	1.68	6.75	0	50
Add. time for information gathering	2.45	6.16	0	50	2.99	7.27	0	50
Lost time - avoiding behaviour	1.90	5.82	0	50	2.01	5.91	0	50
Lost time - not listening purposely	0.74	3.32	0	50	1.2	4.66	0	50
Lost time - personal attacks	1.75	6.32	0	50	1.65	5.37	0	50
Lost time - pointing out mistakes	1.65	5.49	0	50	2.34	6.77	0	50
Less time at work	1.64	5.72	0	50	1.52	5.05	0	50
Wasted time solving a conflict	5.17	10.3	0	50	4.71	8.98	0	50
Sick leave to avoid conflict	28.7	125.	0	1200	34.4	142.	0	1200
Disease due to conflict	64.4	214.	0	1200	57.6	193.	0	1200
Absenteeism	63.5	213.	0	1200	52.4	162	0	1200

Considering the international involvement of the participants for hypothesis 1, the results were mixed. Some did not have any international contacts, whereas others spend all of their time with people of other nationalities. The median was 32 and the mean 39. In regards to conflicts, most participants were involved in up to 5 or 10 conflicts per year, whereas the median and the mean indicated a scope of up to five conflicts per year (see Table 5). We found support for the first hypothesis that there is a correlation between international cooperation and the total amount of conflicts per year, meaning that the more a person was internationally involved, the more conflicts they phased. To evaluate the relationship between the two variables, we applied Spearman's rho correlation coefficient test. The results of $r_s = 0.159$, $p = 3.169e-05$ present a significant, but weak positive correlation. To detect differences concerning the frequency of conflict amongst the value ranks of international involvement, we carried out a Kruskal-Wallis test. The results indicate significant differences between the ranks, with $H(87) = 109.07$, $p = 0.054$. As the variable conflicts per year consists of 5 items, compared to international involvement,

with 88 values, we considered the Mean and Median values, too (Table 5). Both indicate that people with none or a limited number of conflicts per year, were less internationally involved than people with a high number of conflicts, who on average spend half of their time in culturally diverse cooperation (Table 5). In order to compare the groups more precisely, we divided all participants into 5 quartiles according to their indication of international involvement. The first quartile consists of people who indicated that they spend up to 20% of their time with people of other nationalities. Quartiles two to four have worked between 21% and 80% internationally, up to quartile 5 which includes people who work up to fully internationally. Looking at the results of the Kruskall-Wallis test of $H(4) = 17.063$, $p = 0.00188$ that compared the five quartiles with the total amount of conflicts per year, the results are significant. The Bonferroni post-hoc test indicates that the significant differences are between group 1 and group 3, 4 and 5. The other groups did not differ significantly.

Table 5: Relation – Conflicts per Year and International Involvement

	Conflicts per Year		International Involvement	
Group Ranks	Description	Participant Count	Mean	Median
1	No conflicts per year	75	29.4	20
2	Up to 5 conflicts per year	364	38.1	30
3	Up to 10 conflicts per year	129	45.2	45
4	Up to 30 conflicts per year	72	39.6	35
5	Up to 50 conflicts per year	35	49.4	50

Conflicts per Year: Mean 2.449   Median 2

After performing a Wilcoxon rank-sum test to indicate whether the national and international group differ in terms of conflict duration, we did not find support for hypothesis two. The duration median for both groups is 2,

indicating that in both set-ups conflicts on average lasted up to one month. For both samples, few respondents faced conflicts longer than 6 months or very short conflicts of up to one week (See Table 5). The test results of $W = 47013$, $p = 0.4251$ are not significant and consequently don't support our hypothesis that conflict duration in international work groups exceeds the one of national cooperation.

Table 6: Conflict duration in national & international cooperation

Conflict Duration		Samples	
Group Rank	Description	National	International
1	Up to 1 week	229	88
2	Up to 1 month	115	52
3	1 - 6 months	84	26
4	6 to 12 months	26	11
5	Longer than 12 months	36	8
Median		2	2

The findings for hypothesis three are similar, which also don't confirm our hypothesis that international cooperation's conflict strength exceeds the strength of national cooperation. The hypothesis was tested with a Wilcoxon rank-sum test with $W = 46170$, $p = 0.6906$. For both samples the median is 3, meaning that both groups faced medium conflict strength on average. Participants seldom reported severe conflicts strength or very low strength (see Table 7).

To gather insights for hypothesis 4, we used again the differentiation of national and international cooperation in relation to the median rank of the time lost, due to internal indirect conflict costs. For both set-ups the median rank was the same and the Wilcoxon rank-sum test results were non-significant, with $W = 44450$, $p = 0.4252$. We could not find support that international

cooperation fosters higher internal indirect conflict costs within a specific conflict situation and cannot approve the hypothesis. Considering the mean values of the different cost variables (Table 4) this finding is supported. In both set-ups absences to avoid a conflict or due to health problems, as well as absenteeism accounted for most time lost. Followed by time directly spent on conflicts by dealing, worrying or solving it. The other cost variables accounted for less time wasted.

Table 7: Conflict strength in national & international cooperation

Conflict Strength		Samples	
Group Rank	Description	National	International
1	Latent	57	26
2	Weak	146	53
3	Medium	222	81
4	Manifest	45	18
5	Aftermath	20	7
Median		3	3

4.6 Discussion

The research aim was to evaluate the effect of international cooperation on conflict costs, in terms of lost time and cost amplifiers. To research the cost amplifiers conflict duration (H2) and strength (H3), we considered one specific conflict situation of the respondent and gathered the data for both sample groups. Contrary to our expectations, there was no difference between national and international conflict situations and their average conflict duration or strength. In both cases, most survey participants reported short conflicts of up to one week or month. Regarding conflict strength, the majority in both groups ranked their conflicts to be medium strength, meaning that the individual is involved on a personal and emotional level and feelings like anxiety can be

triggered. We assumed conflict resolution to be more difficult in culturally diverse teams, due to linguistic differences, divergent reactions towards a conflict and the feeling of in- and out groups and that this would cause longer lasting and more severe conflicts. As we did not find support for our hypotheses, conflict resolution is either the same in both setups or needs to be researched separately.

To study the implications of culturally homogeneous and heterogeneous teams on conflict costs, each study participant was asked to determine his or her internal indirect conflict costs for a personal conflict situation. We assumed the time to be higher in international conflicts compared to national ones, but did not find support for this hypothesis. The mean values of lost time were also very similar for all cost variables and in line with prior research (Dirrler and Podruzsik 2022). Most time was lost on absences, as well as time directly spent on conflicts.

Despite the similarity of the two set-ups in regards to a specific conflict, we found support for our first hypothesis, stating that the total number of conflicts per year increases, the more a person is internationally involved. Notwithstanding, the rather low positive correlation all statistical results support the overall hypothesis. People who reported up to 50 conflicts per year also indicated an average international involvement of approximately half of their working day. Whereas people with no or up to 5 conflicts per year only stated their work to reach an international involvement of up to 30%. These findings were also supported by a post-hoc test that indicated that people with a comparatively low international involvement of up to 20% differed significantly from the groups with an international involvement between 40% and 100%.

Irrespective of the sample group, seventy percent of the study participants reported to have up to 5 or up to 10 conflicts per year. Most of the respondents

rated their conflicts to be of short to medium duration. Prior research has used the same conflict duration categories and indicated short conflicts to cost 137€ due to lost time (Dirrler and Podruzsik 2022). Medium conflicts of up to one month were claimed to cost 251€. These costs refer to the same internal indirect conflict cost variables like our study and derive from the amount of lost time. Consequently, they refer to one specific conflict and one person only. If we consider an individual to have 10 conflicts per year that would result in considerable costs. In addition, these costs only represent a minor portion of all conflict costs.

Managerial Implications - We compared international and national conflicts in terms of time spend on certain cost variables, as well as cost amplifiers. The findings of our study are against our hypotheses and expectations. Former research results indicated that specific conflicts were affected by international diversity, for example in form of difficulties in teamwork, dissatisfaction or lower cohesion (Wickramasinghe and Nandula 2015; Vodosek 2005; Opute 2012). We expected a close relation between the mentioned conflict consequences and our cost variables. For example, we thought increased dissatisfaction or difficulties in teamwork amongst others to be visible in form of decreased work efforts, wasted time, absences, extra time gathering information or attacking behavior. The mixed results can mean that the link between conflict consequences and conflict costs cannot be easily made, potentially because consequences might not always directly result in costs. Otherwise, the divergent findings can also be traced back to different definitions of cultural diversity, reaching from the comparison of specific countries (Wickramasinghe and Nandula 2015) to the differentiation of individualism, collectivism and horizontal and vertical orientation (Vodosek 2005). In addition, our research was based on a survey, in which individuals had to report on a concrete conflict situation. Vodosek's (2005) studies were

conducted with research groups in different universities and (Wickramasinghe and Nandula 2015) distributed surveys to virtual software development teams. Despite of rejecting the hypotheses involving a specific conflict situation, we found support that cultural diversity leads to more conflicts. This adds new insights to the debate whether cultural diversity has an impact on group functioning and conflicts, because overall it can be stated that there is a positive correlation, which however needs to be researched thoroughly. The managerial implications are high, when considering the costs of additional conflicts. On average people highly internationally involved face more conflicts than people in national work environments, which automatically triggers higher costs. Companies that carry out cross-border activities should include these costs when calculating foreign direct investments or planning international projects. In addition, these cost positions can justify cultural trainings and motivate researchers and organizations to get involved in cultural diversity research.

Limitations and Future Research Suggestions - Considering the divergent research findings on cultural diversity and conflict, future research is needed. Prerequisites will be a clear definition of cultural diversity, potentially even stating countries or other criteria. In addition, different variables, reaching from conflict consequences to conflict costs should be included to analyze any discrepancies between the variables. Lastly, the research set-up can also influence the research outcomes, emphasizing the need to carefully choose set-ups or vary between target groups and analyze discrepancies here as well. Our research was based on individuals reporting on a personal conflict, with the advantage of involving real situations. However, this also prevented us from participating in the data collection and assessing how reliable the data is. Due to the large sample size, the findings are considered to be reliable. A limitation is the imbalance of the two sample groups, whereas the national group amounted for two thirds of all survey respondents. Future research should

increase the culturally diverse respondents and achieve balanced participation. Due to the consistent statistical results, this does not limit the deductions from our study. We did not cluster cultural diversity or considered cultural models differentiating cultural distances. This can also be a factor to be taken into account in the future. Future research could assess whether greater cultural distances lead to cost differences, compared to smaller distances, which have no effect.

We only focused on internal indirect conflict costs, measured in terms of lost time. This does not represent a holistic cost measurement, as many costs are not considered. In addition, this approach measures the lost time of one specific conflict. To gather a holistic overview of conflict costs in national and international set-ups, all conflict costs should be considered in future research. New models would need to be implemented that enable a broader measuring approach. If participants were asked to report on all conflicts of a year, the quantitative results of the overall costs would also become more precise.

5. CULTURAL DISTANCE AND ITS ASSOCIATION TO TIME SPENT ON CONFLICTS

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Abstract - Conflict costs can be used to determine conflict outcomes and can be measured among others in terms of lost time. So far, no study has investigated the effects of cultural distances on conflict costs. Our study tries to add new findings by investigating the influence of cultural distances on internal indirect conflict costs. A survey with 226 participants was conducted to measure the time spent on conflicts. Each participant reported on a conflict

situation he or she was personally involved in. We used linear regression analysis to test our hypotheses. We did not find support for our hypotheses that the larger a cultural distance was, the more time was spent on a conflict. According to our study, cultural distances do not explain conflict costs and it cannot be proven that the greater a distance, the higher the conflict costs. In a more globalized world, it is positive that despite great cultural distances, time spent on conflicts does not increase. This can encourage leaders to capture the benefits of diversity, whereas the consequences on at least some conflict costs are low.

5.1 Introduction

Internationalization and cross-border business activities shape the world's economy. Disruptions of international trade, such as the ones caused by the Covid- 19 crisis, demonstrate the great extent to which businesses and countries rely on global interactions. In line with the trend of globalization and also driven by the endeavour for competitiveness and success that cannot be reached by focusing on economic indicators only (Canen and Canen, 2008), the necessity arises to better understand cross-cultural differences (Chen, et al., 2003; Friedman, et al., 2006; Doucet, et al., 2009) regarding social parameters, such as employee requirements (Ascalon, et al., 2008) or conflict management (Friedman, et al., 2006; Chen, et al., 2003; Doucet, et al., 2009). Conflict is defined as "perceived incompatibilities or discrepant views among the parties involved" (Jehn and Bendersky, 2003). Research studies present convincing findings on the consequences of conflict, reaching from positive performance outcomes (Jehn and Bendersky, 2003; Pelled, et al., 1999) to negative effects on advice seeking, trust, group performance, well-being, or satisfaction (Jehn and Bendersky, 2003; De Dreu and Weingart, 2003; Wit, et al., 2012; Kuriakose, et al., 2019; Marineau, et al., 2018). To determine the financial effects of conflict, the concept of conflict costs was introduced (Buss, 2011;

Freres, 2013; Dirrler and Podruzsik, 2022) and is now used to measure conflict consequences more quantitatively (Dirrler and Podruzsik, 2022). Prior studies presented that companies spend €251 for a conflict of up to 1 month and €911 for conflicts of 6–12 months for each person involved. These figures do not include all possible conflict costs but only represent the financial burden caused by lost time on some internal indirect conflict costs. This can, for example, be people thinking about a conflict or resolving it, instead of carrying out their actual work. Potentially, additional costs would need to be added for a holistic overview that can be, for example, in more severe cases legal or turnover costs (Dirrler and Podruzsik, 2022). Researchers suggest turnover costs to reach 25–240% of annual salary costs (Conbere, 2000; Kreisman, 2002) and legal costs £750 (CIPD, 2011). Considering cultural diversity as an additional variable in the research of conflict costs, there are several limitations. First, cultural diversity is often considered as one variable; however, this is often too short-sighted, as it is difficult to express or measure cultural differences using one universal parameter. Inter alia, this can be traced back to the differences between the nationalities, as a group of Indians, Russians, Egyptians, and Chinese people differs to a group of Japanese, Chinese, American, and French members (Ayub and Jehn, 2014). To overcome this problem by addressing the divergent differences, the model of social distances was introduced (Ayub and Jehn, 2014; Hutzschenreuter and Voll, 2008). Second, there is no study yet investigating the relation or effect between diversity and conflict costs. So far there are only studies indicating the correlation between cultural diversity and conflicts (Vodosek, 2005, 2007; Ayub and Jehn, 2014). The focus lies on general conflict outcomes, instead of conflict costs. The overall research objective is to evaluate the effects of cultural distance on lost time due to internal indirect conflict costs. We test whether there is an association between the amount of lost time due to a conflict and the extent of a cultural distance. Our research addresses a current

research gap and presents new findings on the link between diversity and conflict. Going beyond the scientific contribution, our study provides important insights for companies on how to ideally staff teams and manage intercultural workforces.

5.2 Theoretical Foundation

Conflict Costs - Conflict costs can be defined as "the financial costs caused by conflicts that negatively affect an organization's overall financial performance. A company can either achieve its desired outcomes, but with reduced revenue due to the additional financial costs of conflict, or achieve lower outcomes due to the extra costs" (Dirrler and Podruzsik, 2022). The research in the area of conflict costs is limited, whereas Slaikeu and Hasson (1998) were one of the first researchers investigating and pointing out the importance of the topic. Buss (2011) followed and suggested three conflict cost clusters with different cost variables. He distinguishes costs to an organization, to employees, and to customers (Table 1). Freres (2013) defined eight conflict cost themes, each comprising specific cost variables (Table 1). Conflict cost variables are similar in conflict cost research (Dirrler and Podruzsik, 2022); however, previous research studies missed to provide precise definitions for conflict costs in general and in the different clusters (Buss, 2011; Freres, 2013). Dirrler and Podruzsik (2022) introduced four conflict cost clusters (Table 1) based on the conflict cost definition above, differentiating internal and external costs, as well as direct and indirect costs. In addition to the clustering, they also provide first definitions and list the cost variables accordingly. The cost variables are based on the previous research studies and in line with most of the cost variables stated by other researchers like Buss (2011) and Freres (2013). Internal direct conflict costs are defined to have direct effects on business revenues or outcomes and are claimed to be rather visible in its form. They are caused by the company itself or internal stakeholders. By tracking

key performance indicators such as performance or productivity levels, as well as deadlines, these costs become visible. One major part of this category comprises legal costs, followed by harmful intentions. Internal direct costs also refer to lower performance, productivity and quality levels, inabilities to meet deadlines, or bad decision-making. Internal indirect costs are evoked internally and comprise costs with an indirect effect on outcomes and revenues. They are less visible, and to investigate these costs, it is essential to carry out in- depth interviews, questionnaires, or analysis. Businesses are expected to be less aware of these costs. People involved in conflict are among others expected to spend less time at work and have an increased number of sick leaves or even physically or psychologically ill, all leading to internal indirect costs. External costs refer to the customer perspective and summarize costs that are caused by the company or its external stakeholders. External direct costs are again visible to companies and have direct effects on outcomes and revenues. Indirect costs are more difficult to detect and summarize a damage to the reputation of an employer, leading to an increased difficulty to attract talents, as well as a damaged brand image.

Table 1: Conflict Cost Clusters, Variables and Definitions

Buss (2011)	
Cost Cluster	Variables/ Definition
Costs to an organization	Productivity, absenteeism, presenteeism, turnover, reputation, theft, damage
Costs to employees	Attacking behavior, increased stress-levels, burnout, illness, lower motivation, avoiding or attacking behavior, interruptions, not listening, finding unnecessary fault
Costs to clients	Damages on a company's reputation or on customer satisfaction
Note: Precise definitions of the term conflict costs or the clusters are not provided	
Freres (2013)	
Cost Cluster	Variables/ Definition
Medical health	Sick leave, accidents, physical disability, health insurance premium
Individual psyche	Job motivation, satisfaction or commitment and diligence

Wasted time	Absenteeism, presenteeism, time spent on conflict, pretending to work
Counter-productive work	Theft, violence, sabotage, vandalism, incivility
Team behavior	Decision making, individual's morale, organizational citizenship behavior
Customer	Complaint handling or customer service
Human Resource and Organizational development	Turnover, employer reputation, relationship instead of task driven assignment of people, distrust and change resistance
Legal and dispute fees	Grievance, litigation, discrimination claims, compensation
Note: Precise definitions of the term conflict costs or the clusters are not provided	

Dirrler and Podruzsik (2022)

Cost Cluster	Variables/ Definition
Internal direct conflict costs	Legal and dispute costs, discrimination claims, grievance, compensation settlements, litigation, theft and damage, fees of lawyers and professionals, accidents, vandalism, sabotage, performance declines, decreased quality, inability to meet deadlines, loss in productivity, increased supervision costs
	Definition: Direct effect on companies' business revenue or desired outcome and correlated to internal stakeholders
Internal indirect conflict costs	Wasted time worry about a conflict, - dealing with it, - resolving it, pretending to work, absenteeism, presenteeism, decreased time at work, avoiding behavior/ shun conflict, extra time gathering information, counter-productive work behavior, attacking behavior, psychological and physical disease, sick leave, less diligence, voluntary departure from team, - from organization, decreased work effort, change resistance, bad quality decision making, no decision making
	Definition: Solely indirect effect on companies' business revenue or desired outcome and correlated to internal stakeholders
External direct conflict costs	Legal suits, compensation claims, customer complaint handling, loss of ongoing relationship
	Direct effect on companies' business revenue or desired outcomes and correlated to external stakeholders
External indirect conflict costs	Employer reputation, difficulty to attract talent, damage to brand image
	Solely indirect effect on companies' business revenue or desired outcomes and correlated to external stakeholders

Quantitative data are rare for all of the abovementioned conflict cost categorizations. Buss (2011) and Freres (2013) did not focus their research on measuring conflict costs. Freres (2013) identified 12 papers that present quantitative data on individual elements. Examples are turnover costs (Conbere, 2000; Kreisman, 2002), lawyer fees (CIPD, 2011; Murtha, 2005),

lost time (Murtha, 2005; Thomas and Schmidt, 1976; Katz and Flynn, 2013; OPP and CIPD, 2008), or performance and productivity declines (Porath and Pearson, 2009; Harris, 2008). Dirrler and Podruzsik (2022) focused their measurement on internal indirect conflict costs only, which can be measured in terms of lost time. To further investigate conflict costs, the clusters of Dirrler and Podruzsik (2022) were chosen, as they provide most accurate definitions, as well as a methodology to measure conflict costs and quantitative data. As the perspectives of measurement vary, it is not possible to measure all costs simultaneously with only one approach. Internal direct costs are mostly visible to upper management or HR departments. In comparison, internal indirect costs need to be gathered by interviewing employees and analyzing their work behaviors on an individual level. Due to the different stakeholders, external costs demand different measurement approaches too. Based on the foundation already laid by previous studies (Dirrler and Podruzsik, 2022), the focus of this paper is on internal indirect conflict costs, measured in terms of lost time.

Cultural diversity - Hofstede (2001) defined culture as the "collective programming of the mind that distinguishes the members of one group or category of people from another" (p. 9). "The 'mind' stands for the head, heart, and hands – that is, for thinking, feeling, and acting, with consequences for beliefs, attitudes, and skills" (Hofstede, 2001). In line with other research studies (Kluckhohn, 1951; Schwartz, 1994), Hofstede (2001) argues that values are embedded in culture and are invisible, but they can be demonstrated in the form of behavior. In addition, culture becomes visible via symbols, heroes, and rituals that are used and shared by members of the same culture. While individuals have a personality that describes their uniqueness, a group has its culture generating the purpose of uniqueness. Most often, culture refers to a society, but theoretically, organizations, gender groups, or families can also possess their own cultures. Despite many countries consisting of different

ethnical groups, they are still expected to share common values and traits that make them part of the country's cultural society (Hofstede, 2001). Hofstede's (2001) definition is only one, among many definitions of culture, as the difficulty remains in academia to find a collective and unique definition. However, it possesses the most widely used aspects of culture, which are values, rituals, heroes, and symbols (Jones, et al., 2007). The differences of values across geographical areas are also the focus of the research of culture in the field of international management, as well as the understanding on how these divergent values influence cultural dissimilar individuals (Sackmann and Phillips, 2004). Within social science, the work on culture involves norms and values that are collectively shaped and how they influence individuals in social groups (Anderson-Levitt, 2003).

Diversity refers to any attribute people can use to conclude that someone else is different to them (Williams and O'Reilly, III 1998; Mannix and Neale, 2005; Harrison and Klein, 2007). Many forms of diversity are known, reaching from diversity based on age, nationality, gender, knowledge, or values to tenure or title diversity (Mannix and Neale, 2005). Some of these parameters such as nationality or age are visible in its form and can be recognized when meeting someone the first time, while other attributes such as tenure are invisible and demand further information for recognition (Harrison, et al., 2002; Pelled, et al., 1999). Diversity can be described with three theories that are social identity and social categorization theory, as well as similarity theory (Tajfel and Turner, 1986; Williams and O'Reilly, III 1998). All three principals have in common that people tend to favor similar others. Social identity and social categorization theory describe individuals using visible differences, for example, based on nationality, to form in-groups and out-groups and indicate more positive attitudes toward in-group members (Tajfel and Turner, 1986). Similarity theory highlights the already indicated findings that a person's

feelings and willingness of cooperation are always more positive toward similar others (Williams and O'Reilly, III 1998; Byrne, 1971).

Cultural distance - Based on different values, rituals or symbols cultures differ from each other. This phenomenon of differences is called cultural distance and describes the magnitude of differences between one country to another in regard to its norms and values (Drogendijk and Slangen, 2006; Hofstede, 2001; Kogut and Singh, 1988). Despite the difficulty to conceptualize culture (Werner, 2002; Tsui, et al., 2007; Gelfand et al., 2007; Hofstede, 2006) and to agree on a jointly accepted theory or methodology (Aycan, 2000; Smith, 2003), cultural distance is a widely used construct in the field of international business (Shenkar, 2001; Drogendijk and Slangen, 2006). Even though the measurement of differences is essential for scientific research, there is not yet a commonly accepted method for it. Hofstede's (1980) work was one of the first ones considering cultural distance (Xiumei and Jinying, 2011). It has been developed further over the last decades (Hofstede, 2001; Hofstede and Hofstede, 2005) and has a significant influence on the measurement of cultural distance until today (Xiumei and Jinying, 2011; Tung and Verbeke, 2010; Drogendijk and Slangen, 2006). Hofstede conducted a survey at IBM, from which four clusters derived to differentiate culture, being power distance, uncertainty avoidance, individualism, and masculinity, which were later on complemented by long-term orientation (Hofstede, 1980; Hofstede, 2001) (Table 2). Inequality is present everywhere and can reach from wealth to power and prestige at the same time. Power distance refers to the way societies handle inequality and how it is accepted and expected. Uncertainty is present in every society; however, the way people deal with it can differ, which is described by uncertainty avoidance referring to whether individuals feel comfortable with uncertainty or unstructured situations. Individualism describes the relationship between individuals and a group and refers to the

degree of integration. Masculinity attributes are goal or money orientation, whereas female characteristics are related stronger to social norms such as relationship building or supporting each other. The masculinity dimension explains which attributes are stronger valued within a certain culture. The fifth dimension of long-term orientation is based on Confucius teachings and outlines a focus on persistence and thrift, compared to short-term orientation with a stronger focus on respecting traditions and saving face. Another widely used model to measure cultural distance (Xiumei and Jinying, 2011) is the GLOBE model of House et al (2004), which introduced nine cultural dimensions (see Table 2 for an overview). They reach from uncertainty avoidance, representing the desire of a society for structure and consistency, power distance, similar to the model of Hofstede to institutional collectivism, which defines the extent to which individuals are motivated by institutions to be part of broader entities, instead of pursuing autonomy or individual freedom. In- group collectivism is another dimension that also contains parallels to Hofstede's model (1980), defining the relationship toward families or organizations and the extent and expectation of pride and loyalty of individuals. Gender egalitarianism encourages gender equality, whereas the dimension of assertiveness defines the degree to which individuals of a society show aggressive or confrontational behavior. Future orientation represents the degree to which people prefer immediate benefits compared to future ones, followed by performance orientation, describing a society with a reward system and strong focus on performances. Lastly, humane orientation demonstrates attributes such as fairness, generosity, or kindness of a society. Schwartz (1994) criticizes Hofstede's model (1980) that the defined dimensions might not be complete, as only 53 nations or regions were considered within his first study. He suggests that the focus on other countries might have evoked other clusters. To overcome this bottleneck, Schwartz (1994, 1999) based his study on individual values. In previous studies,

Schwartz (1992) had already defined individuals' values, which were tested in 20 countries and 13 languages. From this list, he extracted those values that were understood in the same way across countries and based his cultural dimension development on these and derived with seven cultural dimensions (Schwartz, 1994, 1999). Embeddedness is the first dimension and describes the attempt of a society to maintain a certain status-quo or traditional order. Intellectual and affective autonomy represent the degree to which an individual can pursue his or her ideas or affective desires freely. The fourth dimension, called hierarchy, refers to inequality again and refers to the degree to which unequal power or roles are accepted. Egalitarian commitment describes the extent to which individuals are willing to put their own interests aside in order to foster the welfare of others. Harmony refers to the interest of being part of an environment harmoniously, whereas mastery concerns the interest of developing by being self-assertive (also see Table 2). So far, no model meets all requirements and criticism is diverse. Schwartz's (1992, 1994, 1999) model is praised for its deep theoretical foundation, but criticized for its little practical application (Steenkamp, 2001). Hofstede's cultural clusters (2001) are among others criticized, because the data were gathered at one company only, that the data are rather old and cultural change has taken place by now, and that other questions might have derived other values (Schwartz, 1992; Schwartz, 1994; Steenkamp, 2001; Oyserman, et al., 2002; McSweeney, 2002); however, it is still among the most widely used frameworks with a usefulness for cross-country studies (Kirkman, et al., 2006; Sondergaard ,1994; Tung and Verbeke, 2010). The GLOBE model is criticized for its empirical evidence, which indicates inconsistencies in its statistics, considering the correlations for example (Hofstede, 2006; Minkov and Blagoev, 2012; McCrae, et al., 2008). To research cultural distance in our study, we use the cultural dimensions of Hofstede (2001; 2005), because these are the most widely used dimensions and

the model has proven its usefulness in a variety of studies. Furthermore, the
model was further developed, and the data were collected in more countries.

Table 2: Overview – Cultural dimensions

Hofstede (1980; 2001)*	
Cultural dimension	**Variables/ Definition**
Power distance	How inequality is handled
Uncertainty avoidance	How people deal with uncertainty
Individualism	Degree of integration between individuals and groups
Masculinity	Degree of masculine attributes within a society
Long-term orientation	Degree of valuing persistence and thrift
*Model used in the present study	

House et al (2004) – GLOBE model	
Cultural dimension	**Variables/ Definition**
Uncertainty avoidance	Desire for structure and consistency and reliance on norms, rules and procedures
Power distance	How inequality is handled
Institutional collectivism	Degree of collective actions encouraged by social institutions
In-group collectivism	Importance of pride, loyalty and cohesiveness
Gender egalitarianism	Degree of minimizing gender inequality
Assertiveness	Degree of aggressive or confrontational behavior
Future orientation	Importance of planning or long-term success compared to immediate benefits
Performance orientation	Extent to which performance, innovation, high standards or excellence are encouraged
Humane orientation	Value representation such as fairness, friendliness, or generosity

Schwartz (1994; 1999)	
Cultural dimension	**Variables/ Definition**
Embeddedness	Avoidance of disturbances of traditional order
Intellectual autonomy	Autonomy or freedom in regards to the pursuit of ideas, thought and creativity
Affective autonomy	Autonomy or freedom in regards to the pursuit of pleasure, stimulation and excitement
Hierarchy	Degree of clear social order
Egalitarianism	Everyone is considered as equal
Harmony	Protection of environment, desire of harmony and emphasis on the group
Mastery	Success through personal action and efforts to get ahead of others

5.3 Hypotheses

Power distance refers to inequality within a society and how people expect or accept it. Inequality can have many facets reaching from physical or mental features, to social status, prestige, wealth, power, and even up to laws, rights, or rules (Hofstede, 2001). Some people can benefit from several characteristics, such as wealth, power, and prestige, at the same time, whereas others such as athletes might only possess more beneficial physical characteristics. In each society, there are people supporting inequality, whereas others try to avoid or abolish it. Due to hierarchies in organizations, inequality is inevitable, leading to an unequally distributed power across the different levels (Hofstede, 2001). Power means that someone can potentially decide or even direct the behavior of someone else, whereas the other person does not have the same potential. Power distance is understood as inequality of power between someone more and someone less powerful, who are part of one social system, with loose or tight ties. In high power distance countries, people are more likely to accept and expect inequality in their daily lives and organizations, compared to low power distance countries, where inequality is less tolerated. Translating these differences into organizational rules, in high power distance countries, subordinates expect to be told what to do, demand close supervision and an authoritative leadership style, as well as tall organizational pyramids. Decisions are made centrally, and managers abusing their power are not confronted. They are expected to have significantly higher salaries, privileges, and status symbols. In low power distance countries, hierarchies are flat, the relationships between subordinates and managers are more pragmatic, and information is more openly shared. Subordinates more openly express their anger or opinions, for example, in case of power abuses. The leadership style is more consultative, and authority is widely distributed, whereas the salary range between top management and workers is less severe (Hofstede, 2001). There have been studies that investigated the effects of

inequality on civil conflicts or war and found that inequality increases the likelihood of conflict (Bartusevicius, 2014) and that economic inequality is important to explain these civil conflicts (Cramer, 2003).

More workplace-related findings indicate that the way people feel about and deal with a conflict will differ significantly in cultural diverse groups (VanderPal and Ko, 2014). Velten and Lashley (2018) state that "very different" cultures and great dissimilarities cause conflict (Martin, 2014). An example provided by their study points out the directness of Germans or Europeans in general, compared to Asians (Velten and Lashley, 2018). Summarizing the results, we expect that power distance can be compared to inequality (Bartusevicius, 2014; Cramer, 2003) also encouraging workplace conflict. We also estimate conflict resolution to be more difficult in case of "very different" (Velten and Lashley, 2014) cultures as the embedded values and expectations on how to deal with a conflict are likely to be dispersed. In total, that would lead to more time spent on a conflict.

> H1: The higher the power distance inequality between people of different nationalities, the more time is spent on internal indirect conflict costs.

The dimension of uncertainty avoidance is summarized by Hofstede (2001) as to what extent people of a society are afraid of uncertain or new situations. Every person is faced with uncertainty about the future and needs to deal with it, which also applies to organizations or societies. The stronger the need to avoid uncertainty, the more a society depends on rules. This does not mean that risks need to be kept as low as possible, as uncertainty does not refer to risk avoidance, but to ambiguity avoidance. In high uncertainty avoidance cultures, people are more likely to take known risks, whereas individuals of low uncertainty avoidance societies are willing to take additional unknown risks. High uncertainty countries overall rely on law and order and a need for clarity and structure, whereby rules should not be broken. People feel more

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comfortable working for larger organizations, to stay with an employer and to be more change resistant. Unknown and different people, things, or situations are regarded as more frightening, which fosters suspicion. Job seniority is of immense importance, as well as higher respect for older people. In low uncertainty countries, individuals are more flexible in changing their employer and the ambition for personal development higher. The openness toward change, foreign or different people, and diversity is larger, with people not having any problems to break rules if necessary. The job seniority is lower, younger people are highly respected, and people feel more comfortable in chaotic or ambiguous situations (Hofstede, 2001). Fundamental needs may differ completely depending on the magnitude of uncertainty avoidance. This is the need for chaos versus structure, change versus stability, or diversity versus homogeneity. As a result, we expect conflict costs to increase in case of a larger uncertainty avoidance distance. The first argument rests on basic diversity theories, which emphasize a preference for in-group members (Tajfel and Turner, 1986; Byrne, 1971; Williams and O'Reilly, III, 1998). Especially in case of high uncertainty countries, we assume a stronger in- group focus. Our second assumption for more lost time is based on more difficult conflict management. Depending on the level of uncertainty avoidance, conflict management styles vary. High uncertainty avoiding cultures are claimed to be more passive (Mangundjaya, 2018) or avoidant, but also to have a more problem-solving-based approach (Caputo, et al., 2018).

> H2: The higher the uncertainty avoidance inequality between people of different nationalities, the more time is spent on internal indirect conflict costs.

The category of individualism and collectivism refers to the relationship between individuals and the collective. In countries of high individualism, relationships between people are loose and individuals look after themselves

and possibly after their closest family members. These people have been raised I-conscious and make individual decisions. Collectivism presents stronger ties, whereas people are born into groups to which they demonstrate complete loyalty and the group in return proves a life-long integration and protection. People are we-conscious and try to make group decisions. The requirements and expectations toward an employer are diverse. Collectivist societies expect the company to be responsible for themselves and demand order, security, and expertise. Individualists feel themselves responsible and ask for autonomy, pleasure, and individual financial security. Collectivism cultures try to avoid open confrontations or losing one's face, whereas high individualism tolerates or even encourages open confrontation, as the truth should be told. At work, individualism demands the management of individuals, with both managers and employees having a preference to work independently. Groups need to be formed by considering individual criteria and in-groups are rather undesirable. Collectivism believes that in-groups foster performance and should be kept together. Teamwork is seen as essential for success, and employees are managed in groups instead of as individuals. Looking at the different views on teamwork and in-groups, the fundamental diversity theories come into play again. It is expected that in-groups will be forced especially by collectively shaped countries and that this can hinder an effective cooperation. Collectivism cultures stronger emphasize compromise and integration when managing a conflict, compared to individualists (Cai and Fink, 2002). In case of larger cultural differences, we assume that this can either lead to collectivists accepting undesired outcomes, but being personally affected by the conflict longer, as for example by thinking about it. Another scenario can be that a consensus is hard to be reached, as individualists pursue stronger persistence.

H3: The larger the gap between people of different nationalities in regard to their individualism and collectivism index, the more time is spent on internal indirect conflict costs.

Based on the two sexes, masculinity describes a society with clearly defined gender roles. Men are focused on material success, ego goals, money, and careers and demonstrate tough and assertive characters. Women care about the quality of life and relationships and behave modestly and tenderly. Often masculine societies represent more traditional families, in which fathers make many decisions and deal with facts, compared to women handling feelings. Contrarily femininity represents societies with gender overlaps, where men and women share responsibilities to ensure a certain quality of life and both sexes demonstrate tender and modest behaviors. Values of men and women do not differ significantly, leading to flexible gender concepts and a general sympathy for weaker ones. These cultural differences can also be translated to the workplace, where less women take over professional or management jobs, often due to less equal opportunities in masculine cultures. The payment gap between genders is large, and the management styles are more aggressive and competitive. In case of conflicts, masculine countries tend to deny conflicts or fight them, to the point where the best wins. Compared to feminism, where people try to solve conflicts via compromise, negotiations, and problem solving, and management demonstrates higher intentions for consensus. Salary gaps based on gender are small in feminist societies, and women have higher chances for management and professional jobs, as the opportunities are generally more equal (Hofstede, 2001). Due to the opposed conflict behaviors mentioned above, as well as the finding that masculine cultures tend to have a more forceful conflict management style (Caputo, et al., 2018), we expect conflicts to last longer and that people are more affected on a personal level, which is reflected in time lost on a conflict.

H4: The larger the gap between people of different nationalities in regard to their masculinity and femininity index, the more time is spent on internal indirect conflict costs.

The teachings of Confucius are the base for the dimension of long-term orientation, which stands for future orientation, perseverance, and thrift. This is in contrast to short-term orientation with a stronger focus on the past and present, mainly in terms of traditions, social obligations, and the protection of face. In these societies, results are expected quickly and the best things are assumed to happen in the past or present, which encourages a higher immediate spending in society and organizations. When doing business in longterm-oriented societies, the focus lies on building up relationships and a market position over time. Investments and savings are done in businesses and private lives (Hofstede, 2001). Based on former research studies (Martin, 2014; Velten and Lashley, 2018), we consider fundamental values to differ in the case of opposing standpoints in the dimension, thereby intensifying conflicts. In addition, we assume verbal and non-verbal communication to differ, which can result in miscommunication (Velten and Lashley, 2018), followed by conflicts and more difficult conflict resolution. Overall, we hypothesize significant differences in this dimension to cause longer conflicts, resulting in a more lost time.

H5: The larger the gap between people of different nationalities in regard to their long-term versus short-term orientation, the more time is spent on internal indirect conflict costs.

5.4 Method

Sample / Participants / Procedure - We chose to use a survey to test the above hypotheses. Before the actual launch, we piloted our questionnaire with 20 participants. The layout of the questions was fundamentally based on the survey of Dirrler and Podruzsik (2022). Identical to these studies, we asked

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participants to think of a concrete conflict situation they were involved in. In the current study it was, however, a prerequisite that the conflict situation was in an international context. Despite the survey structure being based on already applied theories, we wanted to make sure that all questions were understandable. The pre-test was conducted by means of a telephone interview in which the participants were asked to answer one question at a time. In case of difficulties or ambiguities, they could discuss them directly with our research team. However, the feedback was positive, and we only had to make minor adjustments to the wording. The questionnaire was then distributed in German language via a panel provider. Before participating in the survey, the panel members were asked whether they could think of a conflict situation they currently are or were in the past personally involved in. If the conflict involved members of different nationalities, they were able to participate in our survey. We received 686 responses but had to dismiss more than half of the survey replies, because they were either incomplete or the respondent did not have any conflict. A total of 226 surveys were eligible for the analysis. Since the survey was only available in German, most of the participants were German. Only 21 people reported other nationalities, with 5 people from Austria, 2 people from Denmark, Italy, Turkey and Ukraine, and 1 person from Bosnia, Luxembourg, Portugal, Russia, Slovakia, Spain, Sweden, and Switzerland. As our study focuses on differences between nationalities, it is not a problem to have national diversity in the respondents, and all answers can be considered. Fifty-nine percent of the participants were male and 41% were female. Most of the people (154) reported to be an operational employee compared to 61 managers of different hierarchies. Only 11 people were self-employed. The age distribution was equal; however, there were fewer people older than 60 (8%). Twenty-two percent of the respondents were younger than 30, 25% were between 30 and 40 years, 25% were between 40 and 50 years, and 20% people indicated to be between 50 and 60 years.

Measures - At the beginning of the questionnaire, each participant was asked to answer all questions, based on an individual conflict situation they chose to think of. The measures are also based on this concrete conflict situation. In order to measure cultural distance, the cultural dimensions of Hofstede (2001; 2005; 2006) were used. Hofstede's work comprises a list of countries and their individual scores on each of the cultural dimensions. The scaling reaches from 0 to 100. For example, the United States scores 40 on power distance, 91 on individualism, 62 on masculinity, 46 on uncertainty avoidance, and 26 on long-term orientation. Corresponding data are available for more than 100 countries (Hofstede 1980; Hofstede 2001). In the survey, each participant had to indicate his or her nationality, followed by the nationalities of the conflict parties. In total, five different nationalities could be indicated for the conflict parties. By gathering this information, the individual score of Hofstede's dimensions could be assigned to each country within the statistical evaluation process. We started to assign Hofstede's cultural distance value to the nationality of the questionnaire participant. If this person was, for example, American, we used the values presented above. In the next step, we assigned the cultural values to all conflict parties. To consider more than one conflict party in our statistical analysis, we used the standardized squared differences for each cultural dimension. This difference then represented the overall distance of a conflict situation.

Based on former research (Dirrler and Podruzsik, 2022), the internal indirect conflict costs are measured in terms of lost time. These are variables like "Wasted time due to worrying or resolving conflict" or "Time absent from work (absenteeism)." The cost items are measured using a drop-down menu ranging from 0 to 50 hours/days. We used the same approach and asked each participant to state for how long he or she was involved in the different conflict costs. In line with prior research studies, our Cronbach alpha reported a

liability of 0.94, which approves the consistency of our scale. The five hypotheses researched in the present study are all very similar and differ only in Hofstede's cultural dimension, which is being tested. Therefore, the procedure is the same for all hypotheses. To test our hypotheses, we used linear regression analysis with 5000 bootstrap samples. For each hypothesis, we applied two different models. First, we only tested for the effect of Hofstede's cultural dimension on internal indirect conflict costs. In a second step, we included the factors of age, gender, and profession as control variables.

5.5 Results

The nationalities of the conflict parties were diverse with 75 different nationalities in total. Turkey was most often stated with 47 counts. Ten conflict party individuals were from Austria and Great Britain, followed by 11 from Romania, 14 from Italy, 17 from Russia, and 23 from Poland. However, no nationality was represented too often, so that the risk of a result falsification can be negated. All continents were represented, except of Australia and Antarctica. There were people from Africa, such as Ghana or Egypt, and Asia, such as Thailand or China. Conflict parties were American and Canadian, as well as Mexican and Columbian, covering both North and South. European countries were stated frequently.

None of the hypotheses proved to be significant. Power distance did not significantly predict internal indirect conflict costs (H1) in any step. When testing for power distance only, the model was insignificant ($p = 0.2147$) with a very low explanatory power ($R^2 = 0.009547$). There was also no significant effect on internal indirect conflict costs (B = 0.0524, $p = 0.14847$). When including the control variables, power distance still did not influence the dependent variable (B = 0.0585, $p = 0.1446$). None of the control variables had an effect on internal indirect conflict costs either (Table 1), except of the age group between 50 and 59 years. We could also not detect any effect of

uncertainty avoidance on internal indirect conflict costs (R^2 = 0.01328, p = 0.143), tested in Hypothesis 2 (B = 0.1971, p = 0.1527). Again, the control variables did not influence the model, nor did the uncertainty avoidance category in the second model; the only exceptions were people between 50 and 59 years (Table 1). We could not prove that individualism predicts internal indirect conflict costs, as stated in Hypothesis 3. The first linear regression model (R^2 = 0.0001135, p = 0.8926) with individualism as the only independent variable, no significance was found (B = -00067, p = 0.9079). Table 1 presents the linear regression results for Model 2, including all control variables in addition to individualism, whereas the results were very similar to Hofstede's previous models of cultural dimensions. Continuing with Hypothesis 4, results are in line with the already presented results. There is no prediction power of masculinity (R^2 = 0.008434, p = 0.2437) on internal indirect conflict costs (B = 0.0886, p = 0.2566), irrespective of including control variables (Table 1). Lastly, the long-term orientation dimension was tested. The linear regression model for long-term orientation and its influence on internal indirect conflict costs could not be proven (B = 0.0318, p = 0.5209) (H5), and the overall model was insignificant (R^2 = 0.002581 and p = 0.5195). Neither the control variables nor the cultural dimension did show any significance, when applying linear regression testing including control variables (Table 3).

In addition to the individual hypothesis testing and linear regression models, we also conducted a multiple regression analysis with 5000 bootstrap samples, including Hofstede's cultural dimensions, assessing their predictive power on internal indirect conflict costs. In line with our prior analysis, we did not find any explanatory power of the variables on conflict costs, as none of the variables proofed to be significant. Power distance and individualism had the lowest but still insignificant p-values (B = 0.0754, p = 0.1884) for power

distance and (B = -0.1359, p = 0.1391) for individualism, followed by long-term orientation (B = 0.0569, p = 0.2948). Masculinity (B = 0.0531, p = 0.5123) and uncertainty avoidance (B = 0.1167, p = 0.4479) had the highest p-values.

5.6 Discussion

We hypothesized that greater cultural distance results in more time spent on conflicts. Our assumptions were based on former research studies that diversity itself and key differing values can trigger conflict. We expected more lost time due to longer lasting conflicts (Dirrler and Podruzsik, 2022), caused by more difficult conflict resolution. Our statistical analysis and hypothesis testing were, however, only conducted for the element of lost time. None of Hofstede's cultural clusters and its corresponding cultural distance indicated any significant correlation. Therefore, none of our hypotheses could be proven, meaning that we cannot demonstrate a link between cultural diversity and internal indirect conflict costs, nor that cultural distance explains the depend variable costs. It is either possible that there is no association between the variables or that other factors have influenced our results, such as group proportions (Kanter, 1977; Jehn, et al., 2008) or national variety (Ayub and Jehn, 2014).

Table 3: Linear Regression Analysis incl. Control variables

	Variable	B	P-value			Variable	B	P-value
Power Distance	Intercept	1.0331	0.0003		**Uncertainty Avoidance**	Intercept	1.0564	0.0003
	Power Dist.	0.0585	0.1446			Uncertainty A.	0.1927	0.1550
	Age > 30					Age > 30		
	Age 30 – 39	-0.1107	0.6390			Age 30 – 39	-0.0707	0.7702
	Age 40 – 49	-0.1176	0.5931			Age 40 – 49	-0.1109	0.6252
	Age 50 - 59	-0.5813	0.0201			Age 50 - 59	-0.5739	0.0294
	Age < 60	0.1446	0.7642			Age < 60	0.1415	0.7689
	Gender	-0.0072	0.9688			Gender	-0.0316	0.8652
	Employee					Employee		
	Project Man.	0.7004	0.0720			Project Man.	0.6325	0.1072

	B	P-value
Lower Mgmt	0.2215	0.5552
Middle Mgmt	0.2372	0.3796
Upper Mgmt	0.0315	0.936
Self-employed	0.3079	0.4630
$R^2 = 0.07626$	p = 0.4227	

	B	P-value
Lower Mgmt	0.2339	0.5612
Middle Mgmt	0.2226	0.4071
Upper Mgmt	-0.0161	0.9572
Self-employed	0.2950	0.4915
$R^2 = 0.07709$	p = 0.4119	

Individualism vs. Collectivism

Variable	B	P-value
Intercept	1.1372	0.0001
Individualism	-0.0055	0.9289
Age > 30		
Age 30 – 39	-0.0784	0.7423
Age 40 – 49	-0.0980	0.6635
Age 50 - 59	-0.5778	0.0255
Age < 60	0.1472	0.7636
Gender	0.0034	0.9856
Employee		
Project Man.	0.6540	0.1182
Lower Mgmt	0.1551	0.6973
Middle Mgmt	0.2244	0.4116
Upper Mgmt	0.0088	0.9778
Self-employed	0.2504	0.5506
$R^2 = 0.06467$	p = 0.5845	

Masculinity vs. Feminism

Variable	B	P-value
Intercept	1.0559	0.0002
Individualism	0.1248	0.1261
Age > 30		
Age 30 – 39	-0.0593	0.8027
Age 40 – 49	-0.1063	0.6306
Age 50 - 59	-0.5986	0.0208
Age < 60	0.1377	0.7669
Gender	-0.0084	0.9631
Employee		
Project Man.	0.6750	0.1122
Lower Mgmt	0.2027	0.5939
Middle Mgmt	0.1601	0.5559
Upper Mgmt	-0.1118	0.7226
Self-employed	0.2185	0.6314
$R^2 = 0.0781$	p = 0.3989	

Long-term vs. short-term orientation

Variable	B	P-value
Intercept	1.0897	0.0002
Long-term or.	0.0436	0.4271
Age > 30		
Age 30 – 39	-0.1051	0.6546
Age 40 – 49	-0.1010	0.6473
Age 50 - 59	-0.5994	0.0171
Age < 60	0.1509	0.7566
Gender	-0.0085	0.96632
Employee		
Project Man.	0.6473	0.0962
Lower Mgmt	0.1483	0.6880
Middle Mgmt	0.2554	0.3392
Upper Mgmt	-0.0130	0.9670
Self-employed	0.2659	0.5154
$R^2 = 0.06969$	p = 0.5126	

Source: Authors' own elaboration

By using the standardized squared mean values of each cultural dimension, we did not consider the group dynamics of each individual conflict situation. There are different theories dealing with the topic of group proportions (Jehn, et al., 2008). Minority theory refers to the proportion of minorities within a

diverse group (Choi and Levine, 2004; De Dreu, et al., 1999a; Moscovici, 1976), whereas Kanter (1977) introduced four group types, referring to uniform groups that have the identical external status, skewed groups with 1–15% of minority members, titled groups with 15–35% of minorities, and balanced groups, where the minority accounts for approximately half of the group members. Findings suggest that the group setups influence group outcomes and that skewed groups are most difficult for minority members to interact as stereotyping and marginalization takes place (Kanter, 1977). Competition theory states that balanced groups are difficult, as the minority members can be considered as a threat (Blalock, 1967). Ayub and Jehn (2014) investigated national variety, referring to the numerical count of nationalities. They found that high variety was associated with higher performance outcomes and less relationship conflict. These theories partially do not refer to national diversity but can still be considered as potential factors that influenced our results and should be included in future studies.

Even though our findings do not indicate any association between the cultural distance and conflict costs, measured in terms of lost time, we do not want to exclude any general associations between the variables. Our study was based on self-reports about one specific conflict and the amount of time people spend on individual cost variables. It is still possible that the total amount of conflicts per year varies depending on the cultural distance. That would potentially also influence the overall conflict costs (Dirrler and Podruzsik, 2022).

Research & Managerial Implications - Our research findings are the first ones investigating cultural distance, measured in form of Hofstede's dimensions and the amount of lost time on different internal indirect conflict cost variables. Against our assumption, we cannot conclude that greater cultural distance causes higher costs. The model to measure lost time on some internal indirect conflict costs proved to be successful, as well as the usage of

Hofstede's cultural dimensions. The research results present positive findings in a more globalized world that the effects of cultural diversity, even in case of greater distance, do not contribute to increased levels of lost time. This is a positive result for companies that are dealing with a more diverse workforce. Still, we highlight different research gaps and propose further variables to be included in future research. Our findings can be seen as a starting point for research on cultural diversity and its effects on conflict costs.

Limitations & Future Research Suggestions - We did not focus our research on specific cultures and did not consider cultural awareness, the organizational culture, or international experience. Future research could concentrate a similar study on specific cultures and carefully select participants and conflict parties. This study could be conducted with two groups, one group with culturally aware individuals and one group without cultural experiences. The results could then be analyzed if and how cultural awareness or international experience potentially influence study results, like in the present study. Using standardized squared means could be improved by measuring individual cultures. By identifying concrete cultures and measuring the amount of lost time, it would enable the researchers to compare the values of close and great cultural distances and check whether the results differ. The current study used Hofstede's model to measure cultural distance. When analyzing concrete cultures, the cultural dimensions of Hofstede could be cross-checked with the GLOBE model (House, et al., 2004) and Schwartz's (1994; 1999) work. More precisely, we suggest to ensure that, for example, in all of the models, the two chosen cultures indicate large cultural distance. The same study could also be conducted by using other cultural dimensions to ensure that Hofstede's dimensions did not influence the results. In addition, group dynamics should be included, meaning that the amount of minority members should be considered. An additional variable that should be included in future

measurements is the amount of conflicts in close and great cultural distances. These results may indicate that cultural distance actually does not affect conflict costs, or if the time spent on conflicts is not the variable affected by diversity. Considering the element of conflict costs, the focus of our study was on one minor cost element, the time spent on some internal indirect conflict costs only. By conducting different surveys or experiments in preselected companies, more cost variables could be included, contributing to a more complete cost overview. New measurement approaches are, however, needed for that.

6. GENERAL DISCUSSION

The discussion section serves to summarize the results achieved in the dissertation. The identified research gaps and objectives of the individual publications are reflected, and an overview is given of the research findings. Furthermore, future research is suggested. The precise discussions of the individual papers need to be derived from the publications accordingly.

The level of research on conflict costs is low, and individual studies have tended to focus on partial aspects of the topic rather than a holistic picture (Freres 2013; Buss 2011; Murtha 2005; CPP 2008, Dirrler and Podruzsik 2022). Therefore, a major gap identified is the lack of definitions and aligned analyses. This topic was successfully highlighted in the first publication (Dirrler and Podruzsik 2022). Once a definition of conflict costs was determined, all conflict cost variables were tested on it. Encouragingly, it was found that existing research on conflict costs had already identified all possible cost variables. Only a few variables had to be removed because they no longer fit the definition (Dirrler and Podruzsik 2022). Therefore, it can be concluded that there is a consistent picture on possible conflict cost variables and future

studies can use the definition of conflict costs proposed by Audi et al. (2009) and the identified variables by Dirrler and Podruzsik (2022).

Also consistent with previous studies, is the identified difficulty of measuring conflict costs and the difficulty to measure all costs via one approach (Buss 2011). Therefore, already at the beginning of the study, the focus was set on internal indirect conflict costs, measured in terms of lost time. It can be concluded that conflicts take up time and this can potentially cause costs. It was found that on average people lost six hours for short conflicts and 40-45 hours for long conflicts. On average, it was indicated that most people face up to five conflicts per year. When considering that at least two people are involved in a conflict, the cost of lost time can quickly reach a significant number for companies. It is important to note that this is only one type of cost and does not represent a complete picture. However, this reinforces the importance of conflict costs and how important their measurement and collection can be for companies (Buss 2011; Dirrler and Podruzsik 2022). Especially different forms of illness and the actual time spend on a conflict and worrying about it, were most significant cost drivers. Besides that, conflict duration and severity proved to be important predictors of conflict costs.

There is an on-going debate whether all conflict types are harmful, or if especially task- and process conflict can be beneficial. The research findings of Dirrler and Podruzsik (2023c) provide a new perspective here. Instead of measuring the usual qualitative variables, the conflict types were analyzed in terms of their link to internal indirect conflict costs, measured in terms of lost time. Here it is shown that relationship conflict is harmful, as already pointed out by the majority of all research (Jehn and Bendersky 2003; Jehn et al. 2008b; De Dreu and Weingart 2003). It was clearly stated by the respondents that the time spent on relationship conflicts was considered negative. This was not the case for task and process conflict and no connection between the variables

could be established. In part, this is consistent with existing research findings that these types of conflict can be positive (Jehn 1995; Pelled et al. 1999; Tjosvold and Hui 2003; Jehn and Bendersky 2003; Jehn and Mannix 2001). However, this is also contrary to much research that states that regardless of the outcome, all types of conflict are perceived as negative and reduce satisfaction (Jehn and Bendersky 2003; De Dreu and Weingart 2003). This discrepancy may have possibly arisen due to the new data collection, in that satisfaction is not measured as one final variable. Instead, internal indirect conflict costs were measured that in the end may arise due to lowered satisfaction. These findings could mean, that even if satisfaction would reduce shortly due to task or process conflict, people do not tend to be so affected to change their behavior. So, despite the possible dissatisfaction, respondents saw the value in these conflicts and did not react personally, for example by attacking the conflict parties or by reducing the time at work.

The indicated findings already provide significant insights to the research of conflict costs and the indicated research objectives were met. The main limitation is the focus on internal indirect conflict costs and the focus on lost time only. Future studies need to be established that suggest measurement approaches for the remaining conflict clusters to derive with a complete picture of conflict costs. It can be highlighted, that the consideration of conflict types should take place in any study, as the research findings can deviate significantly.

The second broader research goal was the analysis of conflict costs in relation to cultural diversity, for which two studies were conducted. In a first study (Dirrler and Podruzsik 2023a), the topic was considered more generally by analyzing how internal indirect conflict costs relate to cultural diversity. For this purpose, cultural diversity was considered as one variable and its association with lost time was analyzed, as well as with the amplifiers conflict

duration and strength. Furthermore, it was considered whether the number of conflicts per year increases with the proportion of international contacts. Against the assumptions, a strong link between the variables could not be found. There was no correlation at all between cultural diversity and internal indirect conflict costs or its amplifiers. Only the number of conflicts per year increased with an increasing degree of international contacts. In a second study, cultural diversity was considered more precisely in form of cultural distances and the assumption that a link exists between internal indirect conflict costs and larger cultural distances could be found. However, against the assumptions, no relation was found.

Table 5: Research gap and research contribution

Gap	Contribution
Conflict cost definition	Fully provided (Dirrler and Podruzsik 2022)
Determination of conflict cost variables	Fully provided (Dirrler and Podruzsik 2022)
Clustering of conflict costs	Fully provided (Dirrler and Podruzsik 2022)
Determination of measurement approach	Partially provided (Dirrler and Podruzsik 2022), as focus was set on internal indirect conflict costs, measured in terms of lost time
Link between conflict types and conflict costs	Fully provided for internal indirect conflict costs (Dirrler and Podruzsik 2023c)
Link between cultural diversity and conflict costs	Fully provided for internal indirect conflict costs (Dirrler and Podruzsik 2023a), however future research needed
Link between cultural distance and conflict costs	Fully provided for internal indirect conflict costs (Dirrler and Podruzsik 2023b), however future research needed

Source: Author's own representation

Therefore, it needs to be concluded, that there is no link between conflict costs and cultural diversity. These findings are new, as most former research stated a link between cultural diversity and conflicts in general (Wickramasinghe and Nandula 2015; Vodosek 2005, 2007; Friedman et al. 2006). It is possible, that people do not react differently to conflicts in general in case of cultural diversity, meaning that the reactions to it, the feelings about it and the behavior in general are not affected, leading to unchanged amounts of lost time. It is

only more likely for conflicts to arise in case of culturally heterogeneous teams. Future research should however investigate this link again, considering different models of cultural distance or by evaluating the likelihood of conflicts to arise in relation to cultural distance.

7. CONCLUSIONS

The research results indicate that people spend time on conflicts and that conflicts can cause situations where time is wasted or lost. Different variables contribute to these time losses, such as the time itself that is spent on the conflict, but also extra time gathering information, attacking behaviors or different forms of absences and sick leaves. It was found that people spend already six hours on variables like the ones mentioned above. In case of longer conflicts lasting six to twelve months, the time spent on conflicts increased to 40 – 45 hours. To derive with actual costs, it is suggested to multiply the time losses with average salaries (Dirrler and Podruzsik 2022). In Germany, with an average salary of 22.78€ costs of 137€ per person arise for conflicts only lasting one week, which equals to approximately 15% of a weekly salary. The researched time losses are all part of internal indirect conflict costs, that describe costs that are caused within a company that are however less visible to management or HR. Reasons are that the conflicts still affect an individual on a very personal level and have not reached a high escalation stage yet. Time losses therefore only represent one element of the overall conflict costs and total costs of a conflict can be even higher (Dirrler and Podruzsik 2022). Research results indicate that undoubtedly relationship conflict leads to wasted time, that in the end generate internal indirect conflict costs. Even though people spend time on task and process conflict, too, no relation to internal indirect conflict costs could be approved. Respondents did not indicate time losses for these conflict types, which indicates that the time spent on task or process conflicts is considered positive or at least not as a loss of time (Dirrler

and Podruzsik 2023c). This is positive for companies, as it enables them to benefit from the advantages of task and process conflict, without additional costs to arise. Examples are the discussion and consideration of different viewpoints and perspectives (Parayitam and Dooley 2007; Tjosvold and Hui 2003; Jehn 1995; Pelled et al. 1999; Yousaf et al. 2020) or the better planning of roles and responsibilities (Jehn and Bendersky 2003; Jehn and Mannix 2001; Karn 2008). It will however be important to carefully watch conflicts and to intervene as soon as relationship conflict arises (see table 6).

Table 6: Managerial implications

Implications	References
Conflict costs can reach considerable amounts, that should be measured and managed by companies	(Dirrler and Podruzsik 2022)
Relationship conflict causes significant amounts of lost time, whereas task and process conflict did not indicate a link. Meaning that managers can potentially benefit from the advantages of task and process conflict, should however directly intervene in case of relationship conflict	(Dirrler and Podruzsik 2023c)
Cultural diversity did not indicate a link to internal indirect conflict costs, which is encouraging for international cooperation. However, the number of conflicts increased, therefore a close monitoring and cultural management can still be of importance	(Dirrler and Podruzsik 2023a)
Cultural distances did not impact internal indirect conflict costs, which signals that people do not react differently in case of intercultural diversity to conflicts in general and their behavior stays unchanged	(Dirrler and Podruzsik 2023b)

Source: Author's own representation

Intercultural diversity is becoming more important and common in today's organization. Therefore, it is encouraging for companies that research did not find a link between cultural diversity and internal indirect conflict costs (Dirrler and Podruzsik 2023a, 2023b). This is beneficial, because it indicates that people do not react differently to conflicts in general. However, cultural management and awareness can still be important, as the number of conflicts increased with the amount of international work relations. More research is

needed in order to understand that link and to ensure that conflict costs do not increase significantly due to cultural differences. In general, these results are encouraging and less alarming than expected (see table 6).

8. NEW SCIENTIFIC RESULTS

A first analysis on the literature of conflict costs revealed that the research in the field of conflict costs is limited. The overall number of studies is limited, but also the conducted research investigations and results. The first publication therefore serves as a building block on conflict costs, by scientifically conceptualizing the term and topic of conflict costs. Terms are clearly defined and clustered and variables are allocated. Subsequently, some cost elements are statistically tested and evaluated. The importance of measuring conflict costs in terms of lost time, among other things, has already been pointed out in other studies (Buss 2011; Freres 2013). This is where the first publication successfully picks up and statistically verifies a possible measurement and presents first quantitative findings.

Compared to conflict costs, research on conflict is far-reaching. A common approach is to distinguish relationship-, task- and process conflict (Jehn 1997; Jehn 1995). Again, the link is however missing to conflict costs in general, but also to the variable of lost time. By linking the conflict types to internal indirect conflict costs and examining them accordingly, new research contributions are presented. The second publication clearly shows that especially relationship conflicts cause high amounts of lost time. This is not the case for task conflict and for process conflict only in very specific setups.

To research cultural diversity as one variable, but also in form of cultural distances and their effect on lost time is again a new approach. The third and fourth publications are the first ones to link these two research areas, as up to now research only exists on conflicts in general and their association to cultural

heterogeneity. Against previous assumptions, the effects of cultural diversity were however low on internal indirect conflict costs.

Table 7: Novelty of results

Result	Novelty
Conflict costs can be divided into four clusters. Internal indirect conflict costs can be measured in terms of lost time, among other things. The individual cost variables correlate and contribute differently to the total value. Conflict duration and severity can be considered as cost amplifiers.	Conflict costs are scientifically conceptualized and methodology for its measurement is introduced and successfully tested. A representative data set is used to statistically evaluate some conflict cost variables. First findings are presented how much time is lost due to conflict. It is the first study to investigate the relation between conflict duration or severity and conflict costs.
Relationship conflict is a major contributor to wasted time due to conflict. Undoubtedly, respondents experience relationship conflict as a loss of time and that time is not spent on value-adding activities. This is in contrast to process and task conflict. Even though time is spent on these conflict types, respondents did not experience it as a loss in time. There was no correlation between task conflict and internal indirect conflict costs and for process conflict only in international work environments.	It is the first study to investigate the relation of task-, relationship- and process conflict to conflict costs. It is novel to evaluate the effects of the three different conflict types in form of internal indirect conflict costs, measured in terms of lost time.
There is no difference between national and international working groups and the amount of lost time on conflicts. Also, conflict duration and severity did not differ between the groups. However, the more international a work environment becomes, the more conflicts people are facing.	Due to the limited research in the area of conflict costs, there is no study yet that examines the impact of cultural diversity on conflict costs. The novelty of the study is given by examining internal indirect conflict costs, measured by lost time and comparing national and international groups. In addition, it is a new scientific finding, that the likelihood of more conflicts increases by a more international work environment.
A link between cultural diversity and more wasted time cannot be approved. Also, by evaluating cultural distances, whether larger distances cause higher time losses, a correlation cannot be found.	This is the first study to evaluate the relation between cultural distances and conflict costs in general, but also more precisely by looking at the amount of wasted time.

Author's own representation

9. SUMMARY

The overall research objective was the understanding of conflict costs, measured in form of lost time and its link to cultural diversity.

In a first step, it was required to set a profound scientific basis for conflict costs, in form of definitions, variable determination, clustering and presenting measurement approaches. Conflict costs were defined as "the financial costs caused by conflict that negatively affect an organization's overall financial performance" (Dirrler and Podruzsik 2022, p.291). Followed by an introduction of four conflict cost clusters, separating internally and externally caused costs and direct and indirect ones. Conflict cost variables were allocated to the clusters accordingly. Due to the diverse nature of the cost variables, it turned out that a holistic measurement is not possible and the measurement methods must differ. Therefore, the focus was placed on internal indirect costs, which can be measured in terms of lost time. Data was gathered via an online questionnaire, that proved to be a successful measurement methodology. It was found that people lose a significant amount of time on conflicts that can on average be six hours for short conflicts and up to 45 hours for long conflicts. A second study revealed that respondents indicated time losses for relationship conflict, which was positively related to internal indirect conflict costs. Task and process conflict did not indicate any relation, meaning that respondents did not perceive these conflict types as a waste of time. These findings are novel for scientific research, because they can be used as a foundation for conflict cost research and provide a new perspective on the outcomes of task-, process and relationship conflict. Considering the results, it means that despite potential negative feeling about any type of conflict, people do not change their behavior in case of task or process conflict. However, relationship conflict proved to be harmful and should be stopped by managers as soon as it arises, because conflict costs will appear. Future studies could further investigate on

the other conflict cost clusters in order to establish a complete overview of all conflict costs and their measurement. The different conflict types should in any case be considered, as they can significantly influence costs.

Considering the second part of the thesis, reflected in the link between internal indirect conflict costs, measured in terms of lost time and cultural diversity, it can be stated that the overall relation between the variables is weaker than expected. Wasted time did not indicate any link to cultural diversity and did not differ between culturally heterogeneous and homogeneous groups. Only the number of conflicts per year grew with an increase in international cooperation. Also, when including cultural distances in the analysis of cultural diversity and its relation to wasted time, the results did not change and no link could be found. This is especially encouraging for companies, as cross-border cooperation is common in today's globalized world. The research results indicate that cultural diversity is not as harmful as proposed by some research. However, close management and cultural awareness can still be critical, as the number of conflicts per year increased. Future studies should further investigate on the relation by analyzing other conflict cost variables and by further researching the link between numbers of conflict per year and conflict costs.

10. ACKNOWLEDGEMENTS

11.RELATED PUBLICATIONS OF THE AUTHOR

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12.OTHER PUBLICATIONS OF THE AUTHOR

Papers

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Wohllebe, Atilla; Dirrler, Phyllis; Podruzsik, Szilárd (2020): Mobile Apps in Retail: Determinants of Cosumer Acceptance - a Systematic Review. In International Journal of Interactive Mobile Technologies 14 (20).

Books

Deckert, Ronald; Dirrler, Phyllis (2021): Digitalisierung und Luftfahrt. Technologischer Wandel in der Flugzeuginstandhaltung: Springer Gabler.

13.SHORT PROFESSIONAL CV

Time	Company	Position
Since 02/2023	DEKRA SE	Global Program Head
Since 06/2020	Hamburger Fernhochschule	Freelance Lecturer for Scientific Working
Since 03/2020	International School of Management (ISM)	Freelance Lecturer for multiple subjects related to Supply Chain Management
08/2021 – 02/2023	DEKRA SE	Senior Strategy Manager
12/2019 – 08/2021	Lufthansa Technik AG	Manager Business Development Strategy
11/2016 – 12/2019	Lufthansa Technik Logistik Services GmbH	Project Manager
04/2015 – 11/2016	Lufthansa Technik Logistik Services GmbH	Production Engineer

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