11. Managing uncertainty in multiparty negotiations

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In his well-known early book on negotiations *The art and science of negotiation*, Howard Raiffa (1982) begins his analysis by distinguishing between two-party and multiparty negotiations. While perhaps not the first to make this distinction, his treatment set the stage for much of the research and teaching on negotiation that has occurred in the last several decades.

In this chapter we consider three types of multiparty negotiations – negotiations that occur within a team as it faces the potential for a negotiation with other entities, negotiations among multiple different parties each of whom has its own interests, and negotiations in marketplace contexts where there are typically many buyers and sellers. The tasks facing negotiators in these three different contexts have both commonalities and differences, as we discuss. In each context, negotiators must recognize, understand, and manage problems of gaining and dealing with relevant but sometimes hidden, vague, or perplexing information.

As reflected in Raiffa's discussion, the importance of the distinction between two-party and multiparty negotiations reflects the challenge of acquiring and managing relevant information in the multiparty context. For example, a negotiator in a multiparty context must consider not just the interests of one other person, but those of several others; a negotiator must consider the wide range of possible agreements across a constellation of potential partners; and a negotiator might not know who all the other parties are, or even how many other parties are involved.

Managing uncertainty has been discussed both as a core managerial task and as an ongoing challenge for organizational members (Gosling and Mintzberg, 2003), as well as an essential skill for negotiators' success (Kelley, 1966; Thompson, 1991; Olekalns et al., 1996; Neale and Fragale, 2006). We agree that uncertainty is an important issue in negotiation and, in this chapter, we explore three types of uncertainty in multiparty negotiations: uncertainty of identity, uncertainty of interests, and uncertainty of inclusion. Rather than uniformly assuming that uncertainty is detrimental for negotiators' performance and thus should be minimized, we explore the impact of these three types of uncertainty, both positive and negative, on negotiation processes and outcomes.

Uncertainty inherent in the negotiation process can be beneficial, and even necessary, for reaching optimal negotiation outcomes. Research on certainty and information processing has suggested that one's level of certainty affects the way that one processes information. When individuals experience a feeling of certainty, they may process information in a heuristic fashion and rely on well-developed associations, mental shortcuts, or rules of thumb to evaluate information and make decisions. In contrast, the experience of uncertainty may cause individuals to process information more deeply or more systematically. That is, when individuals experience uncertainty they may consider multiple alternatives or points of view more carefully, scrutinize information longer, and ask more probing and insightful questions (Chaiken et al., 1989; Kahneman, 2011; Tiedens and Linton, 2001; Weary and Jacobson, 1997).

Research from negotiation contexts suggests that systematic processing of information is a critical factor for achieving integrative, or mutually or collectively beneficial, negotiation agreements (e.g., Anderson and Neale, 2004; De Dreu, 2003; Thompson, 1991). When negotiators process information carefully, they are more likely to ask the right questions, listen to the answers, and uncover opportunities for mutually beneficial trade-offs. Thus, uncertainty may facilitate the formation of integrative negotiation agreements because uncertainty may enhance systematic thinking, and systematic thinking, in turn, enhances negotiation performance through increased value creation.

While recognizing this potential advantage of the experience of uncertainty, we also acknowledge that negotiators, like other decision makers, rely on their well-learned routines, practices, and heuristics when they experience too much uncertainty. When faced with revolutionary and unexpected changes in their environment, decision makers often revert to their most over-learned, dominant behaviors (Staw et al., 1981; Ocasio, 1995). A state of threat rigidity, for example, can impair negotiators' information search and creativity and lead to reliance on myths of negotiation, such as that of the fixed pie. The point when levels of uncertainty switch from being useful for motivating the search for information and creative problem solving to detrimental because they lead to succumbing to over-learned behaviors or heuristics is a function of the expectations, abilities, and cognitive resources available to the specific negotiators as well as the informational challenges they face in their particular context.

INTRA-TEAM NEGOTIATIONS

As the unit of agency moves from the individual to the team, so does the constellation of potential solutions that are available to negotiators. The overarching uncertainty as the team chooses a course of action is whose voice is heard and whose interests will be considered. More specifically, the question arises whether the team is open to and capable of integrating the disparate interests that may exist among team members into a unified strategy and roadmap for achieving its goals. As the number of individuals in a team increases, the parties face increasing levels of uncertainty in identifying and clarifying their preferences and priorities in the process of planning the negotiation. With other team members, they must contend with the uncertainty associated with who has voice and who wants what within the team's boundaries.

Uncertainty of Identity: Who Is on My Team?

As teams begin to consider the parameters over which they will negotiate, the identity of team members – exactly who is on the team and whose preferences and priorities will be considered – and the values that will comprise the shared identity are salient considerations. While the actual identity of team members is rarely considered a source of uncertainty as intra-team interactions are often face-to-face, who is on the team may become more ambiguous as communication among team members is increasingly mediated by technology (Hinds and Mortensen, 2005).

Individuals reduce ambiguity about membership by assessing the relative similarity between their colleagues and themselves (Tajfel, 1974). The first step in reducing this uncertainty is to learn the identity of the members. Once formal membership is clarified, team members can then specify the shared values and perspectives that will characterize members in good standing. With a salient shared identity, group members are more cooperative, more loyal to the perceived interests of the group, and emphasize the welfare of the group (Brewer and Miller, 1996). Without a strongly shared identity, team members are likely to view other members' behaviors through a malevolent filter when disputes arise (Jehn et al., 1999). The less the shared identity, the more diverse the team is likely to perceive itself (see Liu and Cai, Chapter 4 this volume, for details about creating shared identity). It is this first consideration of who is inside and who is outside the boundary of the team, and the definition of the characteristics that separate members from non-members, that motivates the search for alignments of interests and specifies the standards for membership.

Uncertainty of Interests: What Do We Want?

Negotiators in teams may not be aware of the extent to which their interests and preferences differ from those around them. And, even if they recognize these differences, individuals may be reluctant to express their conflicting goals and preferences about how to achieve them. How do team members fashion an agreement with their team counterparts who are on the same side of the dispute but may bring very different expectations about the issues, strategies, and outcomes that constitute an acceptable agreement?

When faced with an intra-team negotiation, teams benefit from identifying and resolving members' conflicting goals, preferences and priorities before the external negotiation begins. If these differences remain unrecognized and unresolved, team members may experience a dilemma: should they maximize their individual interests or should they submerge their individual interests in service of the team's or other team members' interests? Having this conflict remain unresolved but active during an inter-team negotiation reduces the team's ability to develop a shared identity and discourages information sharing within the team (Halevy, 2008). Further, teams that experience this internal conflict are less able to carry out organized, collective action in the form of implementing the team's strategy in the negotiation (Borenstein, 2003). When team members experience internal conflict, they are less satisfied with the outcomes as well as with their fellow team members. So, from the perspective of the team, it is important to ensure the team's interests are aligned with the individual members' interests by explicitly preparing and implementing a negotiation process within the team to achieve an internal consensus before the team turns its collective attention across the table.

Achieving internal agreement, however, may not always be straightforward. While there has been little research in the negotiation domain that explicitly examines the existence and impact of this similarity bias on the performance of negotiating teams, we can draw from a wealth of team-based research to suggest the impact of such perceptions on the problem-solving capability of negotiating teams (for a review, see Mannix and Neale, 2005).

For example, it is not at all unusual for negotiators to assume that because individuals are on the same side of the table in a dispute that their interests are aligned. People derive part of their social identity and self-esteem from the groups or teams to which they belong (Tajfel and Turner, 1986). As such, they tend to categorize themselves into social groups that are favorably distinct from other groups (Turner, 1987). This process can motivate individuals to perceive in-group members in a positive light and to assume greater similarity of viewpoints and opinions between themselves and other in-group versus out-group members (Allen and Wilder, 1979).

When individuals see members of their team as homogenous, they are likely to extend this perception of homogeneity to a similarity of views and perspectives. This biased expectation about the others' goals may diminish the perception of, or at least the willingness of group members to voice, disagreement. Classic research on groupthink (Janis, 1982) supports the more general idea that homogeneity can decrease individuals' sensitivity to disagreement – but not because there is no disagreement. Rather, there is a veneer of agreement that may simply flow from members' voluntarily suppressing dissenting viewpoints – an outcome more likely to be experienced in homogeneous as compared to diverse groups (Abrams et al., 1990).

The perception of homogeneity diverts attention away from disagreement and difference by creating an expectation of alignment that can obscure the actual level of underlying conflict. In a study examining the effects of racial diversity on group decision-making, Phillips et al. (2006) administered a "hidden profile" task to demographically homogeneous groups (composed of three white individuals) and demographically diverse groups (composed of two white and either one Asian, Black or Hispanic individual). In hidden profile tasks, group members receive some shared information that is provided to their group members as well as some unique information (that is not provided to others). In this study, both homogeneous and diverse groups received the identical distribution of shared and unshared information, but the information received was perceived as significantly more similar by individuals in demographically homogeneous groups as compared to individuals in diverse groups.

If team members have an expectation of similarity among their teammates, this expectation is strengthened the more the teams experience their interests as homogenous. Phillips and her colleagues documented a tendency for individuals in a team to believe that they are more likely to agree with an in-group as opposed to out-group member – even when the nature of the categorization is completely unrelated to the task (Phillips, 2003; Phillips and Loyd, 2006). This expectation could, in part, explain why homogeneous juries are less effective in their deliberations: they may systematically over-estimate the extent of their internal alignment (Sommers, 2006) and, by assuming a common perspective, ignore unique information that may be critical to a high quality decision. Because of the very real possibility that teams are often composed of those who share dimensions of proximity, past experience, or friendship, the impact of similarity inferred from common team membership may enhance the selective interpretation of or exposure to conflicting points of view (Mannix and Neale, 2005).

Phillips and Apfelbaum (in press) have argued that this selective, and often motivated, perception of similarity leads to what they call the *delusion of homogeneity* or the belief that team members are more similar in their beliefs, aspirations, and goals than an objective assessment would reveal. This delusion of homogeneity or similarity can be reflected in the certainty with which the team believes that it has internal consensus. The resulting consensus, itself already an illusion, can lead negotiating teams to endorse proposals and experience levels of confidence that these proposals reflect the will of the team that is inconsistent with the true constellation of preferences and priorities of the team. This mismatch could easily result in creating proposals and valuing outcomes at the level of the team in ways that are inconsistent with the preferences of team members – and which may only become evident during the external negotiation.

It is important to assess the true alignment of goals and preferences among team members. The more similar the team's members seem to be personally, the more members expect consensus in their goals and preferences. But surface level similarity (demographic category membership or professional background and expertise), or perceived commonality as a result of the mere fact of being members of the same group or team, might conceal deep divides in what teams members are trying to achieve and the outcomes they find desirable or acceptable. Individuals normally expect congruency between surface- and deep-level distinctions such that people who are similar are assumed to have the same preferences and people who are different are assumed to have different preferences. When team members extrapolate from surface-level similarity or homogeneity they have expectations of lower levels of conflict within the group because of (the assumed similarity of) opinion and perspectives, and an expectation of an increased relationship rather than task focus (Harrison and Klein, 2007).

Recent research has found that the mere presence of surface-level differences increases perceptions of uncertainty, raises the expectation of conflict, and motivates a more elaborated and systematic search for unique or discriminating information (Phillips and Loyd, 2006). Because these surface-level differences change how confident team members are in their predictions of others' views and preferences, the subsequent search for and surfacing of deep-level differences are more effective.

Researchers found that individuals who expected to interact with those who were (surface-level) different from them were more likely to engage in more systematic information processing in attempting to understand others' perspectives. In addition, such individuals focused on the task rather than the relationship more than did those who were expecting to interact with others who were (surface-level) similar (Loyd et al., in press). The extent of systematic planning was revealed when researchers analysed the informational content of the individuals' plans. Those who expected to interact with people who were different from them developed more elaborate and detailed plans of action. Indeed, additional research convincingly demonstrated that those individuals who expected to work with dissimilar others are more likely to discuss uniquely-held information about the common task with their counterparts while those who face similar others are more likely to discuss information that they knew their counterpart already possessed (Cao and Phillips, 2011). That is, in advance of working with dissimilar team members, individuals expect that other team members will disagree with them and they plan to emphasize their unique information about the issues to be addressed. This additional elaboration bolsters the depth and quality of an individual's arguments as well as the aggregate information available to the team. Team members therefore come to a meeting better prepared and more able to articulate the reasons on which their opinions were based. In addition, they are more open to differing perspectives and are more able to recognize new and potentially valuable insights.

Uncertainty of Inclusion: Am I a Part of This Deal?

The often mistaken and potentially harmful assumption of homogeneity is, in many respects, the reflection of people's longing for the guarantee of membership and influence. The more members in a team are perceived as similar along a variety of dimensions, the clearer the distinction between members and non-members. Given that the most powerful tool for control that a team has is the ability to ostracize deviant individuals, being validated as a member in good standing facilitates the expression of similar interests, whereas it censors the expression of interests that might be divergent. Thus, the criteria for inclusion and the standards for membership are clear (Mannix and Neale, 2005).

There can be considerable fluidity in the boundary that separates who is inside and who is outside the group. Perceived differences among group members can have detrimental effects on cooperation in general and negotiation in particular. Research has demonstrated that negotiators privilege the interests of insiders and discount the interests of outsiders, even when the differences between those deemed insiders and outsiders are trivial or contrived (Brewer, 1979). While these processes are generally thought of in terms of intergroup interaction, they may also occur within a group (Hogg and Terry, 2000, Gibson and Vermeulen, 2003).

Members of a group favor other members of their sub-group (in-group) and punish members of other sub-groups (out-group) even when the highest level of common good comes at a very low cost to the in-group or when the benefits to the in-group did not differ but the benefits to the out-group increased (Tajfel et al., 1971; Turner, 1981). Thus, this often-mistaken assumption of homogeneity within and differences across negotiating teams increases the perceived competitiveness of the negotiation context and negotiating teams' interactions (Kramer, 1981). This competition, in turn, further emphasizes the importance of the team's solidarity. As this process escalates, the hurdle for an individual team member to voice his or her disagreement about goals, preferences and priorities can become insurmountable. A group member who does so runs the real risk of being perceived as disloyal, resulting in reduced influence and acceptance within the group.

Because members of a team assume that common team membership means common goals, interests, preferences, and priorities and the certainty that comes with similarity, they can easily overlook or fail to recognize the existence of internal conflict within the team and miss opportunities to create the necessary internal consensus and coordination. Failing to recognize the lack of alignment among team members leaves internal conflict unexamined and unresolved. In addition, team members may self-censor the expression of their divergent preferences to maintain membership in good standing. Thus, the certainty with which team members regard their aggregate interests is enhanced by the expectations of the team and the behavior of its members. These failures to acknowledge and resolve this intra-team uncertainty can reduce members' identification with the team because of the lack of congruence of their own interests with those espoused by the team; and the team could be less creative in developing its proposals because of the inaccurate perceptions of similarity and alignment.

Teams can often be superior to individuals in analysing information and completing tasks but often fail to consider how to coordinate the pieces of their solutions into an organized whole (Stout et al., 1999). On the other hand, individuals negotiating on their own do not have the challenge of creating internal consensus prior to negotiating, but still must often find ways to assess, manage and coordinate a complex set of information, people and interactions. It is on this context that we focus next.

MULTILATERAL NEGOTIATIONS

Multilateral negotiations are interactions in which three or more individuals, representing their own interests, or perhaps more often their own interests as well as those of others (such as departments, clients or family members), attempt to resolve perceived differences of interest (Bazerman et al., 1988; Kramer, 1991). Multilateral negotiations have tremendous potential to result in strong, creative agreements, but they are also subject to a number of challenges along the way that make them difficult to manage and to resolve. Indeed, scholars have argued that multilateral negotiations are particularly subject to breakdowns if not conscientiously managed (Brett, 1991).

As the number of different parties and so the diversity of preferences and perspectives at the table increases, the demands placed on each negotiator to manage uncertainty compounds. Consider the simplest multilateral case – a three-person negotiation. The focal negotiator has a variety of tasks that involve assessing and managing relationships (to promote identity), acquiring and interpreting information (to understand interests), and controlling processes (to be sure of inclusion). For example, a negotiator must manage her relationship with her constituents outside the negotiation, as well as inside, understand and then consider the compatibility of preferences and possible trade-offs between her and two other individuals, and then negotiate with each of the parties in the group, while at the same time guarding against a possible exclusionary alliance between them. As the group size increases to four or more, so does complexity and, potentially as a result, the degree of uncertainty on each of these dimensions. For example, the sheer amount of information expands, but so does the number of possible potential trade-offs among issues and people. The number of alliances (both with and without the focal negotiator) likewise increases. In essence, as the group size increases, so does the amount of uncertainty that each negotiator must face.

Uncertainty of Identity: Who Am I in this Context?

Unlike the members of a team who are likely to assume a similarity of goals, interests, and priorities, because multilateral negotiators are not part of the same in-group they are more likely to make the reverse assumption and to expect incompatibility among negotiators. The strength with which multilateral negotiators make and persist in this assumption of incompatibility may be as damaging to effective negotiation processes and outcomes as are team members' assumptions of exaggerated homogeneity.

In addition to their assumption of incompatibility of interests, negotiators in multilateral contexts are relatively unlikely to identify with the other negotiators who represent other groups. Especially when negotiators are representing others, their social identification is more likely to be outside the group of negotiators, with their home department, client, or family.

As such, it may be difficult for the negotiators in multilateral contexts to see the group as a cooperative social entity with a common goal, or shared set of values and norms (Katzenbach and Smith, 1993). Maximizing the group's outcome and finding the best possible solution for all parties are not only more difficult in multilateral negotiation but also may not even be credible or desirable goals. The more that group members identify outside the group, and the more they focus on their own interests, the less likely they may be to work toward high quality, integrative solutions. Thus, the untested but strongly held belief about the others players' oppositional preferences and priorities may drive members of the group further apart than their underlying interests would suggest, creating an unnecessarily competitive environment. This tendency may threaten the quality of the agreement, and even create a higher likelihood of impasse – particularly if the cooperation of all parties is required to reach a final agreement.

Uncertainty of Interests: What Does Everyone Want?

As the number of individual negotiators in a multilateral context increases from three or more in a negotiation, the number of issues, the perspectives on those issues, and the sheer amount of information to be digested grows quickly. Keeping track of the factual information, as well as the values, attitudes, and perceptions of each negotiator is a major challenge. As with a dyadic negotiation, each participant is trying to discern the priorities, targets, and reservation points of the other negotiators, and gauge where trade-offs can be made with each party. Integrating this massive amount of information into an optimal solution can be a highly demanding task as the bargaining zone changes from two dimensions to three, four or five, or more, depending on the number of participants.

Thus, negotiators in a multilateral setting labor under a variety of types of information overload as well as information uncertainty. Because of negotiators' efforts to deal with this complicated information, decision-making biases that are prevalent in dyadic negotiation may be exacerbated in the multilateral setting. The simple presence of additional parties is known to make individuals more competitive, for example, as individuals compare their outcomes to others and "winning" becomes a goal in and of itself. Uncertainty about feasible negotiated outcomes can exacerbate this tendency as players may become concerned about feeling regret over accepting an agreement that they may later judge to be sub-optimal (Galinsky et al., 2002). The less negotiators know about the bargaining zone, the more second guessing and doubt they may experience, thus increasing the possibility of impasse.

Another heuristic that threatens agreement in multilateral negotiation is the endowment effect. This bias operates when buyers and sellers have differing reference points for an object, specifically when the owner of an object values it more than the potential buyer of that object (Kahneman et al., 1990). The difference between what sellers demand and what buyers are willing to pay is a reflection of loss aversion. Sellers tend to demand too much for items when they overly identify as the owners of those objects. In multilateral negotiations this problem is increased because it may be less clear how to value bargaining issues and items when there are multiple parties at the bargaining table. Because we assess the value of issues from many sources, including from the party or parties across the table, when there are multiple parties in a negotiation there may be conflicting information on the value of various issues. For example, imagine a cross-functional group negotiating over the design of a tablet computer. The parties are likely to have different values for items like overall design, functionality, price-point, and so on, and also different projections for how each of these issues will affect the quality of the product, cost, and profitability to the firm. In this case, the increased ambiguity that arises from the varying information, opinions and projections provided by the negotiators may also heighten a reluctance to make concessions and trade-offs, increasing the chances of stalemate.

Uncertainty of Inclusion: Am I in on this Deal?

Finally, potentially the most critical distinction between dyadic and multilateral negotiation is the potential for coalition formation between two or more of the players. A coalition is defined as two or more parties who cooperate to obtain a mutually desired outcome that satisfies the interests of the coalition rather than those of the entire group within which it is embedded (Murnighan, 1986; Polzer et al., 1998). The possibility of coalitions means that one or more of the individuals could be excluded from the final agreement, or if not excluded, then forced to accept a lowered outcome (see Crump, Chapter 15 this volume, for discussion of coalitions in trade negotiations). Negotiators need to concern themselves not only about the uncertainty raised by the various coalitions among negotiators, but also about the potential alliances that have not yet surfaced. For example, Cobb (1986) defines a latent coalition as an emergent interest group that has not yet formed into an operating, active coalition. An operating coalition can be established, stable, and long-lived, or it can be temporary and focused on a single issue or problem. In all cases, coalitions face a number of challenges in their formation, maintenance, and in the distribution of resources that ultimately center on issues of trust, temptation and uncertainty (Mannix and Loewenstein, 1994).

The potential for coalition formation may be a type of uncertainty that is a positive force in multilateral negotiations. It forces negotiators to engage in high levels of strategic thinking about their alternatives and how to improve them, and to do the same for the various parties to the negotiation by taking their perspectives. It also forces negotiators to be attentive and stay engaged as the active alliances can shift at any time, changing the power dynamics and the potential costs and benefits of the interaction.

Coalitions typically begin with one founder who initiates the coalition by enlisting other members. Initiating or joining a coalition early in its development involves some risk, because the initiators and early joiners of a coalition are uncertain whether the coalition will garner enough critical mass to win, but concerns about inclusion can lead group members to come on-board nonetheless. Coalitions tend to build one member at a time, through commitments and promises made to specific individuals. Research has shown that the founder typically has to offer a disproportionate share of the resources to induce potential partners to join early, at least until the coalition is well established (Murnighan and Brass, 1991).

Coalitions include members, but they also exclude them – and herein lies some of the tension between trust and temptation as players attempt to make sure they are included in deals, but also try to obtain the largest share of the resources the coalition can command as possible. It can be effective to invite weak members into a coalition because they can deliver a lot of value to coalitions, as they can put the coalition over the top but ask for less from the winning pool. On the other hand, stronger group members give added power to the coalition but they may demand disproportionate influence and shares of the resources won by the coalition. Optimally, negotiators will build the smallest and least costly winning coalition possible (Murnighan, 1978; 1986), but determining the strategy that leads to this goal is difficult.

Decisions about alternative allies are really decisions about how to mitigate risk and manage uncertainty. The more uncertainty players perceive, either about the true goals or preferences of coalition partners, or the quality of the deal they have struck with their allies, the less likely the coalition will hold. Power and uncertainty are intertwined when coalitions are possible, as group members strive to reduce uncertainty and stabilize their coalition membership, which both depends on and increases their power. One of the key issues is for group members to assess their sources of power and to use them to avoid exclusion and ensure beneficial outcomes in multilateral negotiations.

Polzer et al. (1998) identified three key types of power in multilateral negotiations with coalition potential – strategic, normative, and relational. Strategic power is the classic form of power that emerges from the availability of alternative coalition partners; those who are invited to join alternative coalitions can be more selective in the coalitions they choose to join. Normative power derives from what parties consider a just or fair allocation of the resources the coalition can command. Normative power also can serve a strategic function because the party that proposes the principle of what constitutes a fair distribution can be at least somewhat self-serving. Finally, relationship-based power comes from the compatibility of preferences between two or more parties. Parties who see each other as having compatible interests, values, or preferences are likely to begin and maintain a relationship that can influence or block other possible coalitions.

In an empirical demonstration of their relative effects, Polzer et al. (1998) examined all three types of power simultaneously. They found relationship power to be the most effective source of power for negotiators seeking to be included in final deals and to achieve large outcomes, as it affected both the formation and stability of coalitions. Resistance from parties outside the coalition tended to strengthen the bond among the coalition members, making it more likely for them to continue to identify and cooperate with each other and compete with the non-coalition members. Therefore, when coalitions initially formed because of relationship power, they were likely to be broadly effective, influencing even those issues for which the coalition members did not have compatible preferences. In essence, this sort of power allowed negotiators to develop confidence about each other's behaviors and intentions, both in the present and in the future, which in turn lowered uncertainty about future exclusion.

Negotiators in multilateral contexts face the disadvantage of uncertainty in terms of their splintered identity as a group, and the difficulty of assessing and managing an overload of interests and other information. However, the pressure to understand the complex set of relationships in the group, with the possibility for exclusion through coalitions, can keep negotiators engaged and motivated. As a result, although high levels of uncertainty have the potential to pull the negotiation off track, resulting in sub-optimal outcomes for some if not all of the individual players, it is also possible that if the negotiators recognize their situation and manage it effectively, uncertainty can encourage a proactive and creative effort.

We now consider negotiation contexts that often involve many people – sometimes many thousands. Negotiations in the marketplace are complicated because of the number of people who are participating and the ways that uncertainty is manifested and may be managed.

NEGOTIATIONS IN THE MARKETPLACE

In many negotiation contexts, buyers have a choice of potential suppliers of the goods or services that they seek to purchase and sellers have a choice of potential customers. In such cases, buyers and sellers are negotiating not only the price at which they will strike a deal, but also whether they will transact with each other at all or whether they will buy from or sell to alternative counterparties. Identifying these alternatives is an important aspect to success at negotiation – negotiators are often advised to improve their best alternatives to an agreement with one particular counterparty – but the process has been relatively little studied (Thompson et al., 2010). We refer to situations in which there are various possible parties with whom negotiators can make deals as marketplace negotiations. Negotiators in marketplaces face various issues that create uncertainty about identity, interests, and inclusion.

Uncertainty of Identity: Who is in the Market?

In some marketplace negotiations market participants know both who the possible counterparties are as well as whom else is on their side of the market. However, it is frequently the case that market participants do not know the identities of their possible counterparties nor the competitors on their side for deals with those counterparties. In many auctions, for example, the bidders are not even in the same room and never see or speak to one another. Furthermore, market participants may not know even how many other participants are in the market. Buyers on eBay or other online auction sites, for example, generally have no idea of the number of potential bidders, even if they know the number of people who have placed a bid (see Friedman and Belkin, Chapter 14 this volume, for additional considerations about e-negotiations).

The number of bidders in a market can affect likely outcomes for participants, however, so they often actively seek to manage that number. Economists have demonstrated the advisability of doing so analytically and its advantage has emerged in empirical results produced by both economists and psychologists. Parties generally seek to increase the numbers of participants on the other side of the market from themselves and lower the number on the same side.

The advantage of having additional bidders on the other side of a market has been argued to be robust even to the difference between one possible counterparty and more than one. Bulow and Klemperer (1996) compare prices in the two kinds of contexts and conclude, "A simple competitive auction with N + 1 bidders will yield a seller more expected revenue than she could expect to earn by fully exploiting her monopoly selling position against N bidders . . ..Our analysis implies that if the board [of a company] expects at least one extra serious bidder to appear in an auction, then it should generally not negotiate and should directly begin an auction" (p. 190). This observation provides interesting advice to negotiators to avoid negotiation and instead establish a competitive market and encourage as many bidders as possible to participate (compare Subramanian and Zeckhouser, 2004). Neale and Lys (2012) argue, however, that when propriety information needs to be shared for a sale to be completed, as in the case of allowing buyers due diligence for a corporate acquisition, the fewer potential buyers who have access to this information, the better. In such cases, despite the potential gains from having alternative potential buyers bid for a property, a seller may prefer a negotiation to an auction to protect the value of the asset under consideration.

Even if an auction were better for a seller than a straightforward negotiation, some auctions are nonetheless better than others for one side or the other. The more numerous the bidders, the more difficult it is for them to cooperate in an effort to keep prices low. The risk that they will do so is often real, especially in the common repeated ascending auctions in which bidders frequently are known or even present with each other (as at, say, Sotheby's for art objects or in many government-run auctions for parts of the electromagnetic spectrum). In such contexts not only do the bidders know what the other bidders are doing, but also they can punish rivals for entry into the market as competitors. For example, one broadcaster who had to pay more than it would have otherwise had to for rights in one market later entered the auction for rights in a rival's market where it had previously shown little interest; it entered the bidding in the second market evidently in retaliation for its rival's participation in the first (Klemperer, 2002). Buyers may not know whether or not another firm will retaliate in this kind of way, but knowing that this is possible, bidders may refrain from entering some auctions. To avoid these dynamics, sellers do better in contexts in which the number of potential bidders is high so that uncertainty on the part of buyers about who is in the marketplace is increased.

Buyers, on the other hand, who are in a market, want to raise barriers to entry to limit competition and make it easier to signal their intentions to other bidders. Among other advantages, small numbers of buyers decrease uncertainty about who is in the market and their bids, thus allowing enforcement of even tacit collusive arrangements.

Uncertainty of Interests: What do Marketplace Participants Value and How Much?

Besides allowing buyers to monitor each other's compliance on bidding strategy, small numbers can affect whether buyers are induced to pay more than is in their interest. Because the high bidder wins the auction, but when there is uncertainty about the true value of the item being auctioned the mean bidder is likely to bid most accurately, buyers are subject to the winner's curse (Thaler, 1988). Small numbers make it less likely that the winning bidder pays more than the value of the good being auctioned because with few bidders the high bid may not be particularly exaggerated. There is some evidence that sellers can attract more bidders if they offer low initial starting prices, which can ironically lead to higher selling prices because low prices encourage bidders to enter the market and thus generate additional competition (Ku et al., 2006).

Ku and her colleagues (Ku et al., 2005; Ku et al., 2006) have studied how people actually behave in auctions with varying numbers of participants. Ku et al. (2005) found that bidders exceed their predetermined limits (reservation prices) more frequently when an auction has fewer rather than more bidders participating and they do so later in an auction. Ku at al. attribute these findings to the effects of competitive arousal and escalation of commitment. A bidder being in the spotlight and being aware of his or her competitors, as occurs when there are relatively few bidders, experiences competitive arousal; and escalation of commitment results from attention to sunk costs, which increases as the auction goes on. Together these two effects contribute to "auction fever", which burns hot in part because escalation of commitment can itself increase arousal and the desire to win (compare Malhotra, 2010).

The winner's curse occurs in contexts in which the value of the item is common to all potential buyers. Common value is what a good or property is inherently worth to anyone; that is, it is a good's objective market value regardless of any kind of subjective extra valuation. In many markets, however, participants have idiosyncratic preferences that lead to differences between common value and private value. Private value is what goods are worth to particular individuals, some of whom may value the good more than other individuals for personal reasons. Commodities have almost entirely common value in the sense that one instance or lot of the good is equivalent to the next. In contrast to commodities, some goods have almost entirely private value, such as sentimental value or personal aesthetic appreciation for a painting. Many goods have both common and private value, which can be quite different, of course. This difference is perhaps a source of disappointment, for example, to many whose family heirlooms, which sometimes have high private values, are appraised for low common values (say, on *Antiques Roadshow*). In such cases, negotiators may be combining (or confusing) the common value of the object, their private value for the object, and their subjective valuation of the relationship within which the good is embedded (compare Curhan et al., 2006).

The distinction between common value and private value is important in several respects for understanding how the uncertainty faced by negotiators affects their choices and outcomes in marketplace contexts. These choices and their effects quickly grow in complexity compared to the more usually studied dyadic, team, and multilateral negotiations.

For example, when one bidder's private value is slightly higher than other bidders' common value, the risk that the other bidders will succumb to the winner's curse increases. Such private value exists when a firm sees even relatively small idiosyncratic advantages of acquiring an item, as when organizational synergies can be gained from acquiring it. Even when this apparent advantage is just a bluff, a potential buyer in an auction can benefit from the perception by other potential bidders that she perceives private value in the good being sold. When a bidder bids aggressively for a good that seems to have primarily common value, other bidders may attribute this behavior to the fact that the aggressive bidder may have some source of private value (Klemperer, 1998). Such private value increases the likelihood that the other bidders will pay too much compared to the common value, if they continue to participate in the auction. Knowing this, other bidders may drop out of the bidding, benefitting the aggressive party, but to their own detriment and to the detriment of the seller.

Private value can range widely for many reasons. In some contexts this fact raises the important issue of selecting a negotiation counterpart who provides high levels of (private) value to specific parties. Most research on negotiation assigns people to dyads or teams so that negotiators not only know with whom they are negotiating, but also know that this selection has been determined before the negotiation proceeds (Thompson et al., 2010). In some typical negotiations the counterparties are indeed fixed and predetermined. Team members may be assigned to their teams, for example, and the parties with a legitimate place at the table in multilateral contexts may be defined by the organization or industry. But in many negotiations, explicit choices about whom to engage affect the value that can potentially be gained by the negotiators on both sides.

When partner selection represents a significant source of value then not only the terms of the dyadic deals that emerge in the marketplace matter, but the matching of the parties who transact is also important. Labor markets are a prime example of this kind of context because the inherent characteristics of each party provide much of the benefit that the other side gains from reaching a negotiated agreement (Roth, 1982).

Consider a familiar example: A new PhD in organizational behavior seeks a faculty position. The job candidate must weigh a number of considerations in developing her preferences for the various outcomes she can envision. Positions are associated with some things that are simply part of the match and that are not subject to much if any negotiation – examples include the hiring schools' locations and their current portfolio of faculty members. But faculty positions also are associated with some things that a job candidate can expect to negotiate, such as salary, teaching load, and course preps. Further complicating the situation, the matching problem is two-sided, because the hiring business schools have preferences that create idiosyncratic valuations, too. A potential faculty member's research expertise, something that cannot really be negotiated but is just one dimension of who she is, matters to the schools, for example. So do her salary demands and her willingness to teach particular courses at various times, however, which can be negotiated. Anyone who has been on either side of a search for faculty will have some experience with the need to consider not just the terms of the deal one strikes in these contexts, but also with whom one strikes that deal.

High value matches are those that provide more value to both sides of the deal than could other feasible matches. That is, the task for a negotiator in marketplace contexts with meaningful levels of private value generated by partner selection is to identify the parties on the other side of the market who provide high levels of value to that negotiator, who also find high value from matching with her. The economics literature framed this issue as "the marriage problem" years ago (Gale and Shapley, 1962), because the structure of finding a mate who is attractive to you, to whom you are attractive, provides a commonly experienced context for understanding this kind of matching dynamic. Making these contexts especially complex and uncertain, in most of these kinds of matching markets value also is produced by the terms of the deal, not just the match. In a labor market, for example, finding the right firm to work for is important for a job candidate, but salary and vacation time are also important. To determine a good match while negotiating the terms of the deal is a difficult process that is fraught with uncertainty.

Uncertainty of Inclusion: Will I Make a Deal?

Additional complexity is introduced into marketplace negotiations because of the presence of competing parties on each side of the market. In markets that are presumed to involve common values, others who can tolerate thinner margins and thus are willing to accept less benefit from the deal, might outbid the focal negotiator. Parties who see private value in a potential transaction are likely to be willing to pay a premium and thus outbid the focal negotiator. In either case, she is left without a deal.

In markets in which matching is an issue, negotiators face uncertainty about whether they will come to a negotiated agreement and, if they do, whether the deal will last. While a job candidate is seeking her best possible position, for example, other candidates are negotiating with the same set of firms. "Keeping your options open" and "jockeying for position" are expressions that easily apply to such situations. Anyone who has been part of an academic job search is familiar with this aspect of the problem – business schools do not want to make offers until several candidates have come for job talks and candidates are reluctant to accept offers until they have visited their full slate of schools. Each party waits anxiously for the right moment to choose; the marketplace is a game of musical chairs.

There is another aspect to negotiations in these contexts that affects the overall value for the participants in the market as well as for individual parties – the stability of the matches. It is very difficult to know at any moment whether or not a potential match is the best that one could do in the market if one could take the time to explore all opportunities. In musical chairs one cannot take her time because other parties will sit down first; in many job markets, others may form matches before one is ready to commit. Because of this uncertainty, market participants may be likely to misrepresent their true preferences so that they receive multiple offers and string along potential match partners. "I am really interested in your company", a candidate might say to all firms so that she increases her chances of receiving offers from as many firms as possible and also keeps them in the market by remaining unmatched while they wait for her decision. But those on the other side of the market may be trying to do the same thing to generate as much interest as possible. And, since parties on both sides know that this deception may be occurring, they know that they face uncertainty that may be intractable. Offers may be made and accepted to hedge against the possibility of being left with only worse alternatives (Sondak and Bazerman, 1989; 1991). The situation can come to resemble the flirting that happens in high schools before prom dates are finalized.

This hedging behavior by individuals can lead to market failure in the form of offers being made and accepted increasingly early and then falling apart. Early deals are likely to be unstable because parties who actually would have preferred each other end up matched with other partners. When such premature deals occur, the parties to them have an incentive to renege on their agreements and form new, more desirable matches. The problem of such "unraveling" markets is not just theoretical and has affected a number of real labor markets; the market for graduating medical students is one that has been extensively discussed (Roth, 1984; Kagel and Roth, 2000). The advancement of the market for new PhDs in management from the winter to the autumn over the past decade may indicate a similar trend.

An institutional solution exists to solve the problem of unstable matching. This solution is a centralized matching clearinghouse that employs an algorithm to match parties in the marketplace. Such algorithms have been used, for example, to match medical residents and fellows with positions at hospitals, clinical psychologists to postdoctoral positions, sorority pledges, and students to high schools in New York City (Roth, 1984; Roth and Xing, 1994; 1997; Featherstone and Mayefsky, 2010).

Use of an algorithm might lead to stable solutions but individual market participants may still face uncertainty. The algorithms in two-sided matching contexts depend on rank-ordered preference lists from the participants in the market. Well-designed algorithms generally offer incentives to submit true preferences (Kagel and Roth, 2000), but individual market participants may not be fully aware of these incentives. There may be some pressures to misrepresent in any case. We suspect that if one were to ask physicians about how they experienced the matching process when they became a new resident, many would agree that they had a discussion prior to submitting their preferences about where they would rank a particular hospital and where the hospital would rank them.

CONCLUSION

In this chapter we have considered three forms of uncertainty – uncertainty about identity, interests, and inclusion. We have discussed how each form can influence the process and outcomes of team, multilateral, and marketplace negotiations. While uncertainty is often an aversive state for people, negotiators need to recognize and manage uncertainty in these three forms.

Uncertainty may exist without negotiators recognizing it and they may not anticipate its effects. For example, in intra-team negotiations, the assumption of homogeneity of perspectives and goals among team members, and, thus predictions of their actions, may be inaccurate. As a result, team members may fail to identify and align or implement team members' interests in the team's proposals. In multilateral contexts, negotiators may not know about the coalitions that exclude them. When that occurs, negotiators are at risk of being left out or of receiving less benefit than they otherwise might. In negotiations that occur in marketplaces, negotiators do not have immediate access to the value that the parties on the other side of the market see in matching with them. Negotiators in marketplace contexts may thus pursue deals with counterparties who are not the most willing to pay a premium for their services.

Uncertainty can be all too obvious, however, and negotiators sometimes may be overwhelmed by the uncertainty in a situation (see Van Kleef and Sinaceur, Chapter 5 this volume, for emotional responses to uncertainty and other factors). In multilateral negotiations, for example, the information gathering and processing demands for identifying possible agreements are much greater than in two-sided negotiations. When faced with more uncertainty than they know how to manage, negotiators tend to rely on heuristic processing. Negotiators who employ heuristics rather than systematic thinking often leave many value creation opportunities unrecognized and therefore unrealized (Neale and Bazerman, 1991).

Negotiators in multiparty contexts would be well served not to avoid uncertainty nor to be overwhelmed by it, but to engage in the improved processes that recognizing and dealing with it can bring. Seeking out more uncertainty than is initially apparent would serve both the individual negotiators in team contexts and their teams overall; uncovering the issues of internal disagreement before a team comes to the negotiation table is definitely in the team's interest. Recognizing that potential coalitions might not be obvious allows negotiators in multilateral contexts to anticipate and perhaps block those coalitions. And negotiators in marketplaces who recognize the dynamic nature of the uncertainty in such contexts are much better positioned to avoid the winner's curse or being left without any deal.

In conclusion, negotiators face different kinds of uncertainty in various kinds of multiparty contexts. While managing uncertainty presents challenges, and if done poorly can undermine negotiators' performance, effective management of uncertainty can facilitate negotiators' success.

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