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Negotiation complexity: a review and an integrative model

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Abstract

Purpose – This paper aims to review and synthesize the existing literature related to negotiation complexity and provides an integrative model to systematically identify and examine factors contributing to negotiation complexity and how they affect negotiating parties' behaviors and economic and subjective outcomes.

Design/methodology/approach – The approach was to combine relevant literature from negotiation in general and from negotiation complexity in particular and to develop and support an integrative model of complexity in real-world negotiations.

Findings – The literature on negotiation complexity and previous analytical frameworks are reviewed from a cross-disciplinary perspective. Based on the integrative review, an integrative model of negotiation complexity is proposed for identifying important complexity contributory factors. Six contributory factors are distinguished based on the three negotiation components – negotiation task, dynamic variables of negotiators and negotiation context. Their effects on negotiation complexity are examined and discussed with respect to four complexity dimensions (i.e. informational and computational, procedural, social and strategic dimensions). Finally, the effects of negotiation complexity on parties' behaviors and outcomes are examined based on previous theoretical and empirical research and practical tools for managing negotiation complexity are delineated.

Originality/value – The integrative review and conceptualization of negotiation complexity are helpful for gaining a better understanding of negotiation complexity and its management in various real-world domains.

Keywords Negotiating, Dimensions, Complexity, Contributors

Paper type Conceptual paper

Introduction

Social conflict – dispute over resources and interests among parties in an interdependent relationship – is omnipresent. Regardless of what causes the conflict, negotiations can play a crucial role in managing and resolving it (Brett and Gelfand, 2006; De Dreu, 2010; Gelfand *et al.*, 2011). Many real-world negotiations involve multiple parties, various issues and linkages to other negotiations (Crump, 2020; Watkins, 2003a; Zartman, 2003), making these decision-making situations abound with complex computations, information processing and interactions. Even for a seemingly simple situation such as the purchase of a car, which involves only two parties (i.e. buyer and seller), a one-shot interaction and few issues (e.g. price, warranty and delivery time), the reality is often much more complex. For instance, you may have to make a joint decision with your spouse regarding, which car model you want to buy (e.g. a minivan that is perfect for the whole family vs a coupe that is convenient to go to work); you may study the technical features of the model and the list prices of different car dealers; you may have to consider the additional value of extras offered by the car dealer

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when making your price offers. These are only some of the potential aspects that have to be taken into account when negotiating the deal. Thus, many negotiation scholars argue that complexity should be regarded as an inherent and fundamental factor of real-world negotiations (Mermet, 2012; Winham, 1977), and it "is the rule in negotiation, not the exception" (1999, p. 247).

Although negotiation complexity has been recognized to be a significant determinant of negotiators' perceptions, behavior and outcomes (Crump, 2015; Walton and McKersie, 1965; Winham, 1977; Zartman, 1994), several fundamental questions regarding this topic are still not well-addressed (Crump, 2015; Watkins, 1999). Specifically, how do we decide that some negotiations are complex? Are there specific factors contributing to negotiation complexity? Are there different dimensions of complexity and how do they affect negotiators' behaviors and outcomes? Negotiation complexity is a considerably complex construct, and therefore, a clear and systematic conceptualization of this construct becomes a challenging task. Although we recognize negotiation complexity when we experience it, we are not able to apprehend it with a precise and adequate verbal formula (Liu and Li, 2012). Under this circumstance, it is difficult to integrate and conclude results on complexity from different lines of negotiation studies, especially considering that sometimes even contradictory findings were observed in the same research area (Geiger and Hüffmeier, 2020; Van der Schalk *et al.*, 2010). Given this, the current work aims further develop the theoretical foundation of negotiation complexity and to provide a more systematic and in-depth understanding of complexity across various negotiation settings.

In what follows, we will first review the previous literature on complexity in negotiations. Building on the literature on complexity in international negotiations (Mermet, 2012; Weiss, 1993; Zartman, 1994) and organizational negotiations (Watkins, 1999, 2003a), we then propose an integrative model of negotiation complexity for identifying significant complexity contributory factors. These contributory factors are categorized based on three primary negotiation components –negotiation task, dynamic variables of negotiators and negotiation context (Brett and Thompson, 2016; Neale and Northcraft, 1991). Specifically, our model structures negotiation complexity in four dimensions – informational and computational complexity, procedural complexity, social complexity and strategic complexity (Kramer, 1991) and their effects on negotiators' behaviors and economic and subjective outcomes are examined and discussed. Finally, we conclude with a discussion of practical tools for managing negotiation complexity and several future research directions.

Negotiation complexity: definitions and conceptualization

In his analysis of complex international negotiations, Gilbert Winham (1977) followed Simon's analysis of complexity and defined it as "a large number of parts that interact in a non-simple way" (p. 350; Simon, 1969, p. 468). In a similar vein, Zartman (1994) defines complexity in international negotiations as "the existence of a large number of interacting variables with no dominant pattern or dimensions" (p. 218). Extending these viewpoints, Crump (2015) defined a complex negotiation as:

> [. . .] one that includes two parties in which at least one party is not monolithic (e.g. individuals or groups within the party are not unified in their goals and/or strategies), a negotiation with more than two parties, or a negotiation with linkages (p. 135).

Although divergences can be observed regarding the definitions of negotiation complexity across fields, there is a consensus that complexity is a matter of degree (Winham, 1977) and it increases when too many variables interact in the negotiation.

An overview of previous analytical frameworks of complex negotiations

The important role of negotiation complexity was first identified and discussed in the literature of multilateral negotiations (Crump and Zartman, 2003; Winham, 1977; Zartman, 1994, 2003). Scholars have developed a number of analytical frameworks to help negotiation analysts and practitioners to examine complex situations such as those in multilateral trade negotiations (Crump, 2006; Sjöstedt, 1994). For instance, Zartman (1994) analyzed the complexities of international multilateral negotiations and proposed that the complexities are introduced by the multiparty, multi-issue, multi-role, rule-making and coalition features of multilateral bargaining processes. These specific features of multilateral negotiations step up negotiation complexity from four different perspectives (Kramer, 1991): with the number of negotiating parties increases, the bargaining space between parties proliferates, making the computations and information processing more complex (i.e. informational and computational complexity); leading to greater interpersonal and intergroup dynamics (i.e. social complexity); requiring longer and more complex communication and decision processes (i.e. procedural complexity); and resulting in greater challenges of strategy selection and implementation (i.e. strategic complexity).

In addition to multilateral negotiations, the significant role of complexity in business negotiations has also been recognized and investigated. Instead of taking an inclusive perspective to analyze complex business negotiations in general, previous research took a more specific perspective and focused on certain facets of complex business negotiations. For instance, from a context-based perspective, Weiss (1993) argued that the influencing conditions play a significant role in complex business settings because they stimulate, restrict or modify parties' relationships and behaviors. Specifically, the influencing conditions of a negotiation include its structural context (referred to as *circumstances*), parties' cultural traits and backgrounds (referred to as *capacities* and *cultures*) and the culture's overt intuitional environments (referred to as *environments*). Further, from an issue-based perspective, Laubert and Geiger (2018) investigated the characteristics of negotiation issues and their associated complexity drivers in business-to-business (B2B) contexts. Based on qualitative interviews with B2B practitioners, they proposed that negotiation issues could affect complexity on the object-level (e.g. factual complexity, interdependencies and consequences), context-level (i.e. contextual factors) and subject level (e.g. ambiguity and feelings).

In contrast to the literature on international multilateral negotiations and business negotiations that have considered complexity as the feature of certain negotiation situations, other scholars (Crump, 2020; Watkins, 1999, 2003b) argued that complexity is intrinsic in all negotiation situations. Instead of focusing on a specific domain of negotiations, more general analytical perspectives on the assessment of complex negotiations have been provided. For instance, Watkins (2003b) laid out seven analytical facets of negotiation complexity – three facets of multilateral settings (i.e. parties, levels and linkages) and four facets of both bilateral and multilateral settings (i.e. issues, rounds, rules and attitudes) – to develop an analytical approach to assessing complex negotiations (Crump, 2015). Without differentiating between bilateral and multilateral negotiations, Crump (2020) further identified significant analytical facets for retrospectively analyzing all complex situations. In addition to the facets proposed by Watkins (2003b), he suggested the external environment, negotiation process and strategy as important analytical aspects of complex negotiations.

The previous analytical frameworks provide valuable insights into negotiation complexity by determining important concepts, characteristics and analytical facets. Nevertheless, there seems to be a limited consensus on unified aspects of complex negotiations and factors contributing to such complexity (Crump, 2020). Specifically, each of the frameworks has taken a specific perspective in analyzing complex situations (e.g.

international perspective, Zartman, 1994; organizational and business perspective, Weiss, 1993; multiparty perspective, Kramer, 1991), lacking a comprehensive, integrative conceptualization of complexity in negotiations. Moreover, the primary purpose of previous analytical frameworks is to provide analysts with approaches to assess and explain complex real-world negotiations that have reached agreements or impasses (Crump, 2020; Mermet, 2012). They take a retrospectively analytical perspective to examine complex negotiations that have achieved closure instead of a proactive perspective to identify and manage complexity before and during the negotiation (Crump, 2020). Although a retrospective process analysis is important to understand complex negotiations, taking a proactive stance is also essential because it provides practitioners and researchers with significant insights into the preparation and management of complex negotiations. Last but not least, previous analytical frameworks identified the concepts and characteristics of complex negotiations mainly based on theoretical analysis. Even though such an approach provides a solid theoretical ground for studying complex negotiations, conceptualizing negotiation complexity based on both theoretical and empirical evidence improves the internal and external validity of the findings and helps practitioners, analysts and researchers to better understand negotiation complexity across different contexts (Kramer, 1991).

Conceptualization of negotiation complexity

Given this, the current research aims at improving our understanding of negotiation complexity through the process of conceptualization. Specifically, we seek to identify factors contributing to negotiation complexity (Liu and Li, 2012) and examine how they affect negotiation complexity based on the four dimensions established by Kramer (1991) – informational and computational complexity, procedural complexity, social complexity and strategic complexity.

To this end, we conceptualize negotiation complexity based on a negotiation-component-factor-dimension approach (Liu and Li, 2012; as depicted in Figure 1). First, to get a comprehensive integrative understanding of complexity contributory factors in negotiations and maintain the objectivity of our conceptualization, we follow previous negotiation frameworks (Brett and Thompson, 2016; Neale and Northcraft, 1991) and focus on three primary negotiation components, namely, the negotiation task (i.e. structural features of the task *per se*), the dynamic variables of negotiators (i.e. negotiators' cognitions, strategic plans

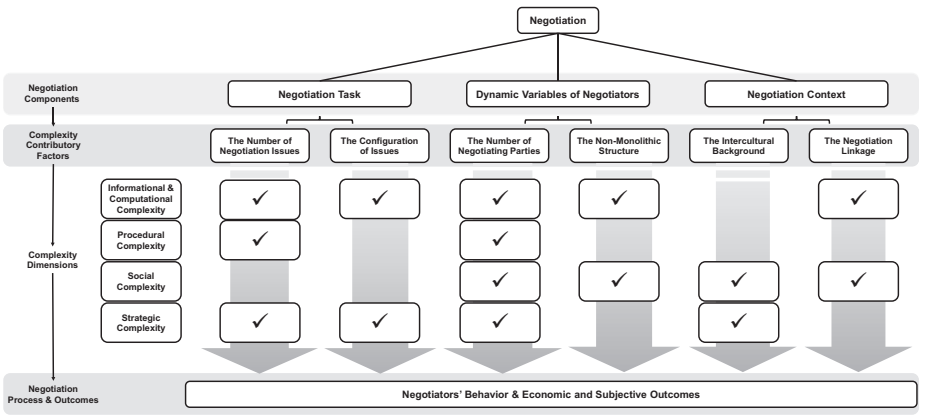

Figure 1.
An integrative model of negotiation complexity

and interaction process) and the context where the negotiation is embedded. Then, for each negotiation component, salient complexity contributory factors are identified and derived from the review of the previous analytical frameworks on negotiation complexity (Tables 1 and 2). Thereafter, based upon the four complexity dimensions proposed by Kramer (1991), we examine and discuss how the identified contributory factors affect the respective complexity dimensions. Finally, the influences of the four complexity dimensions on negotiators' behaviors and outcomes (i.e. objective and subjective outcomes) are analyzed and discussed.

Table 1.
Inventory of analytical facets of complex negotiation

Characteristics	Source	Contributory factors
Party number	Kramer (1991), Zartman (1994), Watkins (2003b), Crump (2020)	The number of negotiating parties; the number of negotiation issues; the configuration of issues
Negotiator roles	Zartman (1994), Crump (2020)	The number of negotiating parties
External environment	Weiss (1993), Crump (2015, 2020)	The intercultural background; the negotiation linkage
Negotiation process	Crump (2015, 2020)	The number of negotiating parties; the number of negotiation issues; the configuration of issues
Negotiation strategy	Weiss (1993), Crump (2020)	The number of issues; the configuration of issues
Party relations	Weiss (1993), Watkins (2003b), Crump (2015, 2020)	The number of negotiating parties; the non-monolithic structure; The negotiation linkage
Negotiation architecture	Kramer (1991), Watkins (2003b), Crump (2015)	The number of negotiating parties; the non-monolithic structure
Decision rule	Zartman (1994), Watkins (2003b), Crump (2015)	The number of negotiating parties
Negotiation issues	Watkins (2003b), Laubert and Geiger (2018)	The number of negotiation issues; the configuration of issues
Coalition	Zartman (1994)	The number of negotiating parties
Negotiation rounds	Watkins (2003b)	The negotiation linkage
Linkages	Watkins (2003b)	The negotiation linkage

Table 2.
Contributory factors of negotiation complexity

Negotiation components	Complexity contributory factors	Effects on the complexity dimensions
Negotiation task	The number of negotiation issues	Informational and computational complexity; procedural complexity; strategic complexity
	The configuration of issues	Informational and computational complexity; strategic complexity
Negotiators	The number of negotiating parties	Informational and computational complexity; procedural complexity; social complexity; strategic complexity
	The non-monolithic structure	Informational and computational complexity; social complexity
Negotiation context	The intercultural background	Social complexity; strategic complexity
	The negotiation linkage	Informational and computational complexity; social complexity

The negotiation-component-factor-dimension approach enables us to conceptualize negotiation complexity systematically and to incorporate different perspectives from international negotiations (Crump and Zartman, 2003; Zartman, 1994), public disputes (Gray, 1989, 2011), organizational and group negotiations (Laubert and Geiger, 2018; Weiss, 1993) and interpersonal contexts (Rubin and Brown, 1975). The integrative model of negotiation complexity not only incorporates several existing perspectives, but it also carries many unique features, including:

- A theoretically and empirically guided conceptualization of negotiation complexity.
- A conjoint consideration of negotiators' behavior and outcomes.
- A utility orientation that focuses not only on the agreement rate (Mermet, 2012) but also on the quality of the economic and subjective outcomes.
- An intracultural- and intercultural-applicable depiction of complexity contributory factors for dyadic, as well as multiparty negotiations.
- Empirical-based and practical-based suggestions on efficient tools to manage negotiation complexity. In the following sections, we will discuss the details of each part of the model.

An integrative model of negotiation complexity

The three components of a negotiation

To systematically conceptualize negotiation complexity, the first step is to determine the primary components of a negotiation. Based on the model of negotiated outcomes by Brett and Thompson (2016); and Brett (2000) and the behavioral negotiation model of Neale and Northcraft (1991), we propose three inherent negotiation components:

(1) The basic structure of the negotiation task.

(2) Dynamic variables of negotiators.

(3) Contextual features of the negotiation (Figure 1).

Specifically, the task component of a negotiation determines the basic structure of the negotiation (e.g. negotiation issues). It provides negotiators with the basis for strategizing, setting goals and estimating the range of possible agreements (De Dreu *et al.*, 2007). Dynamic variables of negotiators, on the other hand, pertain to the thoughts, strategic plans and interactions of negotiators. Particularly, negotiation is, in essence, a decision-making task between parties (Thompson *et al.*, 2010; Raiffa *et al.*, 2007). The parties negotiate with each other, with their cognition and interactions determining the process and outcomes of the negotiation (Brett and Thompson, 2016; Raiffa, 1982). Finally, as "[negotiation] phenomena are [. . .]. inevitably embedded" within "social and organizational environments" (Kramer and Messick, 1995, p. ix), it is essential to also consider the social and relational context within which negotiations take place.

Contributory factors to negotiation complexity

Although negotiation complexity is not tangible and observable, it can be captured and depicted by its contributory factors – elements that make a negotiation complex (Liu and Li, 2012). To identify and formalize the contributory factors of negotiation complexity, we summarized the analytical facets of complex negotiations from the literature review of the existing analytical frameworks (Table 1). Based on this inventory and the theoretical perspectives of each facet, corresponding complexity contributory factors are identified and

formalized pertaining to each negotiation component (i.e. task, dynamic variables of negotiators and context; see Table 2). Further, the influence of each contributory factor on the dimensions of negotiation complexity is indicated, respectively.

The number of negotiation issues as a contributory factor to informational and computational, procedural and strategic complexity. Negotiation situations vary widely in terms of the number of issues under discussion. It has long been believed in the negotiation literature that increasing the number of issues at the bargaining table is advantageous because it expands the integrative potential and creates more opportunities for better economic outcomes (Lewicki *et al.*, 2011; Pruitt, 1981). As Thompson *et al.* (1988) noted: "the more issues, the better. More issues provide negotiators with more opportunities to construct trade-offs among issues" (p. 9). However, having a high number of issues under discussion also increases the complexity of the task significantly, thereby raising the informational and computational, procedural and strategic challenges of the bargaining situation (Laubert and Geiger, 2018; Van der Schalk *et al.*, 2010). As more issues are brought to a negotiation, the number of possible solutions grows exponentially. The negotiating parties are likely to have different interests across various issues. Under such circumstances, simply recognizing these interests, much less identifying ways to integrate them can turn into an immensely complex task. Supporting this notion, Rubin and Brown (1975) have pointed out that:

> [. . .] as the number of issues in a dispute grows, the pressures toward differentiating among them are likely to increase, if for no reason other than the accompanying difficulty of dealing with an excessive number of issues simultaneously (p. 147; see also Sebenius, 1983).

Moreover, a high number of issues at the bargaining table also increases procedural and strategic complexity. As Albin and Young (2012, p. 41) note: "a very large number [of negotiation issues] risks overloading the agenda and overwhelming the process." When there are a high number of issues, the negotiation process – exchanges of proposals on different issues, attempts to explore and integrate parties' needs and interests and so forth – becomes more complex. As a consequence, the amount of time needed to reach an overall agreement across all issues is also increased (Rubin and Brown, 1975). Moreover, when the number of issues increases, the problem of strategic choices turns out to be more complex. In negotiations with few issues, negotiators can achieve mutually beneficial agreements through the use of strategies such as logrolling between issues with different priorities (Froman and Cohen, 1970). If a logrolling proposal does not produce the desired result, negotiators can adjust their proposal by strategically using other issue combinations. Nevertheless, such strategic choices become more complicated when the number of issues is high because the number of combinatory logrolling options grows dramatically.

The configuration of issues as a contributory factor to informational and computational and strategic complexity. The configuration of issues refers to the interplay between resources and their specific characteristics in the negotiation (Trötschel *et al.*, 2014). In the current paper, we focus on two different aspects of issue configuration:

(1) The interest-based configuration – the distributive (zero-sum), integrative (variable-sum) or compatible (common-value) nature of the issues (Gelfand *et al.*, 2011).

(2) The dependency-based configuration – the interdependence between the issues (Trötschel *et al.*, 2011).

When negotiations are fully comprising distributive issues, parties will be better off if they use hardline, claiming strategies aiming for a large slice of a fixed pie (e.g. extreme first offers, low concessions, Hüffmeier *et al.*, 2014). While in negotiations consisting of

integrative and/or compatible issues, parties should adopt creating strategies including sharing information about interests and then fashioning logrolling to achieve win-win agreements (Brett and Thompson, 2016). When the configuration of issues under discussion is of various interest structures (e.g. involving all three types of issues), two steps are needed to achieve Pareto optimal agreements, namely, first, negotiators have to efficiently process all useful information emerging during the bargaining process and recognize the different interests between them and their counterparts; then, parties have to apply several completely different strategies to reach mutually beneficial agreements across all issues (i.e. claiming value for distributive issues, creating value by trading off integrative issues, identifying the common value of compatible issues; Thompson and Hrebec, 1996). Thus, the configuration of various issue interests raises the degree of informational and strategic complexity to a greater level.

In addition to the interest-based aspect, the multiple issues at the bargaining table can also be interdependent of each other such that the decision on one issue and its related economic impact depends on or affects the settlement of other issues (Geiger, 2017; Trötschel *et al.*, 2011; issue bundling, Horstmann *et al.*, 2005; Tollison and Willett, 1979). Specifically, issues can either be horizontally interdependent (i.e. issues in different areas are interdependent; e.g. without a decision on the general technological scope, parties cannot discuss the project duration; Geiger, 2017) or substantively interdependent due to connections on substance (e.g. a job candidate and an employer can only finalize a contract if they agree on all issues; for instance, salary, vacation days and health insurance; Albin and Young, 2012). Although parties may use the interdependence "between unrelated or only loosely-related issues to gain increased leverage in negotiation" (Wallace, 1976, p. 164), it "usually exacerbate[*s*] problems rather than help[*s*] to resolve them" (Tollison and Willett, 1979, p. 425). When there are interdependencies between issues, parties' utility functions are more complex, with nonlinear shapes and multiple optima (Fujita *et al.*, 2014). Irrespective of whether it is tactical, horizontal or substantial interdependence, parties have to seek agreements that cut across different issues or issue areas. In this context, the benefits of issue interdependencies will be constrained by the increased informational and computation complexity (Horstmann *et al.*, 2005). Corroborating this theoretical reasoning, Laubert and Geiger (2018) showed that business practitioners consider the interdependencies between issues as a significant factor that increases the degree of complexity of a negotiation.

The number of negotiating parties as a contributory factor to informational and computational, procedural, social and strategic complexity. Among other contributory factors, the number of negotiating parties has consistently been considered a critical indicator of negotiation complexity (Gray, 2011; Kramer, 1991). In the negotiation literature, a party is defined as a person or group of people with common interests who act in accordance with their preferences in a conflict (Thompson, 2014). They can be individuals, groups, organizations or nations (Rubin *et al.*, 1994) [1]. Specifically, Weiss (1993, p. 277) defines three types of parties in negotiations: primary parties who have interrelated goals and have become or plan to become engaged in direct talks (i.e. negotiating parties); secondary parties who have an indirect stake in the outcome but do not consider themselves directly involved (i.e. constituents or other external parties); and third parties who are neutrals and work between primary parties toward a mutually satisfactory agreement. In this subsection, we focus on primary negotiating parties at the bargaining table. The secondary and third parties are considered in the subsection of the negotiation linkage. Negotiations with more than two primary parties are often more complex because of the increased number of interacting variables (Crump and Glendon, 2003). Midgaard and Underdal (1977, p. 331) have argued that as the number of parties involved in the negotiation increases, "the negotiation situation

tends to become less lucid, more complex, and therefore, in some respects, more demanding." Under this circumstance, information-processing demands grow enormously because the proliferation of parties increases the bargaining space – more values, interests and perceptions have to be integrated and accommodated (Kramer, 1991). More negotiating parties also lead to greater procedural complexity compared to dyadic situations. The greater the number of parties, the more complicated the interaction process is (e.g. exchange information and proposals), the longer the negotiation process can take (Sebenius, 1983). In addition to informational and procedural complexity, multiparty negotiations also entail greater social complexity because of the increased group dynamics (e.g. social comparison, power struggles, Bazerman *et al.*, 1988) and social pressure among parties (Gray and Clyman, 2003). Meanwhile, the determination and implementation of strategies become more difficult in multiparty negotiations because negotiators have to monitor the moves and actions of other parties at the table (Crump and Glendon, 2003; Kramer, 1991). As Kramer (1991, p. 316) noted: "the addition of even one person to a dyadic relationship introduces enormous complexity in terms of the greater number of possible strategic relationships among the parties" (Caplow, 1968). As more parties are added to the negotiation, the number of possible coalitions also increases. Forming coalitions within a negotiation can dramatically alter the power relations among parties (e.g. power asymmetries, Crump, 2003; 2015; Polzer *et al.*, 1998) and the approaches of resource allocations (Beersma and De Dreu, 2002). All of these aspects contribute to the strategic complexity of the negotiation and considerably affect the bargaining process and outcomes.

The non-monolithic structure as a contributory factor to informational and computational and social complexity. When negotiations take place between groups, organizations or nations, each party may consist of people who are on the same side but with heterogeneous, conflicting interests (Halevy, 2008; Raiffa, 1982). Parties' non-monolithic nature is considered one of the main characteristics of complex multiparty negotiations (Crump and Glendon, 2003; see also unity vs disunity, Crump, 2005). When members within a group are monolithic, they "have similar underlying interests related to the negotiation at hand" (Brodt and Thompson, 2001, p. 209). In this context, although individual negotiators are bounded in their rationality, "two heads are better than one." Negotiating parties are thus, less susceptible to cognitive biases and are more likely to efficiently process the available and useful information (De Dreu, 2010). By contrast, when members within a group are non-monolithic and divided, group members have different interests and preferences regarding the intergroup negotiation, and such a non-monolithic structure leads to increased intragroup and intergroup challenges (Halevy, 2008; Thompson, 2014). Under this circumstance, parties step into a complex two-level game (Putnam, 1988) in which they have to deliberate how their intragroup decisions and processes affect the intergroup negotiation and vice versa. Such a move from parties "of one mind" (i.e. monolithic structure) to parties being at odds (i.e. non-monolithic structure) leads to more complex interest structures and group dynamics produces greater constraints and challenges for efficient processing of the diverse interests within and between groups and the progress of the social interaction (Watkins, 2003b). Corroborating this notion, a previous study has found that a non-monolithic structure within a group significantly increases the level of complexity that negotiators confront in the decision-making and negatively affects the negotiation processes and outcomes (Halevy, 2008).

The intercultural background as a contributory factor to social and strategic complexity. Culture is the distinct character of a social group (Brett, 2007). It shapes the norms individuals have for resolving disputes and managing conflicts and determines the cognitive representations they have of social conflicts (Gelfand and Brett, 2004; Ramirez-

Marin *et al.*, 2019; Tinsley and Brett, 2001). The cultural component in the context of negotiations refers not only to that of national groups but also to ethnic and organizational cultures (Weiss, 1993; West *et al.*, 2003). Various studies have demonstrated that differences in culture *per se* can become a source of conflict in negotiations, thus stepping up the degree of complexity at the bargaining table (Brett, 2007; Gelfand and Brett, 2004). Specifically, intercultural negotiations are often embedded in complex social systems of relations (e.g. relationally-focused vs non-relationally-focused cultures, Liu *et al.*, 2012), obligations (egalitarianism vs hierarchy, Brett and Okumura, 1998) and norms (e.g. social harmony norms, Rosette *et al.*, 2012). These factors can radically increase the social complexity of the negotiation and alter the interaction process and outcomes (Gelfand and Cai, 2004). In addition to greater social complexity, the unique features of intercultural negotiations also lead to greater strategic challenges. Because of the different values and beliefs, parties with different cultural backgrounds have unique perspectives on the bargaining situation and different negotiation styles (Ramirez-Marin *et al.*, 2019). Strategic behaviors that are considered normative in one culture often generate controversy in other cultures (Thompson, 2014). Tinsley *et al.* (1999) metaphorically compared such a situation to a dance where one party does a waltz and the other party does a tango. In line with this notion, previous studies have found that negotiators from different cultures used different strategies regarding information exchange, which consequently led to less integrative agreements (Japanese vs American, Brett and Okumura, 1998; Chinese vs German, Lügger *et al.*, 2015).

The negotiation linkage as a contributory factor to informational and computational and social complexity. Negotiations have traditionally been analyzed as self-contained, stand-alone interactions among two or more parties, but such situations are particularly rare in real-world settings (Watkins and Passow, 1996). As Menkel-Meadow (2009) noted:

> What seems like a "two-party" problem is, in fact, much more complicated and often affects many other parties [. . .] We can almost never assume that a bilateral agreement of two parties will be sufficient to solve anything but perhaps the most simple buyer-seller agreement (pp. 421–422).

As a matter of fact, most negotiations generate linkages by which "one negotiation influences or determines the processes or outcome of another negotiation" (Crump, 2007, p. 118; Raiffa, 1982; Thompson, 2014). Specifically, negotiation linkages may arise from repetitions with the same actors over time as in the situations of repetitive negotiations or multi-round negotiations (Raiffa, 1982). Alternately, they may also arise from situations in which the interests of parties beyond the bargaining table are linked to the negotiated agreement, as in the case of representative negotiations (De Dreu *et al.*, 2014) or when the negotiation generates externalities (Lax and Sebenius, 1986). Although scholars suggest that negotiation linkage may provide parties with an opportunity to gain strategic advantages (Crump, 2010), it has long been considered a significant factor that steps up negotiation complexity (Crump, 2015, 2020; Watkins, 1999). In his classic book on negotiation analysis, Raiffa (1982) admonished that negotiators should be aware of the intricacies caused by the linkages of negotiations. When a negotiation generates linkages, parties need to look beyond the negotiation table to the broader linked social system in which the negotiation is embedded (Watkins, 2003b). In this context, negotiating parties have to not only consider their immediate interests from the negotiation but also consider how their decision and agreement at the table affect other stakeholders beyond the table, and how such influences, in turn, affect their interests in the long term. Therefore, negotiation linkages strongly influence negotiators' alternates, preferences and attitudes in the decision-making (Watkins and Passow, 1996) and considerably increase the amount of information that negotiators

have to deliberate before making a decision. Moreover, when a negotiation generates a linkage, the social environment changes from a one-shot, one-on-one decision-making to a more complex situation (e.g. an interaction with future consequences; a decision-making with multiple stakeholders). As a consequence, the multiple stakeholders involved in the negotiated agreement and/or the long-term interests increase, to a great extent, the social complexity of the bargaining situation.

The impacts of negotiation complexity on negotiators' behavior and outcomes

When negotiations are complex, negotiators confront both opportunities and challenges (Watkins, 1999; 2003b). Some researchers have argued that complexity should not be considered a culprit of negotiation failure (Mermet, 2012). Instead, it may offer opportunities for parties at the bargaining table. For instance, complexity can foster the achievement of agreements because imprecise information regarding the negotiation makes it difficult for the counterpart to argue effectively against a proposal (Winham, 1977). Negotiators can also use complexity as a bargaining tactic to delay the agreement until a later stage to gain a final agreement advantage over the counterpart (Zartman, 1971). Although the fog of negotiation contains opportunities under certain circumstances, complexity is more often an obstacle than an aid for efficient negotiation agreement (Watkins, 2003b). In the following, we will illustrate how each of the different complexity dimensions conceptualized by Kramer (1991) affects negotiators' behavior, economic outcomes and subjective outcomes.

The impacts of informational and computational complexity on negotiators' behavior and outcomes. First and foremost, informational and computational complexity impedes the possibility for rational choice and value maximation between parties (Tversky and Kahneman, 1981). Because negotiators are submitted to limited rationality (March and Simon, 1958), their cognitive capacities are likely to be overwhelmed by the great information-processing load caused by complexity (Mermet, 2012). In this context, "negotiators restrict the information they deal with to permit action in complex situations" (Winham, 1977, p. 356). As a consequence, they risk overlooking important information that is necessary to craft win-win solutions (Thompson, 1991). Moreover, in complex negotiations, negotiators are less likely to accurately estimate the bargaining range of their counterpart (Iklé and Leites, 1962), and their capacity to learn the counterpart's strategy is reduced (Druckman, 1973). The informational and computational complexity of the decision situation boosts the ambiguity of information useful to negotiators. They are thus, more susceptible to varying interpretations that emerged in the situations (Walton and McKersie, 1965). Corroborating this notion, previous research has found that the high informational complexity caused by an increased number of issues led to less frequent information search, greater reliance on cognitive heuristics (van der Schalk *et al.*, 2010) and lower relative economic outcomes than situations with low informational complexity (Geiger and Hüffmeier, 2020; Warsitzka *et al.*, 2019). In addition to economic outcomes, Naquin (2003) has demonstrated that when negotiators had to deal with informationally complex situations with a high number of issues, they generated more counterfactual thoughts – they believed that the results should have and could have been better. Such counterfactual thinking consequently led to a low subjective outcome regarding the negotiation (i.e. satisfaction).

The impacts of procedural complexity on negotiators' behavior and outcomes. When the procedures involved in the bargaining process (e.g. exchanging proposals and counterproposals and integrating information) become more complex, as in situations with multiple parties and/or a high number of issues, negotiators are likely to reduce such procedural complexity by adopting social heuristics (Allison and Messick, 1990;

Kramer, 1991). Social heuristics are distinct from more general cognitive heuristics for judgments and decisions under uncertainty (Morris *et al.*, 1995). While general cognitive heuristics are to act as if one could causally influence the decision (Kramer and Messick, 1995), social heuristics consist of relatively simple, normatively accepted decision rules such as the equality heuristic (i.e. equally distributing resources among the available options; Messick and Schell, 1992). Although the outcomes generated by adopting such heuristics provide parties with straightforward, rapid and mutually acceptable solutions, they may not be optimal from the perspective of individual or collective utility maximization (Kramer, 1991). Moreover, previous research has shown that such a procedural shortcut does not necessarily lead to greater perceived satisfaction on the negotiated agreement. By contrast, adopting a unanimous decision rule or an equity rule leads to greater commitment and satisfaction on the final outcomes than adopting an equality rule (Kayser and Lamm, 1980; Thompson *et al.*, 1988).

The impacts of social complexity on negotiators' behavior and outcomes. Social complexity in a negotiation can be manifested in different ways, such as complex group dynamics in multiparty negotiations and intricate social environments in intercultural settings. When the negotiation involves complex group dynamics such as social comparison and conformity, parties are likely to adopt social heuristics – such as the imitate-the-majority heuristic – to avoid confrontation or conflicts within and between parties (Suls *et al.*, 2002). Nevertheless, although adopting imitate-the-majority heuristics may be effective for the management of social complexity, a few studies have shown that negotiating groups using majority rule reached lower joint outcomes and distributed resources more unequally than groups using other decision rules (Polzer *et al.*, 1998; Ten Velden *et al.*, 2007). Moreover, in group negotiations with imbalances in the power positions within a group, members are more likely to focus on their individual outcomes instead of group outcomes (Giebels *et al.*, 2000; Mannix, 1993). Such a strong focus on own economic interests nevertheless leads to lower satisfaction when the group outcomes increase (Gillespie *et al.*, 2000). In negotiations with intricate social environments (e.g. intercultural negotiations), parties are likely to have different perceptions of the social context (Gelfand and Cai, 2004) and of cooperation in social interactions (Brett and Kopelman, 2004) and different perceptions and displays of emotions (Kumar, 2004). These mismatches in cognition, motivation and behaviors have been found to negatively affect both the economic outcomes (Brett and Okumura, 1998) and subjective outcomes (i.e. satisfaction, Gelfand and Christakopoulou, 1999).

The impacts of strategic complexity on negotiators' behavior and outcomes. In the case of complex negotiations with problems of strategic choices, such as those involving multiple parties from different cultures, negotiators face high strategic complexity in tailoring their behavior to preempt or counter the actions of the party with whom they are interacting. Under this circumstance, negotiators are likely to adopt social heuristics such as the tit-for-tat strategy to avoid being exploited by the other parties (Axelrod, 1984). Such a contingent strategy has been found to elicit greater cooperation than unconditionally cooperative or non-cooperative strategy in repeated, two-person prisoner's dilemma (Van Lange and Visser, 1999). Nevertheless, complex negotiations often involve more than two parties and more complex configurations and perceptions of issue interests and interdependence. Negotiators using a tit-for-tat strategy in this situation may be caught in a spiral of distributive behaviors, thus overlooking the integrative potential on the table. In addition to the effects on economic outcomes, negotiators caught in a distributive spiral (O'Connor and Arnold, 2001) are more likely to perceive their performance as dissatisfied, experience negative emotions and generate negative perceptions of the bargaining process and their counterpart (Becker and Curhan, 2018).

Discussion

In real-world negotiations, complexity poses particular challenges to negotiators at the bargaining table. Parties not only have to deal with divergent and convergent interests but also have to manage the complexity brought about by various factors of the bargaining situations. Given this, the present work proposes an integrative model of negotiation complexity to deepen our understanding of the contributory factors and dimensions of complexity and comprehend how they affect negotiators' behaviors and outcomes. Based on the literature on complexity in international (Zartman, 1994) and organizational negotiations (Weiss, 1993), the model identifies six contributory factors of complexity pertaining to the negotiation task, dynamic variables of negotiators and the negotiation context. This model comprehensively illustrates how the different dimensions of complexity are affected by these complexity contributory factors, and how the negotiation complexity, in turn, affects negotiators' behaviors and outcomes.

It is important to note that although each of the complexity contributory factors was depicted in an independent way, they can be interrelated and mutually dependent. For instance, previous research has considered that the number of negotiating parties is likely to be associated with an increased number of issues in that new parties bring new issues into the discussion (Crump, 2020). Therefore, several studies on negotiation complexity often analyze the effects of the number of parties and issues as two inseparable, interrelated aspects (Sebenius, 1983; Watkins, 2003a). While adding or subtracting parties at the table often correspondingly lead to the inclusion or exclusion of issues relevant to those parties, adding or subtracting issues can, in turn, consolidate or weaken the coalitions between parties (Crump, 2020).

The proposed integrative model of negotiation complexity provides useful insights for both academic research and practice involving complex negotiations. It serves as a general paradigm for conceptualizing and characterizing negotiation complexity across different domains. The identified complexity contributory factors and dimensions of negotiation complexity offer a solid basis for a comprehensive evaluation of negotiation complexity and analyzing its effects on negotiators' behaviors and outcomes. They also provide a holistic perspective for exploring the causes of negotiation complexity.

Managing complexity in real-world negotiations

A growing literature has arisen to address the challenges in complex negotiations by offering prescriptive and descriptive advise to practitioners (Crump, 2020; Laubert and Geiger, 2018; Watkins, 1999). In his early book on international multilateral negotiations, Zartman (1994) made the first attempt to systematically discuss the management of complex multilateral negotiations through the processes of simplifying, structuring and directing. Specifically, effective leadership has been proposed as a practical approach to simplify, structure and direct negotiations through role management (Zartman, 1994, 2003). Taking a broader perspective, Watkins (1999) established 10 propositions for understanding and handling complexity across various real-world negotiations. His suggestions include crafting creative deals that bridge differences in parties' interests, learning and shaping counterparts' perceptions at and beyond the bargaining table, systematically structuring and understanding the negotiation, forging and neutralizing linkages and learning and training negotiation skills. In recent work, Crump (2020) systematically reviewed previous frameworks for analyzing complex negotiations and proposed several operational tools to manage different characteristics of a complex negotiation. In addition to leadership, he further suggested benchmarking – using "goals, issues, agendas, arguments, positions and

concessions as a reference point in a linked negotiation" (Crump, 2011, pp. 218–219) as a useful tool to manage complexity.

Based on previous theoretical and empirical research, we further suggest that setting a negotiation agenda can effectively reduce the informational and procedural complexity caused by the high number of issues and parties (Balakrishnan *et al.*, 1993; Watkins, 2003a). Specifically, when facing negotiations involving various issues and complex party structures, practitioners could reduce the information flood by setting a reasonable agenda with their counterparts (Rubin and Brown, 1975). The negotiation agenda sets the boundaries for what issues will be negotiated in which phase and the form in which they will be negotiated, and influences, to a great extent, the effectiveness and efficiency of the bargaining process. Researchers have suggested that to resolve a complex negotiation with various issues, fractioning the issues into smaller subsets and negotiating them in a sequential way can reduce the information-processing demands on negotiators to tractable levels meanwhile maintaining the opportunities for integrative solutions (Fujita *et al.*, 2014; Levine and Plott, 1977; Watkins, 2003a).

Further, when facing negotiations that generate complex linkages beyond the bargaining table either spatially or temporally, adopting an interdependence mindset may help practitioners systematically and effectively analyze the negotiation situation (Crump, 2020; Watkins, 2003b). Previous research has found that developing a trustworthy interdependence is especially helpful for negotiators when they face complex facets such as predictability and information non-transparency (Laubert and Geiger, 2018). Negotiators in a state of interdependence mindset are more likely to manage the linkage complexity by efficiently analyzing information about the negotiation linkages, broadening their perspective beyond the immediate temporal and social context and considering the long-term consequences of their decision. Unlike other tools that reduce the degree of negotiation complexity, adopting an interdependence mindset aims to manage the complexity by systematically evaluating and considering the benefits and costs of different dependencies, thus facilitating the achievement of integrative agreements from a comprehensive perspective. Future research should empirically test the efficacy of these different tools in reducing and managing complexity in negotiations and how they consequently affect the negotiation process and the quality of outcomes.

Conclusion

This paper seeks to provide a clear and systematic understanding of negotiation complexity. The proposed integrative model of negotiation complexity is grounded in the existing complexity literature in the field of negotiation and enriches the literature with insights from other relevant research domains. It seeks to provide negotiation researchers and practitioners with an important lens through which they can effectively prepare, analyze and manage complexity in real-world negotiations. The model identifies six complexity contributory factors and delineates their effects on the different complexity dimensions in negotiations. Like the management of complexity, this model provides an illustrative rather than an exhaustive examination of negotiation complexity. It offers a solid basis and a promising starting point for theoretical and empirical research to address challenges in complex real-world negotiations.

Note

1. In the literature on international negotiations, researchers define multiparty negotiations as situations with more than two parties, including parties on the same side (e.g. negotiating parties, representatives and constituents), on antagonistic sides, on neutral sides (e.g. mediators) and on

external sides (e.g. alternate negotiating partners; Crump and Glendon, 2003). Based on this definition, a bilateral negotiation with two negotiating sides can also be referred to as a multiparty negotiation when at least one side has two or more parties (i.e. members). Therefore, from the perspective of international negotiation literature, all multilateral negotiations involve multiple parties, but not all multiparty negotiations are multilateral. Differently, the literature on organizational negotiations (De Dreu, 2010) defines a *multiparty* negotiation as a situation where there are three or more parties, each with their own positions and interests, which is considered a *multilateral* negotiation in the international negotiation literature. Further, a bilateral-multiparty negotiation in the international negotiation literature is referred to as team negotiations in the organizational negotiation literature (Thompson, 2014). The definitions of both lines of research provide structural clarity. To systematically examine the effect of the number of primary negotiating parties on negotiation complexity, in the current paper, we use the definition from the organizational negotiation literature, which differentiates between parties and members within a party to discuss the effects of the number of negotiating parties and the effects of non-monolithic structure within a party.

References

Albin, C. and Young, A. (2012), "Setting the table for success – or failure? Agenda management in the WTO", *International Negotiation*, Vol. 17 No. 1, pp. 37-64.

Allison, S.T. and Messick, D.M. (1990), "Social decision heuristics in the use of shared resources", *Journal of Behavioral Decision Making*, Vol. 3 No. 3, pp. 195-204.

Axelrod, R. (1984), *The Evolution of Cooperation*, Basic Books, New York, NY.

Balakrishnan, P.V., Patton, C. and Lewis, P.A. (1993), "Toward a theory of agenda setting in negotiations", *Journal of Consumer Research*, Vol. 19 No. 4, pp. 637-654.

Bazerman, M.H., Mannix, E. and Thompson, L. (1988), "Groups as mixed-motive negotiations", in Lawler, E.J. and Markovsky, B. (Eds), *Advances in Group Processes: Theory and Research*, JAI Press, Greenwich, CT, pp. 195-216.

Becker, W.J. and Curhan, J.R. (2018), "The dark side of subjective value in sequential negotiations: the mediating role of pride and anger", *Journal of Applied Psychology*, Vol. 103 No. 1, pp. 74-87.

Beersma, B. and De Dreu, C.K.W. (2002), "Integrative and distributive negotiation in small groups: effects of task structure, decision rule, and social motive", *Organizational Behavior and Human Decision Processes*, Vol. 87 No. 2, pp. 227-252.

Brett, J. and Thompson, L. (2016), "Negotiation", *Organizational Behavior and Human Decision Processes*, Vol. 136, pp. 68-79.

Brett, J.M. (2000), "Culture and negotiation", *International Journal of Psychology*, Vol. 35 No. 2, pp. 97-104.

Brett, J.M. (2007), *Negotiating Globally*, Jossey-Bass, San Francisco, CA.

Brett, J.M. and Gelfand, M.J. (2006), "A cultural analysis of the underlying assumptions of negotiation theory", in Thompson, L. (Ed.), *Negotiation Theory and Research*, Psychology Press, New York, NY, pp. 173-201.

Brett, J.M. and Kopelman, S. (2004), "Cross-cultural perspectives on cooperation in social dilemmas", in Gelfand, M.J. and Brett, J.M. (Eds), *The Handbook of Negotiation and Culture*, Stanford University Press, Stanford, CA, pp. 395-414.

Brett, J.M. and Okumura, T. (1998), "Inter- and intracultural negotiation: U.S. and Japanese negotiators", *Academy of Management Journal*, Vol. 41 No. 5, pp. 495-510.

Brodt, S. and Thompson, L. (2001), "Negotiating teams: a levels of analysis approach", *Group Dynamics*, Vol. 5 No. 3, pp. 208-219.

Caplow, T. (1968), *Two against One: Coalitions in Triads*, Prentice-Hall., Englewood Cliffs, NJ.

Crump, L. (2005), "For the sake of the team: unity and disunity in a multiparty major league baseball negotiation", *Negotiation Journal*, Vol. 21 No. 3, pp. 317-342.

Crump, L. (2006), "Competitively-linked and non-competitively-linked negotiations: bilateral trade policy negotiations in Australia, Singapore and the United States", *International Negotiation*, Vol. 11 No. 3, pp. 431-466.

Crump, L. (2007), "A temporal model of negotiation linkage dynamics", *Negotiation Journal*, Vol. 23 No. 2, pp. 117-153.

Crump, L. (2010), "Strategically managing negotiation linkage dynamics", *Negotiation and Conflict Management Research*, Vol. 3 No. 1, pp. 3-27.

Crump, L. (2011), "Negotiation process and negotiation context", *International Negotiation*, Vol. 16 No. 2, pp. 197-227.

Crump, L. (2015), "Analyzing complex negotiations", *Negotiation Journal*, Vol. 31 No. 2, pp. 131-153.

Crump, L. (2020), "Tools for managing complex negotiations", *International Negotiation*, Vol. 25 No. 1, pp. 151-165.

Crump, L. and Glendon, A.I. (2003), "Towards a paradigm of multiparty negotiation", *International Negotiation*, Vol. 16 No. 2, pp. 197-234.

Crump, L. and Zartman, I.W. (2003), "Multilateral negotiation and the management of complexity", *International Negotiation*, Vol. 8 No. 1, pp. 1-5.

De Dreu, C.K.W. (2010), "Social conflict: the emergence and consequences of struggle and negotiation", in Fiske, S.T., Gilbert, D.T. and Lindzey, G. (Eds), *Handbook of Social Psychology*, John Wiley and Sons, New York, NY, pp. 983-1023.

De Dreu, C.K.W., Aaldering, H. and Saygi, Ö. (2014), "Conflict and negotiation within and between groups", *APA Handbook of Personality and Social Psychology, Volume 2: Group Processes*, American Psychological Association, Washington, DC, pp. 151-176.

De Dreu, C.K.W., Beersma, B., Steinel, W. and van Kleef, G.A. (2007), "The psychology of negotiation: Principles and basic processes", in Kruglanski, A.W. and Higgins, E.T. (Eds), *Social Psychology: Handbook of Basic Principles*, Guilford, New York, NY, pp. 608-629.

Druckman, D. (1973), *Human Factors in International Negotiations: Social-Psychological Aspects of International Conflict*, Sage Publications, Beverly Hills, Calif.

Froman, L.A. and Cohen, M.D. (1970), "Compromise and logroll: comparing the efficiency of two bargaining processes", *Behavioral Science*, Vol. 15 No. 2, pp. 180-183.

Fujita, K., Ito, T. and Klein, M. (2014), "Efficient issue-grouping approach for multiple interdependent issues negotiation between exaggerator agents", *Decision Support Systems*, Vol. 60 No. 1, pp. 10-17.

Geiger, I. (2017), "A model of negotiation issue–based tactics in business-to-business sales negotiations", *Industrial Marketing Management*, Vol. 64, pp. 91-106.

Geiger, I. and Hüffmeier, J. (2020), "The more, the merrier' or 'less is more'? How the number of issues addressed in B2B sales negotiations affects dyadic and seller economic outcomes", *Industrial Marketing Management*, Vol. 87, pp. 90-105.

Gelfand, M.J. and Brett, J.M. (2004), *The Handbook of Negotiation and Culture*, Stanford University Press, Stanford, CA.

Gelfand, M.J. and Cai, D.A. (2004), "Cultural structuring of the social context of negotiation", in Gelfand, M.J. and Brett, J.M. (Eds), *The Handbook of Negotiation and Culture*, Stanford University Press, Stanford, CA, pp. 238-258.

Gelfand, M.J. and Christakopoulou, S. (1999), "Culture and negotiator cognition: judgment accuracy and negotiation processes in individualistic and collectivistic cultures", *Organizational Behavior and Human Decision Processes*, Vol. 79 No. 3, pp. 248-269.

Gelfand, M.J., Fulmer, C.A. and Severance, L. (2011), "The psychology of negotiation and mediation", in Zedeck, S. (Ed.), *APA Handbook of Industrial and Organizational Psychology, Maintaining, Expanding, and Contracting the Organization*, American Psychological Association, Washington, DC, Vol. 3, pp. 495-554.

Giebels, E., De Dreu, C.K.W. and Van De Vliert, E. (2000), "Interdependence in negotiation: effects of exit options and social motive on distributive and integrative negotiation", *European Journal of Social Psychology*, Vol. 30 No. 2, pp. 255-272.

Gillespie, J.J., Brett, J.M. and Weingart, L.R. (2000), "Interdependence, social motives, and outcome satisfaction in multiparty negotiation", *European Journal of Social Psychology*, Vol. 30 No. 6, pp. 779-797.

Gray, B. (1989), *Collaborating: Finding Common Ground for Multiparty Problems*, Jossey-Bass, San Francisco, CA.

Gray, B. (2011), "The complexity of multiparty negotiations: wading into the muck", *Negotiation and Conflict Management Research*, Vol. 4 No. 3, pp. 169-177.

Gray, B. and Clyman, D. (2003), "Difficulties in fostering cooperation in multiparty negotiations: complexity, social dilemmas, and frame discrepancies in multiparty negotiations", in West, M., Tjosvold, D. and Smith, K.G. (Eds), *International Handbook of Organizational Teamwork and Cooperative Working*, Wiley, Chicester, pp. 401-422.

Halevy, N. (2008), "Team negotiation: social, epistemic, economic, and psychological consequences of subgroup conflict", *Personality and Social Psychology Bulletin*, Vol. 34 No. 12, pp. 1687-1702.

Horstmann, I.J., Markusen, J.R. and Robles, J. (2005), "Issue linking in trade negotiations: Ricardo revisited or no pain no gain", *Review of International Economics*, Vol. 13 No. 2, pp. 185-204.

Hüffmeier, J., Freund, P.A., Zerres, A., Backhaus, K. and Hertel, G. (2014), "Being tough or being nice? A meta-analysis on the impact of hard- and softline strategies in distributive negotiations", *Journal of Management*, Vol. 40 No. 3, pp. 866-892.

Iklé, F.C. and Leites, N. (1962), "Political negotiation as a process of modifying utilities", *Journal of Conflict Resolution*, Vol. 6 No. 1, pp. 19-28.

Kayser, E. and Lamm, H. (1980), "Input integration and input weighting in decisions on allocations of gains and losses", *European Journal of Social Psychology*, Vol. 10 No. 1, pp. 1-15.

Kramer, R.M. (1991), "The more the merrier? Social psychological aspects of multiparty negotiations in organizations", in Bazerman, M.H., Lewicki, R.J. and Sheppard, B.H. (Eds), *Research on Negotiations in Organizations: Handbook of Negotiation Research*, JAI Press, Greenwich, pp. 307-332.

Kramer, R.M. and Messick, D.M. (1995), *Negotiation as a Social Process*, SAGE Publications, CA.

Kumar, R. (2004), "Culture and emotions in intercultural negotiations: an overview", in Gelfand, M. and Brett, J.M. (Eds), *The Handbook of Negotiation and Culture*, Stanford University Press, Stanford, CA. pp. 95-113.

Laubert, C. and Geiger, I. (2018), "Disentangling complexity: how negotiators identify and handle issue-based complexity in business-to-business negotiation", *Journal of Business Economics*, Vol. 88 No. 9, pp. 1061-1103.

Lax, D.A. and Sebenius, J.K. (1986), "Three ethical issues in negotiation", *Negotiation Journal*, Vol. 2 No. 4, pp. 363-370.

Levine, M.E. and Plott, C.R. (1977), "Agenda influence and its implications", *Virginia Law Review*, Vol. 63 No. 4, pp. 561-604.

Lewicki, R.J., Saunders, D.M. and Barry, B. (2011), *Essentials of Negotiation*, McGraw-Hill, Boston, MA.

Liu, P. and Li, Z. (2012), "Task complexity: a review and conceptualization framework", *International Journal of Industrial Ergonomics*, Vol. 42 No. 6, pp. 553-568.

Liu, W., Friedman, R. and Hong, Y.Y. (2012), "Culture and accountability in negotiation: recognizing the importance of in-group relations", *Organizational Behavior and Human Decision Processes*, Vol. 117 No. 1, pp. 221-234.

Lügger, K., Geiger, I., Neun, H. and Backhaus, K. (2015), "When east meets west at the bargaining table: adaptation, behavior and outcomes in intra- and intercultural German–Chinese business negotiations", *Journal of Business Economics*, Vol. 85 No. 1, pp. 15-43.

Mannix, E.A. (1993), "The influence of power, distribution norms and task meeting structure on resource allocation in small group negotiation", *International Journal of Conflict Management*, Vol. 4 No. 1, pp. 5-23.

March, J.G. and Simon, H.A. (1958), *Organizations*, Wiley, New York, NY.

Menkel-Meadow, C. (2009), "Chronicling the complexification of negotiation theory and practice", *Negotiation Journal*, Vol. 25 No. 4, pp. 415-429.

Mermet, L. (2012), "Managing complexity", in Faure, G.O. (Ed.), *Unfinished Business: Why International Negotiations Fail*, University of GA Press, GA, pp. 333-352.

Messick, D.M. and Schell, T. (1992), "Evidence for an equality heuristic in social decision making", *Acta Psychologica*, Vol. 80 Nos 1/3, pp. 311-323.

Midgaard, K. and Underdal, A. (1977), "Multiparty conferences", Druckman D. (Ed.), *Negotiations: Social-Psychological Perspectives*, Sage, Beverly Hills, CA, pp. 329-345.

Morris, M.W., Sim, D.H. and Girotto, V. (1995), "Time of decision, ethical obligation, and causal illusion: temporal cues and social heuristics in the prisoner's dilemma", *Negotiation as a Social Process*, Sage, Thousand Oaks, CA, pp. 209-239.

Naquin, C.E. (2003), "The agony of opportunity in negotiation: number of negotiable issues, counterfactual thinking, and feelings of satisfaction", *Organizational Behavior and Human Decision Processes*, Vol. 91 No. 1, pp. 97-107. available at: https://doi.org/10.1016/S0749-5978(02)00532-0

Neale, M.A. and Northcraft, G.B. (1991), "Behavioral negotiation theory: a framework for conceptualizing dyadic bargaining", *Research in Organizational Behavior*, Vol. 13, pp. 147-190.

O'Connor, K.M. and Arnold, J.A. (2001), "Distributive spirals: negotiation impasses and the moderating role of disputant self-efficacy", *Organizational Behavior and Human Decision Processes*, Vol. 84 No. 1, pp. 148-176.

Polzer, J.T., Mannix, E.A. and Neale, M.A. (1998), "Interest alignment and coalitions in multiparty negotiation", *Academy of Management Journal*, Vol. 41 No. 1, pp. 42-54.

Pruitt, D.G. (1981), *Negotiation Behavior*, Academic Press, New York, NY.

Putnam, R.D. (1988), "Diplomacy and domestic politics: the logic of two-level games", *International Organization*, Vol. 42 No. 3, pp. 427-460.

Raiffa, H. (1982), *The Art and Science of Negotiation*, Harvard University Press, Cambridge, MA.

Raiffa, H., Richardson, J. and Metcalfe, D. (2007), *Negotiation Analysis: The Science and Art of Collaborative Decision Making*, Harvard University Press, Cambridge, MA.

Ramirez-Marin, J., Olekalns, M. and Adair, W. (2019), "Normatively speaking: do cultural norms influence negotiation, conflict management, and communication?", *Negotiation and Conflict Management Research*, Vol. 12 No. 2, pp. 146-160.

Rosette, A.S., Brett, J.M., Barsness, Z. and Lytle, A.L. (2012), "When cultures clash electronically: the impact of email and social norms on negotiation behavior and outcomes", *Journal of Cross-Cultural Psychology*, Vol. 43 No. 4, pp. 628-643.

Rubin, J.Z. and Brown, B.R. (1975), *The Social Psychology of Bargaining and Negotiation*, Academic Press, New York, NY.

Rubin, J.Z., Pruitt, D.G. and Kim, S.H. (1994), *Social Conflict: Escalation, Stalemate, and Settlement*, McGraw-Hill, New York, NY.

Sebenius, J.K. (1983), "Negotiation arithmetic: adding and subtracting issues and parties", *International Organization*, Vol. 37 No. 2, pp. 281-316.

Simon, H. (1969), *The Science of the Artificial*, MIT Press, Cambridge, MA.

Sjöstedt, G. (1994), "Negotiating the Uruguay round of the general agreement on tariffs and trade", Zartman, I. (Ed.), *International Multilateral Negotiation: Approaches to the Management of Complexity*, Jossey-Bass, San Diego, CA, pp. 44-72.

Suls, J., Martin, R. and Wheeler, L. (2002), "Social comparison: why, with whom, and with what effect?", *Current Directions in Psychological Science*, Vol. 11 No. 5, pp. 159-163.

Ten Velden, F.S., Beersma, B. and De Dreu, C.K.W. (2007), "Majority and minority influence in group negotiation: the moderating effects of social motivation and decision rules", *Journal of Applied Psychology*, Vol. 92 No. 1, pp. 259-268.

Thompson, L. (2014), *The Mind and Heart of the Negotiator*, 6th ed., Pearson Prentice Hall, Upper Saddle River, NJ.

Thompson, L. and Hrebec, D. (1996), "Lose-lose agreements in interdependent decision making", *Psychological Bulletin*, Vol. 120 No. 3, pp. 396-409.

Thompson, L.L. (1991), "Information exchange in negotiation", *Journal of Experimental Social Psychology*, Vol. 27 No. 2, pp. 161-179.

Thompson, L.L., Mannix, E.A. and Bazerman, M.H. (1988), "Group negotiation: Effects of decision rule, agenda, and aspiration", *Journal of Personality and Social Psychology*, Vol. 54 No. 1, pp. 86-95.

Thompson, L.L., Wang, J. and Gunia, B.C. (2010), "Negotiation", *Annual Review of Psychology*, Vol. 61 No. 1, pp. 491-515.

Tinsley, C.H. and Jeanne, M.B. (2001), "Managing workplace conflict in the United States and Hong Kong", *Organizational Behavior and Human Decision Processes*, Vol. 85 No. 2, pp. 360-381. available at: https://doi.org/10.1006/obhd.2000.2944

Tinsley, C.H., Curhan, J.J. and Kwak, R.S. (1999), "Adopting a dual lens approach for examining the dilemma of differences in international business negotiations", *International Negotiation*, Vol. 4 No. 1, pp. 5-22.

Tollison, R.D. and Willett, T.D. (1979), "An economic theory of mutually advantageous issue linkages in international negotiations", *International Organization*, Vol. 33 No. 4, p. 425.

Trötschel, R., Höhne, B.P., Peifer, C., Majer, J.M. and Loschelder, D.D. (2014), "Resource-oriented negotiations (RON): a framework for research and application", paper presented at the 27th Annual Conference of International Association for Conflict Management, Leiden, the Netherlands.

Trötschel, R., Hüffmeier, J., Loschelder, D.D., Schwartz, K. and Gollwitzer, P.M. (2011), "Perspective taking as a means to overcome motivational barriers in negotiations: when putting oneself into the opponent's shoes helps to walk toward agreements", *Journal of Personality and Social Psychology*, Vol. 101 No. 4, pp. 771-790.

Tversky, A. and Kahneman, D. (1981), "The framing of decisions and the psychology of choice", *Science*, Vol. 211 No. 4481, pp. 453-458.

Van der Schalk, J., Beersma, B., Van Kleef, G.A. and Dreu, C.K.W, D. (2010), "The more (complex), the better? The influence of epistemic motivation on integrative bargaining in complex negotiation", *European Journal of Social Psychology*, Vol. 40, pp. 355-365.

Van Lange, P.A.M. and Visser, K. (1999), "Locomotion in social dilemmas: how people adapt to cooperative, tit-for-tat, and noncooperative partners", *Journal of Personality and Social Psychology*, Vol. 77 No. 4, pp. 762-773.

Wallace, W. (1976), "Atlantic relations: Policy coordination and conflict", *International Affairs*, Vol. 52 No. 2, pp. 163-179.

Walton, R.E. and McKersie, R. (1965), *A Behavioral Theory of Labor Negotiations: An Analysis of a Social Interaction System*, McGraw-Hill, New York, NY.

Warsitzka, M., Zhang, H., Majer, J.M., Loschelder, D.D. and Trötschel, R. (2019), "Does expanding the pie spoil the cake? How and why the number of issues affect behaviors and outcomes in integrative negotiation", paper presented at the 32nd Annual Conference of International Association for Conflict Management, Dublin, Ireland.

Watkins, M. (1999), "Negotiating in a complex world", *Negotiation Journal*, Vol. 15 No. 3, pp. 245-270.

Watkins, M. (2003a), "Strategic simplification: toward a theory of modular design in negotiation", *International Negotiation*, Vol. 8 No. 1, pp. 149-167.

Watkins, M. (2003b), "Analyzing complex negotiations", *Harvard Business Review*, No. 9-903-088, pp. 1-22.

Watkins, M. and Passow, S. (1996), "Analyzing linked systems of negotiations", *Negotiation Journal*, Vol. 12 No. 4, pp. 325-339.

Weiss, S.E. (1993), "Analysis of complex negotiations in international business: the RBC perspective", *Organization Science*, Vol. 4 No. 2, pp. 269-300.

West, M.A., Tjosvold, D. and Smith, K.G. (2003), *International Handbook of Organizational Teamwork and Cooperative Working*, Wiley, Chichester.

Winham, G.R. (1977), "Complexity in international negotiation", Druckman, D. (Ed.), *Negotiations: Social-Psychological Perspectives*, Sage Publications, Beverly Hills, CA, pp. 347-366.

Zartman, I.W. (1971), *Politics of Trade Negotiations between Africa and the European Economic Community*, Princeton University Press, Princeton, NJ.

Zartman, I.W. (1994), *International Multilateral Negotiation: Approaches to the Management of Complexity*, Jossey-Bass, Sans Diego, CA.

Zartman, I.W. (2003), "Conclusion: managing complexity", *International Negotiation*, Vol. 8 No. 1, pp. 179-186.

Further reading

Pruitt, D.G. and Carnevale, P.J. (1993), *Mapping Social Psychology Series. Negotiation in Social Conflict*, Thomson Brooks; Cole Publishing Co, MI.

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