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Identifying Macro Phases Across the Negotiation Lifecycle

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Abstract

Existing models of negotiation as a process are incomplete and do not show an overall, start to finish lifecycle. Current phase based models lack clearly defined criteria that identify phase boundaries. After reviewing existing models, the paper identifies macro phases, clarifies phase boundaries, and delivers a bird's eye view model of negotiation supported by examples in academic literature and the public record. The enhanced model proposed here provides a practical negotiation guideline and roadmap previously left unclear in the literature. The proposed model contributes to theory around negotiation by defining the boundaries of a sequence of macro phases in negotiation and enhancing the model through business process modeling. With the enhanced model, academics and practitioners can share a viewpoint for understanding, communicating, and further developing negotiation models.

Keywords Negotiation · Phase model · Conflict resolution · Process model · Business process model

1 Introduction

Negotiation is not only a vital human interaction, it has become an academic interest, crossing areas of study such as Management (Walton and McKersie 1965; Brooks 1984; Lewicki et al. 1996), Psychology (Spector 1977; Bazerman et al. 2000), International Business (Adair et al. 2013), Law (Craver 2012), and International Relations (Zartman and Berman 1983; Saunders 1985; Stein 1989a; Kremenjuk 2002), among others. Negotiation has been theorized variously, as dimensions (Lax and Sebenius 2006), DNA (Ott et al. 2016), teams (Colosi 2003), games (Avenhaus and Zartman 2007), values (Tjosvold et al. 2003), and jazz (English 2003). Process is also a way to view negotiation. Academia has previously identified the importance of process to negotiation (Zartman and Berman 1983; Holmes 1992; Hopmann 1996; Brett et al.

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26 2003; Druckman 2007; Vetschera 2013; Filzmoser et al. 2016) and the challenge of
27 understanding those processes (Weigand et al. 2003). Some negotiation processes have
28 been mapped at detailed, disaggregated levels and applied in e-commerce situations
29 such as auctions and surge pricing. Nonetheless the total lifecycle of negotiation must
30 be considered and modeled in terms of macro phases with well-defined boundaries in
31 order to better theorize the activities and sequences of negotiation. Various phasic pro-
32 cess models are reviewed in this paper to (1) confirm that evidence for macro phases,
33 from inception to completion of a negotiation, can be found; and (2) determine the
34 boundaries of those phases.

35 Current negotiation models lack completeness as they may exclude activities before
36 or after the main negotiation interactions. Further, they may lack features such as feed-
37 back loops which return negotiators to previous phases with new information. Also
38 missing are decision gates where the negotiators decide to quit or continue. Such fea-
39 tures, common to business process modeling (BPM) and project management, would
40 make models more accurate and usable to theoreticians, educators, and practition-
41 ers of negotiation who will benefit by gaining new theory building tools, teaching
42 insights, and best practices. Additionally, an overall phase model may provide support
43 for better-structured automated or artificial intelligence (AI) systems such as chatbots
44 and virtual assistants that conduct tasks associated with negotiation. This article draws
45 on documented negotiations primarily from business and intergovernmental instances,
46 though these may ultimately fall into different genres, to contribute the following to
47 the conversation about negotiation phases: evidence of phases, their characteristics,
48 boundaries of phases, transition across the model including loops and decision gates,
49 and a full macro phase process model of the negotiation lifecycle.

50 2 Review of Existing Phase-Based Negotiation Models

51 Negotiation literature has considered the process of negotiation, offering a variety of
52 phase-based models explicated in graphic or written form since the 1960s. Phases,
53 also referred to as stages, are an appropriate approach for understanding negotiation
54 because negotiation is a sequence of activities that progresses over time with differ-
55 entiation among major activities that segment the end to end negotiation (Holmes
56 1992). Additionally, Holmes (1992) refers to Abbott (1986) in pointing out that a
57 phase model, if accurate, allows detection of a current phase and prediction of coming
58 actions. Such phases represent large scale structures of the overall negotiation and in
59 this article are termed macro phases in order to distinguish them from meso and micro
60 level phases, smaller episodic (Holmes 1992) or sequence based (Brett et al. 2003)
61 structures. Identifying phases at any level requires criteria. Efforts have thus been
62 made to identify meso-phase structures by sequence of activity (Fells et al. 2015), and
63 micro-phase structures through punctuation of sequences of interactions, for example,
64 by breakpoints (Brett et al. 2003) or turning points (Druckman and Olekalns 2013;
65 Putnam and Fuller 2014).

66 Previous work has used text analysis to describe transitions among topics and strate-
67 gies (Brett et al. 2003; Olekalns et al. 2003; Druckman and Olekalns 2013), nonetheless
68 these descriptive and stochastic efforts have not always clearly indicated transitions to

69 new macro phases (Druckman 2007). Analysis of interactions has been used to separate
 70 meso and micro phases based on structural dissimilarities in communication acts
 71 identifying phases that recur in various kinds of face to face negotiations (Koeszegi
 72 et al. 2011; Vetschera 2013); these smaller phases however reside within an aggregated,
 73 macro phase which arches over the interaction of the parties. The analysis of
 74 meso and micro phases sheds light on the workings of the macro phase where parties
 75 interact. It cannot however reveal the nature of other macro phases throughout the end
 76 to end negotiation. The whole negotiation extends from early considerations of the
 77 environment in which the deal and parties exist all the way through final phases when
 78 agreements are implemented and parties take stock of their performance. Rather than
 79 identifying the boundaries of macro phases through statistical or text analyses, this
 80 study defines boundaries reliably by outputs such as artifacts and documents (Clegg
 81 and Boardman 1996; Weske 2012), in addition to major shifts in focus (Jeong 2016),
 82 and the content of communications (Adair and Brett 2004).

83 High level phasic segmentation of negotiations may not reflect real life because it
 84 is messier than linear models where there is no communication or reverse movement
 85 among phases (Brett et al. 2003). Although these authors criticized phase models as
 86 simplistically progressive, they nonetheless use terms like “forward progress” (Brett
 87 et al. 2003) revealing at least some agreement that progress is inherent in a negotiation
 88 (Holmes 1992).

89 Table 1 below provides an overview of macro phasic models of negotiation including
 90 recent and older models that are still relevant in academic writing. Table 1 excludes
 91 models that handle only meso-phases or micro-phases.

92 2.1 Summary of Existing Models

93 Randolph’s four phase model included macro phases roughly covering the lifecycle of
 94 a negotiation with a post agreement possibility within the terminal phase (Randolph
 95 1966). Zartman and Berman’s (1983) model, however, is truncated to three phases
 96 including a pre phase (Stein 1989b) and then a post phase (Spector and Zartman 2003)
 97 which was added later. The current paper builds on these and other models to arrive
 98 at six phases identified by activities and boundaries using the framework of business
 99 process modeling (BPM). BPM theorizes process building from a sociological point of
 100 view, namely by building models from narrative and information about actors and goals
 101 (Koubarakis and Plexousakis 2002; Wang et al. 2013). The resulting models are seen
 102 as activity driven processes, and are not based solely on characteristics. Further, these
 103 process models have clearly defined boundaries conferring the benefit that observers
 104 and users can reliably and reproducibly identify any given phase. Such models have
 105 aggregated activities and thus can be deconstructed to achieve more detailed process
 106 models and workflow models (Freund and Rucker 2012; Weske 2012).

107 The models compared in Table 1 are widely disparate, nonetheless all explicitly
 108 depict negotiation as a series of steps processing to a conclusion. None of the phasic
 109 models reviewed combine all the necessary features and scope of an overall process
 110 model for negotiation. Some lack phases at the beginning or end, some focus on phases
 111 below the macro phase level, some are strictly linear in sequence and lack feedback

Table 1 Elements of current macro phase models

	Lifecycle	Feedback loops	Loop to start	Identifies actors	Decision gates	Follow up
Douglas 3-phase, 1962 (Douglas 1962)	NA	NA	NA	IM	NA	NA
Joint problem solving process, 1965 (Walton and McKersie 1965)	NA	EX	EX	EX	NA	NA
Randolph suggested model (Randolph 1966)	EX	NA	NA	PA	NA	IM
Morley and Stephenson (1977)	NA	NA	NA	IM	NA	NA
Gulliver processual, 1979 (Gulliver 1979)	PA	EX	NA	EX	NA	NA
Three stage + pre and post (Zartman and Berman 1983; Stein 1989b; Spector and Zartman 2003; Zartman 2008)	EX	EX	NA	EX	NA	EX
Saunders five-part process	EX	NA	NA	NA	NA	NA
Brooks (1984) and Brooks and Odiorne (1992)	PA	EX	NA	NA	EX	NA
Craver (1986, 2012)	PA	NA	NA	EX	NA	NA
Heller et al. (1988)	EX	PA	NA	NA	PA	NA
Win–Win Spiral, 1997 (Boehm et al. 1997)	PA	IM	EX	NA	NA	NA
Graphic roadmap, 1999 (Straus 1999)	EX	NA	NA	EX	NA	NA
Intentional agent, 2000 (Lopes et al. 2000)	NA	EX	NA	NA	EX	NA
MPARN, 2001 (In et al. 2001)	PA	EX	NA	IM	NA	NA
4-phase dance, 2005 (Adair and Brett 2005)	NA	NA	NA	NA	NA	NA
Demirkan et al. (2005)	PA	EX	NA	IM	NA	NA
CBI mutual gains, 2010 (2010)	PA	NA	NA	EX	NA	NA
Five stage, 2010 (Lewicki and Hiam 2010)	PA	NA	IM	IM	NA	NA
Fells et al. (2015)	PA	NA	NA	NA	NA	NA

EX explicit, *IM* implicit, *NA* not appearing, *PA* partial and explicit

112 loops, others lack decision points to proceed, return or stop. These omissions may
113 stem from authors creating descriptive models common to their industry or activity
114 such as value creation late in the sequence (Craver 2012) or no preparation phase in
115 hostage negotiations (Taylor 2002). Missing throughout are clearly identified phase
116 boundaries, leaving negotiators and theorists uncertain about phase definitions. The
117 proposed model has all of these features and intends to provide a symmetrically norma-
118 tive (Raiffa et al. 2002) model applicable to many kinds of negotiation as a guideline,
119 not a straitjacket, because negotiations may be unique in content and context.

120 **3 Discussion and Enhanced Model**

121 This paper proposes not only a pragmatic process model for understanding negotiation
122 but also a rigorous one (Phalp 1998), that is, a model suitable for analysis because
123 it can be reproduced, diagnosed, and improved based on the diagram. Processes may
124 take input from other (Ting-Toomey 2005) organizations despite being set in action
125 by only one organization (Weske 2012), underlining the fact that negotiation involves
126 organizations as well as individual actors.

127 While taking on negotiation from the point of view process and sequence, this
128 paper does not reject other approaches. As with other models, sequential phases are
129 a cognitive attempt at sense making of human interactions. Dimensions have been
130 proposed as a way to understand the changes in thinking and action of individuals
131 as they maneuver towards their goal, operating more in one or another dimension
132 though never divorced from any of them (Lax and Sebenius 2006). The advantage of
133 the dimension viewpoint is that the actor can operate in any or all dimensions at the
134 same time, avoiding the need to consider processual terms such as forward, backward,
135 progress, and movement. A model with parallel processes could be developed to
136 emphasize that some processes may be active throughout a negotiation event. A process
137 viewpoint nonetheless affords the freedom to move forward or back in the sequence
138 through feedback loops which indicate that the step is to be partially or completely
139 iterated with new information.

140 Variance models (Holmes 1992) are intended to show cause and effect and may
141 indirectly show sequence or process. Mechanisms such as moderating effects make
142 this kind of analysis suitable for understanding decision making. However, cause and
143 effect are not always connected in a linear fashion and the related insights may or
144 may not improve understanding of negotiation as a process. Facework, meanwhile,
145 seeks to explain negotiation choices and moves based on notions of managing respect
146 and embarrassment (Ting-Toomey 2005). Chinese negotiation has been described as
147 receiving high impact from mechanisms around face, relationships, cognition, norms,
148 and mores (Graham and Lam 2003) rather than from process. This kind of viewpoint
149 provides a rich context for understanding negotiation, but may not generalize to non-
150 Chinese cultures. Conversely, it remains to be seen if process models are applicable
151 to negotiations in Chinese contexts.

152 The enhanced model presented below does not disaggregate the macro phases at
153 lower levels of process. The model presented here is an idealized, broadly prescriptive
154 model developed from negotiation literature, observations of practices in business,

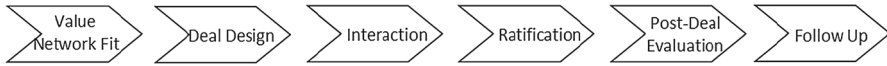


Fig. 1 Simple macro phase negotiation model

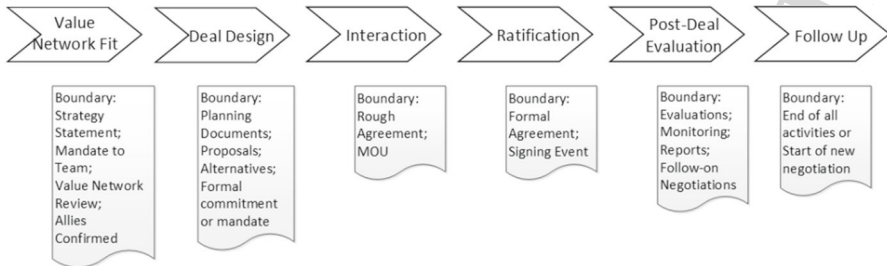


Fig. 2 Macro phase model with boundaries

155 politics, and other areas, as well as experience. Diverse organizations will have specific
 156 needs and abilities or gaps in abilities, therefore this paper does not propose the model
 157 as suitable for all parties and situations. Likewise, erratic sequences may appear for
 158 various reasons as reported elsewhere (Mintzberg 1971; Heller et al. 1988). The simple
 159 model presented in Fig. 1 includes only sequential steps and not feedback loops,
 160 decision points, or actors; the enhanced model shown in Fig. 3 includes these elements.
 161 The rationales for the phases and their boundaries are explained below after further
 162 description of the overall model.

163 A methodology to identify boundaries between phases is necessary. This article
 164 employs combinations of boundary-defining evidence appropriate to the research ques-
 165 tions (Adair and Brett 2005), namely events and artifacts of negotiations. Change of
 166 content has been used as an identifier of phases (Adair and Brett 2005) where the
 167 intervals between phases are guided by theory and matched to empirical samples. In
 168 modeling of business processes, phase boundaries can be determined based on out-
 169 puts such as documents and partially or fully completed products (Weske 2012) or by
 170 change of interaction (Jeong 2016). In projects, phase boundaries have been identified
 171 by artifacts such as agreements and signed plans or designs (Clegg and Boardman
 172 1996). A project refers to an undertaking with a clear beginning and end with a unique
 173 outcome as a goal (Binder 2007; Project Management Institute 2015); a negotiation
 174 matches this definition as it is not a permanently on going operation and the intent
 175 is, for example, to come to customized agreements. In order to accomplish the iden-
 176 tification of phase boundaries, negotiations published in academic sources and news
 177 media were reviewed for the presence of such boundary defining outputs and events.
 178 The Fig. 2 shows the macro phases and summarizes the phase boundary identifiers.

179 Phase boundaries are a location for decision gates where a decision is made to
 180 continue, return to an earlier phase, or quit. Similar decisions may occur within a phase
 181 leading to termination of a negotiation or return to a previous phase. Unintentional
 182 termination or breakdowns may also occur, leading to the end of the negotiation or
 183 a return to a previous phase. The lines in Fig. 3 show termination only at the end
 184 of a phase, however termination within the phase has the same result, i.e. exit from

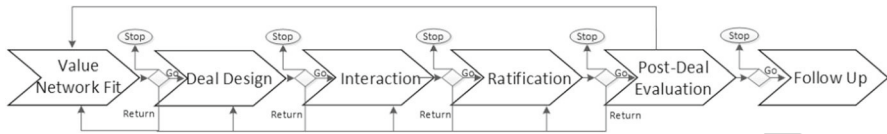


Fig. 3 Enhanced macro phase model

the negotiation or return to an earlier phase. Nonetheless, internal breakdowns and the exits or return cycles they cause are not shown here; processes internal to a phase must remain the subject of future articles. Negotiations, despite fulfilling the definition of project, have not been modeled with the decision gates widely found in decision making processes in projectized organizations (Mascitelli 2007; Thamhain 2013). The following figure shows the macro level model with decision gates and feedback lines. The loop is closed with the fifth phase potentially leading back to new starts.

Based on the overview provided by the macro phase model above, key aggregated activities, and outputs of each phase, are described below. Each macro phase is presented individually. Examples are provided from business and other sources. Business examples are particularly appropriate because overall negotiation times may be in the context of months or a few years and success criteria often simple. Of course, complex business projects may last decades. Additionally, business negotiations and customized agreements are myriad, though the deliberations and interactions are usually inaccessible. Some intergovernmental examples are included, the contents of which may be relatively public, nonetheless, agreements may take years to complete and decades to confirm whether implementation and follow up agreements meet success criteria. The sub-activities of aggregated activities are not described or modeled here; such work will have to wait for future research though analyses have been made of the interior workings of a pre-negotiation stage (Saunders 1985; Stein 1989a; Hopmann 1996) and a postagreement stage (Spector and Zartman 2003). The Antecedent, Concurrent, and Consequent framework (Sawyer and Guetzkow 1965; Druckman 1973, 1983, 2005) shows that processes internal to negotiation, especially in the Interaction phase, are factors that impact outcomes and that they occur sequentially between the setting of antecedents and gathering of consequents. The framework may point the way toward processes within other phases.

3.1 Value Network Fit Phase

The activities aggregated in this macro phase amount to a strategic review in which the organization's goals, allies, suppliers and competitors are considered in terms of the global value network and organizational strategy. These tasks are seen as distinct from tasks of other phases as they must lead the parties to the table, especially in international governmental negotiations (Stein 1989a). The value network includes the partners, suppliers, competitors, and regulatory bodies that impact the organization at a strategic level (Allee 2000). Not all deals are strategically important to the organization, therefore this phase may be reasonably omitted or shortened by the negotiators and their constituents. Transformative deals will necessarily require deeper

221 review, whereas mundane ones will require little or no strategic review. This phase
 222 correlates roughly to the Search for Arena phase of Gulliver (1979), the Diagnosis
 223 phase of Zartman and Berman (1983), Saunders' Defining phases (Saunders 1985),
 224 Stein's prenegotiation (Stein 1989a), and the CBI (2010) Prepare phase. In this model,
 225 however, the final decision makers and lead negotiator work with other strategic level
 226 staff to, for example, analyze stakeholders including allies and competitors, set broad
 227 goals and parameters, and assess the strategic fit of those goals up and down the
 228 value chain. Other actions aggregated here include identifying and contacting poten-
 229 tial allies and counterparties, co-opting organizations, assessing likelihood of success,
 230 motivating parties to negotiate, determining the best alternatives to negotiated agree-
 231 ment (BATNA) of each party, and initiating steps to strengthen one's BATNAs while
 232 optionally weakening BATNAs of others. Taking these steps in advance of the interac-
 233 tion with counterparties allows participants to know or estimate the interwoven needs
 234 and interests of all parties in order to smooth problem solving and prepare for con-
 235 tingencies that may arise. The end of this phase is marked by the creation of overall
 236 goals, confirmation of allies, a written statement, or unwritten understanding of pur-
 237 pose. Ideally, there follows a considered decision to continue to the next phase, return
 238 to the value network fit phase, or abandon the project.

239 *Examples* The 1997 negotiation involving UPS and a labor union highlights the
 240 value network fit phase. Specifically, the union's methodical preparation gained the
 241 support of workers, politicians, and other stakeholders such as regular customers not
 242 normally part of a labor dispute (Miller 1997; Minchin 2012), exemplifying the strate-
 243 gic planning that characterizes the phase. Similarly, in the 9 months before acquiring
 244 the company Autonomy in 2011, Hewlett-Packard sought a possible acquisition after
 245 considering its allies and competitors carefully and conducted due diligence with the
 246 internal reports (Gupta et al. 2012) that characterize the content and activities of the
 247 phase. The Hewlett-Packard board's acceptance of the potential acquisition in early
 248 July 2011 represents a strategic organizational commitment identifying the end of this
 249 first phase (Gupta et al. 2012). This phase is described in the context of intergovern-
 250 mental negotiations as well (Saunders 1985; Stein 1989a).

251 3.2 Deal Design Phase

252 This macro phase aggregates the activities of preparing offers and variations of pack-
 253 ages to be offered as well as seeking new value creation opportunities. This phase
 254 corresponds partly to the dimension of the same name in the 3D negotiation model
 255 (Lax and Sebenius 2006) but differs in that it includes team building such as the prelim-
 256 inary and information phases (Craver 2012), planning phases and further information
 257 discovery (Brooks and Odiome 1992). The activity of setting negotiation goals found
 258 in this phase differs from the goal setting of the previous phase in that the general
 259 goals are refined to be more specific. If the team is not self-organized, the main actors
 260 will include the lead negotiator, the team intended to be in direct contact with the
 261 counterparties, and other team supports. At the same time, the lead negotiator is likely
 262 to liaise with the decision makers and strategic directors of the organization in order
 263 to synchronize goals and process.

264 The end of this phase is defined by confirmation of those goals, revised information
 265 about BATNAs, allies, counterparties, and a set of potential offers and solutions (Zart-
 266 man and Berman 1983) which may structure the coming interactions (Stein 1989b).
 267 The outputs of the phase may be in document form such as planning sheets, a project
 268 dashboard for the negotiation, statements about goals, and artifacts such as alternative
 269 plans or the briefs described by a diplomat looping through Deal Design and Inter-
 270 action phases (English 2003), or a commitment or mandate to negotiate (Saunders
 271 1985) or framework agreement (Stein 1989b). In the case of acquisition, due diligence
 272 documentation may be presented (Shapiro 2013). Finally, there is a decision gate to
 273 continue to the next phase, return to an earlier point in the deal design phase, return
 274 to the value network fit phase, or abandon the project. 2

275 *Examples* Labor negotiation transcriptions (Douglas 1962) show repackaging of
 276 offers by both sides when the teams are meeting separately from their counterparties.
 277 The parties cycle through joint interactions as they privately redesign deal packages.

278 3.3 Interaction Phase

279 Despite the preparations in the first two phases, the Interaction macro phase, which
 280 aggregates the activities of the parties' communicating, means that new information,
 281 new solutions, new creativity, and new plans will inevitably arise. This phase may
 282 start with a formal presentation to the counterparties (Hendon and Hendon 1994) or
 283 the exchange of an claim letter and response in a legal case (Ministry of Justice UK
 284 2017). It is in the Interaction phase that the offers and ideas will be jointly developed
 285 until acceptable unless the negotiation is abandoned. The lead negotiator, if there is
 286 one, and the team members will be actively engaged with the counterparties during
 287 this phase; however the leader and team may keep in contact with the final decision
 288 makers and call upon the skills of other supporters as needed.

289 Discussion about the Interaction phase is well developed in the literature about
 290 negotiation. Some writers take negotiation to mean only the time during which parties
 291 are interacting (Walton and McKersie 1965; In et al. 2001; Adair and Brett 2005);
 292 conversely others refer to all activities as negotiation. Therefore, the proposed model
 293 prefers the term interaction to emphasize the increased communication among parties
 294 in this phase. Other writers, however, see interactions as a phase, or phases, of a greater
 295 cycle, such as steps three through seven of MPARN (In et al. 2001), the Consensus
 296 Building Institute's create and distribute phases (2010), and phases three to five of
 297 Gulliver's developmental model (Gulliver 1979). Gulliver's cyclical model (Gulliver
 298 1979) and Lopes' intelligent agents model (Lopes et al. 2000) focus on the Interaction
 299 phase. MPARN, the cyclical model, and the interactive agents model show how iter-
 300 ative this phase is, as do the explanations around the CBI model (2010). Interactions,
 301 brief or long, can include proposals, and counter proposals (Moberg 1997; Vuorela
 302 2005). The detail settling stage (Zartman and Berman 1983) refers to a period of heavy
 303 interactions, though their previous stage also includes communication among the par-
 304 ties. The end of the Interaction phase is marked by the cessation of these activities due
 305 to agreement or failure to agree. The resulting agreement may be formal or informal,

binding or non-binding (Fells et al. 2015), and may not be in its final form due to review or adjustment by strategic decision makers or legal counsel (Douglas 1962).

Examples An example of reaching the Interaction phase boundary is found in the transcripts of a labor-management negotiation. Just after general verbal agreement is reached the negotiation teams explicitly state that the agreement, despite enjoying their high confidence, is subject to ratification by the union membership (Douglas 1962). The interaction phase in Hewlett-Packard's 2011 acquisition of Autonomy concluded with overall agreement by the CEOs of the financial aspects (Gupta et al. 2012). In intergovernmental negotiations, this has been described as settling the details (Zartman and Berman 1983) or arranging (Saunders 1985). Finally, there is a decision gate to continue to the next phase, return to an earlier point in the interaction phase or to an earlier phase, or cancel the project. In a sales negotiation between a UK equipment maker and a Finnish client (Vuorela 2005), the decision gate was used once to return to the Deal Design phase from Interaction phase and then later to quit the negotiation.

3.4 Ratification Phase

This macro phase aggregates the activities of presenting outcomes to final decision makers and the attempt to gain their ratification as well as having legal experts finalize the language of an agreement. Final decision makers can include superiors, a board, or peers such as partners. While ratification activities are largely internal to each party, experts from all parties may work together in order to ensure smooth finalization. Experts involved in ratification are often not members of the negotiation team. Failed ratification may mean a return to the Interaction phase with changes to be discussed and agreed with counterparties. In the case of intergovernmental negotiations, the agreement may be put in force and initially adopted while proceeding through ratification by national legislatures or other bodies in the countries party to the agreement (Spector and Korula 1993; Barrett 1998).

The end of this phase is marked by the output of a formalized agreement and perhaps ritual enactment, for example in a signing ceremony. Thereafter, a decision gate is reached to continue to the next phase, return to the Interaction phase or other previous phase, or abandon the negotiation.

Example The agreement jointly created in the Interaction phase must be confirmed by the final decision makers before and after legal write up, as in the case of the rough agreement reached by Hewlett-Packard and Autonomy that was later ratified by the board (Gupta et al. 2012). An intergovernmental example is the Montreal Protocol with its national ratification processes (Barrett 1998).

3.5 Evaluation and Monitoring Phase

This macro phase aggregates the following activities: implementation and execution of the agreement, monitoring of performance, enforcement, strategic evaluation of the deal, evaluation of the team and its members, formalization of learning points, renegotiation considerations, and relationship maintenance, among others. Strategic level evaluation of outcomes and satisfaction requires analysis by the strategic level

managers. Evaluation of the team's negotiation prowess may be conducted by the team, their observers, immediate leaders, and human resources staff. Monitoring of the execution of the agreement, as well as evaluation of the agreement itself, may include the counterparties or consultants and specialists in addition to the negotiation team. This phase includes the activities of the execution of outcome phase (Gulliver 1979), as well as the assessment and performance review phase (Brooks and Odiorne 1992). It is similar to the follow through phase of the CBI (2010) model but does not include activities for developing enforcement mechanisms which occur in the Interaction phase, or at latest in the Ratification phase, and are included in the final agreement before implementation.

There are various possible formal or informal outputs to this phase: an improvement plan for the negotiation participants, intent to improve or break the relationship, evaluation of the counterparties' implementation of the agreement, periodic or ongoing monitoring, and commitments for follow up negotiations and renegotiations. Thereafter there is a decision gate to start a new deal with the partner(s) or exit the agreement. Thus the fifth phase may be the final phase. Alternatively, the actors may return to the first phase to consider the strategic value fit of new negotiation topics. A third path is to continue into an optional phase in order to follow up with negotiation of incomplete elements of the main agreement or renegotiation of certain aspects as the environment and project develop.

Examples Post deal evaluation may lead to a dramatic results such as intentionally breaking an agreement as with Starbucks and Kraft (Baertlein 2013); or the firing of a top manager and legal challenges as in the case of the Hewlett-Packard acquisition of Autonomy in 2011 (Gupta et al. 2012). Empirical data suggests that this may be the longest phase while acknowledging that the follow up phase, which handles incomplete agreements and renegotiations (Heller et al. 1988), may have schedules extending decades. Monitoring of agreements and relationships has been described in management literature as being widely used to confirm commitment (Ghosh and John 1999) while evaluation of teams and individuals after negotiation has been reported in various industries (Ertel 1999). Treaties and trade agreements may be formally monitored by agencies in each participating country as well as by think tanks seeking to confound or confirm the expected benefits.

3.6 Follow Up Phase

This phase aggregates the activities of working out incomplete aspects of a deal and negotiating changes to a main agreement as the environment around the deal evolves. This phase is seen as optional in that it is not necessarily found in all negotiations that reach the evaluation and monitoring phase. A follow up phase is more likely to appear in the wake of agreements that are highly complex such as service level agreements, multi decade agreements for resource development, major infrastructure construction, and intergovernmental regimes. Such deals are more likely to generate incomplete contracts, defined as elements of an agreement that must be defined and negotiated as conditions mature or change (Bolton and Dewatripont 2005), or issues needing clarification. Oppositely, this phase is less likely to appear where deals are relatively

390 simple or can be swiftly executed. Parties may enter this phase voluntarily in order to
391 improve their outcomes in post-settlement settlements (Raiffa 1985) or postagreement
392 negotiations (Spector and Zartman 2003). The phase is therefore started, if at all, where
393 the agreement unavoidably leads to further refinements and agreements (Spector 2003)
394 and for reasons such as improving, completing, or clarifying an existing agreement.
395 The phase closes when the parties are satisfied and/or the execution of the agreement
396 is finished. The phase may continue as long as agreements are in force or evolving,
397 potentially forever (Spector and Zartman 2003). Participants in this phase may include
398 any or all of the actors previously involved, or new specialists, agencies, organizations,
399 and media (Korula 2003).

400 Examples: The Ichthys offshore project in Western Australia, now approaching
401 production in 2018, has spurred buyer and supplier negotiations in addition to those that
402 conceived the project in 2006 and the start of project execution in 2012 (INPEX 2016).
403 Intergovernmental environmental treaties frequently spawn follow up agreements and
404 treaties with significant follow up activity (Spector and Korula 1993). Examples of
405 such negotiations include intergovernmental agreements such as the mediterranean
406 action plan (Wagner 2003) and climate protocols (Spector and Zartman 2003).

407 3.7 Tasks by Actor

408 The figure below shows the macro phases with the actors who are the main participants.
409 A pool and swim lane format is used to link the actors, individuals or groups, to
410 the activities identified in the phase descriptions above. These actors include final
411 decision makers, the lead negotiator, general and specialist team members, and other
412 supporters (in-house or consultants) who may not interact with the counterparties, and
413 the counterparties themselves. The figure below summarizes actor responsibilities
414 from the point of view of one negotiating party and includes the counterparties only in
415 phases where direct interaction is unavoidable, though all parties could communicate
416 in other phases and would likely have parallel processes of their own. For the sake
417 of simplification, feedback loops and decision gates are not included. The actors'
418 positions depicted in Fig. 3 are drawn from negotiation literature described in Baber
419 (2016) (Fig. 4).

420 3.8 Negotiation Genres

421 If the identification of phase borders through activities and artifacts is considered
422 successful, researchers might apply phase border analysis to identify various kinds of
423 negotiation. For example, phases in hostage or crisis negotiation may be defined by
424 intelligence gathering efforts or by the initiation of verbal exchanges among the parties
425 that are unlike those of other negotiation genres (Holmes and Sykes 1993). Meanwhile,
426 delivery of certain formal documents may define phases in legal negotiations (Craver
427 2012). In trade negotiations on the other hand, phase borders such as the presentation
428 of packages of mutual commitments might appear (Hampson and Hart 1999). Very
429 complex negotiations such as seemingly intractable relationships and wicked problems
430 (Rittel and Webber 1973; Conklin 2006) may be characterized by a cycle of planning

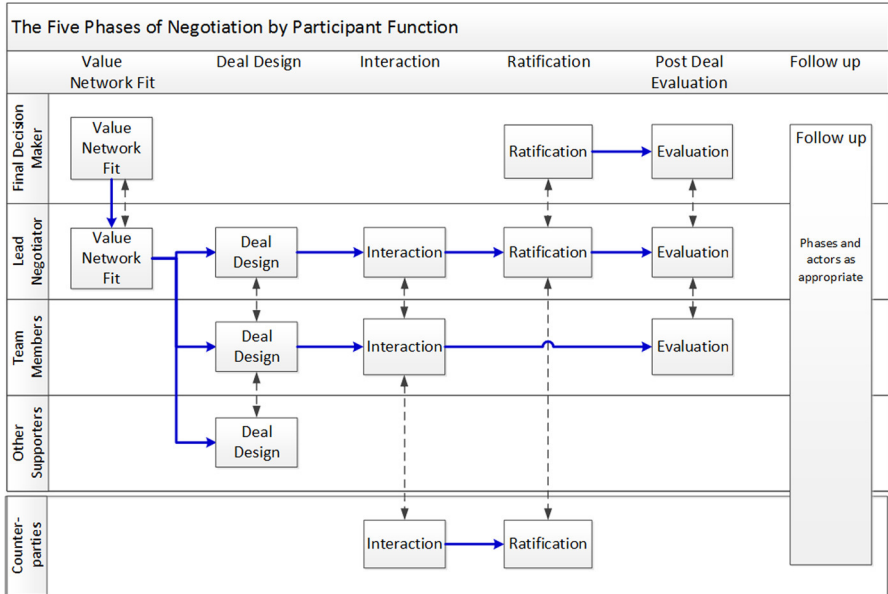


Fig. 4 Negotiation phases by activity of participant

431 phases that reveal or block solutions unlike other kinds of negotiation problem solving.
 432 Such problems and intergovernmental negotiations may have very long pre-negotiation
 433 phases (Stein 1989b) impacted by environmental developments such a strengthening
 434 or weakening of major allies and adversaries. Thus macro phases may not be the same
 435 for all sorts of negotiation and models specific to negotiation genres may be necessary;
 436 however, such investigations and genre identification remain to be considered.

437 **4 Conclusion**

438 The questions posed in this article asked whether evidence for macro phases from
 439 inception to completion of a negotiation could be found; and whether the bound-
 440 aries of those phases could be determined. Evidence is found in a variety of sources
 441 including current negotiation models, media reports about negotiations, and in trans-
 442 scripts previously published in academic sources. Table 2 below shows the phases
 443 with examples of their characteristics, content, and boundary definitions.

444 Based on the model presented, theory builders may be able to identify features that
 445 are uniform across all negotiations or develop models for specific genres of negotiation
 446 such as hostage or crisis negotiation. Indeed, negotiation researchers may find that uni-
 447 versal aspects of negotiation do not conflict with specialized genres. Genre definitions
 448 in turn may help educators and practitioners in targeting their training and expertise
 449 more effectively. Educators may develop training and evaluation tools specific to a
 450 phase or phases, in order to build competence among learners or to ascertain their skill
 451 levels. Evaluators of organizational ability may use the model to determine negotiation

Table 2 Phase boundaries, outputs, and activities

	Start boundary	End boundary	Outputs and artifacts	Character	Main activities
Value network fit	Idea(s) mooted	Mandate to team; allies coopted	Board level statement; written directive; verbal statement; meeting notes; budget allocation	Strategic planning; discovery	Strategic review; consideration of alliances and high level goals
Deal design	Kickoff meeting with team	Start of main interaction with counterparties	Formal or informal plans; meeting notes; models; spreadsheets; formal mandate	Design of offers and deal packages; discovery	Planning how to accomplish goals and present or react to other parties; research
Interaction	Main interaction with counterparties	Agreement/resolution	Written agreements; MOU; overall agreement; schedules of resources etc.	Iterative verbal and written interaction among parties in synchronous meetings or asynchronous media exchanges	Communicating; proposing; reacting; joint problem solving; conceding; building relationship
Ratification	Presentation of agreement to final decision makers	Ratification; signing ceremony; disbursement of resources	Formal agreement; contract; ratification or certification; MOU	Completion and ratification	Presentation to/agreement with final decision makers; legal review
Evaluation and monitoring	Review and evaluation; monitoring of execution	End of evaluation or monitoring period	Evaluation and monitoring reports; recommendations for improvement	Evaluation and monitoring	Evaluation of outcomes; review of negotiators; monitoring of execution
Follow up	Resolution of outstanding issues; problems or questions arise	Completion of an overall agreement or incomplete agreements	Agreements; addenda; revisions; reports; project statements	Incomplete agreements and refinements	Handling of incomplete agreements; adjustment and refining of issues through renegotiation

452 weaknesses for improvement. Practitioners in turn may be better able to plan negoti-
 453 ations and allocate resources appropriately. Further, they may find themselves abler
 454 to communicate the process and the state of a negotiation to coworkers and superiors
 455 allowing for better synchronization with constituents. The lifecycle model presented
 456 here may provide a reference point for modeling the next levels of process, namely the
 457 business process and workflow levels (Karagiannis 1995; Polančič 2012). Such mod-
 458 els have potential for improving the process of negotiation by promoting innovation
 459 and efficiency (Hammer and Champy 1993; Marsa-Maestre 2008; Hammer 2009) and
 460 for approaching pareto optimal outcomes (Turan et al. 2013). This lifecycle model and
 461 any subsequent lower level models may help connect the academic discussion around
 462 negotiation to management science and management of operations because BPM is
 463 well developed in those fields. Lower level processes may also support automation of
 464 negotiation processes which will inform development of the next generation of auto-
 465 mated interactive tools for gathering information, identifying interests, and creating
 466 solutions. Such tools, in the form of chatbots, virtual assistants, and AI agents, will
 467 require implementation of process modeling at various levels, from architecture to
 468 highly disaggregated micro processes.

469 One limitation here is that negotiation processes are dynamic and thus their changing
 470 nature is difficult to model (Lindsay et al. 2003). In particular, this is true of the
 471 Interaction phase where emerging information discovered by the parties may impact
 472 the negotiation substantially. A large number of cases and transcripts must be reviewed
 473 in order to strengthen the model. Negotiations in some contexts, especially business
 474 and family matters, are essentially private, so it is difficult to find reliable published
 475 sources. Negotiations in intergovernmental contexts on the other hand may have phases
 476 that last years and implementations that last decades, making their complete and timely
 477 analysis difficult.

478 Previous negotiation models have not delivered a full overview of the negotiation
 479 process, nor have they clarified the macro phases and defined the phase borders through
 480 which a negotiation passes. The enhanced model's contributions provide an overall
 481 process that identifies the macro phases clearly with defensibly segmented phase
 482 boundaries and characteristics. Further, this model provides clear information about
 483 moving forward or backward after each phase; other models may hint at this but do
 484 not communicate it explicitly. Fundamentally, this model serves as a solid base from
 485 which to develop more complex models at levels of activity deeper in the overall
 486 process. It is hoped that the proposed model will spur improvement of this model as
 487 well as development of other models that reflect realities as well as ideal processes in
 488 organizations of all sorts.

489 References

- 490 Abbott TE (1986) Time phase model for hostage negotiation. *Police Chief* 6:169–186
 491 Adair WL, Brett JM (2004) Culture and negotiation processes. *Handbook of Negotiation and Culture*.
 492 Stanford Business Books, Stanford, pp 158–176
 493 Adair WL, Brett JM (2005) The negotiation dance: time, culture, and behavioral sequences in negotiation.
 494 *Organ Sci* 16:33–51. <https://doi.org/10.1287/orsc.1040.0102>

- 495 Adair WL, Taylor M, Chu J, Ethier N, Xiong T, Okumura T, Brett JM (2013) Effective influence in negoti-
 496 ation. *Int Stud Manag Organ* 43:6–25. <https://doi.org/10.2753/IMO0020-8825430401>
- 497 Allee V (2000) Reconfiguring the value network. *J Bus Strategy* 21:36–39. <https://doi.org/10.1108/eb040>
 498 103
- 499 Avenhaus R, Zartman IW (2007) Diplomacy games. *Dipl Games Form Model Int Negot*. <https://doi.org/1>
 500 [0.1007/978-3-540-68304-9](https://doi.org/10.1007/978-3-540-68304-9)
- 501 Baber WW (2016) Looking inside Japanese–Japanese intracultural business negotiation. *Kyoto Econ Rev*
 502 85:104–134
- 503 Baertlein L (2013) Starbucks to pay \$2.76 billion in Kraft grocery rift. Reuters.com 2013–2015
- 504 Barrett S (1998) On the theory and diplomacy of environmental treaty-making. *Environ Resour Econ*
 505 11:317–333. <https://doi.org/10.1023/A:1008243528330>
- 506 Bazerman MH, Curhan JR, Moore DA, Valley KL (2000) Negotiation. *Annu Rev Psychol* 51:279–314
- 507 Binder J (2007) Global project management. Gower, Farnham
- 508 Boehm B, Bose P, Horowitz E, Lee MJ (1997) Software requirements negotiation and renegotiation aids: a
 509 theory-W based spiral approach 1. *Proc ICSEE* 95:1–18
- 510 Bolton P, Dewatripont M (2005) Contract theory. MIT Press, Cambridge
- 511 Brett J, Weingart LR, Olekalns M (2003) Baubles, bangles, and beads: modeling the evolution of negotiating
 512 groups over time. In: Blount S, Mannix B, Neale M (eds) *Research in managing groups and teams:*
 513 *time in groups*, vol 6. JAI Press, Greenwich, pp 39–64
- 514 Brooks E (1984) *Managing by negotiations*. Van Nostrand Reinhold, New York
- 515 Brooks E, Odiome GS (1992) *Managing by negotiations, revised/up*. Krieger, Malabar
- 516 Clegg BT, Boardman JT (1996) Process integration and improvement using systemic diagrams and a human-
 517 centred approach. *Concurr Eng Res Appl* 4:119–136
- 518 Colosi T (2003) A core model of negotiation. In: Lewicki RJ, Saunders DM, Minton JW, Barry B (eds)
 519 *Negotiation: readings, exercises, and cases*, 4th edn. McGraw-Hill Higher Education, Boston, pp
 520 292–297
- 521 Conklin J (2006) *Dialogue mapping: building shared understanding of wicked problems*. Wiley, New York
- 522 Consensus Building Institute (2010) Mutual gains approach. <http://www.cbuilding.org>. Accessed 10 Dec
 523 2014
- 524 Craver CB (1986) *Effective legal negotiation and settlement*. Michie, Charlottesville
- 525 Craver CB (2012) *Effective legal negotiation and settlement*, 7th edn. LexisNexis, New York
- 526 Demirkan H, Goul M, Soper DS (2005) Service level agreement negotiation: A theory-based exploratory
 527 study as a starting point for identifying negotiation support system requirements. In: *Proceedings of*
 528 *annual Hawaii international conference system sciences*, pp 37b–37b
- 529 Douglas A (1962) *Industrial peacemaking*, 1st edn. Columbia University Press, New York
- 530 Druckman D (1973) *Human factors in international negotiations: social-psychological aspects of interna-*
 531 *tional conflict*. Sage Publications, Thousand Oaks
- 532 Druckman D (1983) Social psychology and international negotiations: processes and influences. In: Kidd
 533 RF, Saks MJ (eds) *Advances in applied social psychology*. Lawrence Erlbaum Associates, Hillsdale,
 534 pp 51–82
- 535 Druckman D (2005) *Doing research*. SAGE Publications, Thousand Oaks
- 536 Druckman D (2007) Negotiation models and applications. In: Avenhaus R, Zartman IW (eds) *Diplomacy*
 537 *games*. Springer, Berlin, pp 83–96
- 538 Druckman D, Olekalns M (2013) Punctuated negotiations: transitions, interruptions, and turning points. In:
 539 Olekalns M, Adair WL (eds) *Handbook of research on negotiation*, 3rd edn. Edward Elgar Publishing,
 540 Incorporated, Cheltenham, pp 332–356
- 541 English T (2003) *Negotiation as tension management: a model for business and other international trans-*
 542 *actions*. Adelaide
- 543 Ertel D (1999) Turning negotiation into a corporate capability. *Harv Bus Rev* 77:55–71
- 544 Fells R, Rogers H, Prowse P, Ott UF (2015) Unraveling business negotiations using practitioner data. *Negot*
 545 *Confl Manag Res* 8:119–136. <https://doi.org/10.1111/ncmr.12050>
- 546 Filzmoser M, Hippmann P, Vetschera R (2016) Analyzing the multiple dimensions of negotiation processes.
 547 *Group Decis Negot* 25:1169–1188. <https://doi.org/10.1007/s10726-016-9477-7>
- 548 Freund J, Rucker B (2012) *Real-life BPMN: using BPMN 2.0 to analyze, improve, and automate processes*
 549 *in your company*. Camunda, San Francisco
- 550 Ghosh M, John G (1999) Governance value analysis and marketing strategy. *J Mark* 63:131–145. <https://doi.org/10.2307/1252107>
 551

- 552 Graham JL, Lam NM (2003) The Chinese negotiation. *harvard. Bus Rev* 81:82–91
- 553 Gulliver PH (1979) *Disputes and negotiations: a cross-cultural perspective*. Academic Press, Cambridge
- 554 Gupta P, Damouni N, Sandle P (2012) How a desperate HP suspended disbelief for Autonomy deal.
555 In: Reuters. <http://www.reuters.com/article/2012/11/30/us-hp-autonomy-idUSBRE8AT09X20121130>. Accessed 29 Dec 2012
- 556 Hammer MR (2009) *Beyond reengineering*. HarperCollins, New York
- 557 Hammer MR, Champy J (1993) *Reengineering the corporation: a manifesto for business revolution*. Harper
558 Business, New York
- 559 Hampson FO, Hart M (1999) *Multilateral negotiations: lessons from arms control, trade, and the environ-*
560 *ment*. Johns Hopkins University Press, Baltimore
- 561 Heller FA, Drenth P, Koopman P, Rus V (1988) *Decisions in organizations: a three-country comparative*
562 *study*. Sage, London
- 563 Hendon DW, Hendon RA (1994) *How to negotiate worldwide: a practical handbook*. Gower, Farnham
- 564 Holmes ME (1992) Phase structures in negotiation. In: Putnam LL, Roloff ME (eds) *Communication and*
565 *negotiation*. SAGE Publications, Thousand Oaks, pp 83–108
- 566 Holmes ME, Sykes RE (1993) A test of the fit of Gulliver's phase model to hostage negotiations. *Commun*
567 *Stud* 44:38–55. <https://doi.org/10.1080/10510979309368381>
- 568 Hopmann PT (1996) *The negotiation process and the resolution of international conflicts*. University of
569 South Carolina Press, Columbia
- 570 In H, Olson D, Rodgers T (2001) A requirements negotiation model based on multi-criteria analysis. In:
571 *Proceedings fifth IEEE international symposium on requirements engineering*, Toronto, ON. IEEE,
572 pp 312–313
- 573 INPEX (2016) *The Ichthys LNG project*. Perth
- 574 Jeong HW (2016) *International negotiation: process and strategies*. Cambridge University Press, Cambridge
- 575 Karagiannis D (1995) BPMS: business process management systems. *ACM SIGOIS Bull* 10:1993–1996
- 576 Koeszegi ST, Pesendorfer EM, Vetschera R (2011) Data-driven phase analysis of E-negotiations: an exem-
577 plary study of synchronous and asynchronous negotiations. *Group Decis Negot* 20:385–410. <https://doi.org/10.1007/s10726-008-9115-0>
- 578 Korula AR (2003) The regimes against torture. In: Spector BI, Zartman IW (eds) *Getting it done: post-*
579 *agreement negotiation and international regimes*. Institute of Peace Press, Washington, pp 229–268
- 580 Koubarakis M, Plexousakis D (2002) A formal framework for business process modelling and design. *Inf*
581 *Syst* 27:299–319. [https://doi.org/10.1016/S0306-4379\(01\)00055-2](https://doi.org/10.1016/S0306-4379(01)00055-2)
- 582 Kremenyuk VA (2002) *International negotiation: analysis, approaches, issues*. Jossey-Bass, Hoboken
- 583 Lax DA, Sebenius JK (2006) *3D negotiation: powerful tools to change the game in your most important*
584 *deals*. Harvard Business School Publishing, Boston
- 585 Lewicki RJ, Hiam A (2010) *Mastering business negotiation: a working guide to making deals and resolving*
586 *conflict*. Jossey-Bass, San Francisco
- 587 Lewicki RJ, Hiam A, Olander KW (1996) *Think before you speak: a complete guide to strategic negotiation*.
588 Wiley, Hoboken
- 589 Lindsay A, Downs D, Lunn K (2003) Business processes: attempts to find a definition. *Inf Softw Technol*
590 45:1015–1019. [https://doi.org/10.1016/S0950-5849\(03\)00129-0](https://doi.org/10.1016/S0950-5849(03)00129-0)
- 591 Lopes F, Mamede N, Novais AQ, Coelho H (2000) Towards a generic negotiation model for intentional
592 agents. In: *Proceedings of the 11th international workshop on database and expert systems applications*.
593 <https://doi.org/10.1109/dexa.2000.875062>
- 594 Marsa-Maestre I (2008) Using expressive dialogues and gradient information to improve trade-offs in
595 bilateral negotiations. In: *International conference on electronic commerce and web technologies*, pp
596 71–80
- 597 Mascitelli R (2007) *The lean product development guidebook: everything your design team needs to improve*
598 *efficiency and slash time-to-market*. Technology Perspectives, Northridge
- 599 Miller BK (1997) *Issues management: the link between organization reality and public perception*. *Public*
600 *Relat Q* 44:5–11
- 601 Minchin TJ (2012) Shutting down 'Big Brown': reassessing the 1997 UPS strike and the fate of American
602 labor. *Labor Hist* 53:541–560. <https://doi.org/10.1080/0023656X.2012.732755>
- 603 Ministry of Justice UK (2017) *Practice direction: pre-action conduct and protocols*. Justice on GOVUK, pp
604 1–46
- 605 Mintzberg H (1971) Managerial work: analysis from observation. *Manag Sci* 18:B97–B110. <https://doi.org/10.1287/mnsc.18.2.B97>

- 609 Moberg D (1997) The UPS strike: lessons for labor. *Work USA* 1:11–29
- 610 Morley IE, Stephenson GM (1977) *The social psychology of bargaining*. G. Allen & Unwin, London
- 611 Olekalns M, Brett JM, Weingart LR (2003) Phases, transitions and interruptions: modeling processes in
612 multi-party negotiations. *Int J Confl* 14:191–211
- 613 Ott UF, Prowse P, Fells R, Rogers H (2016) The DNA of negotiations as a set theoretic concept: a theoretical
614 and empirical analysis. *J Bus Res* 69:3561–3571. <https://doi.org/10.1016/j.jbusres.2016.01.007>
- 615 Phalp KT (1998) The CAP framework for business process modelling. *Inf Softw Technol* 40:731–744.
616 [https://doi.org/10.1016/S0950-5849\(98\)00058-5](https://doi.org/10.1016/S0950-5849(98)00058-5)
- 617 Polančič G (2012) *White Paper process maturity and BPMN*. London, UK
- 618 Project Management Institute (2015) *A guide to the project management body of knowledge*, 5th edn.
619 Project Management Institute, Newtown Square
- 620 Putnam LL, Fuller RP (2014) Turning points and negotiation: the case of the 2007–2008 writers' strike.
621 *Negot Confl Manag Res* 7:188–212. <https://doi.org/10.1111/ncmr.12032>
- 622 Raiffa H (1985) Post-settlement settlements. *Negot J* 1:9–12
- 623 Raiffa H, Richardson J, Metcalfe D (2002) *Negotiation analysis: the science and art of collaborative decision*
624 *making*. Belknap Press of Harvard University Press, Cambridge
- 625 Randolph L (1966) A suggested model of international negotiation. *J Confl Resolut* 10:344–353
- 626 Rittel HWJ, Webber MM (1973) Dilemmas in a general theory of planning. *Policy Sci* 4:155–169. <https://doi.org/10.1007/BF01405730>
- 627
- 628 Saunders HH (1985) We need a larger theory of negotiation: the importance of pre-negotiation phases. *Negot*
629 *J* 1:249–262
- 630 Sawyer J, Guetzkow HS (1965) Bargaining and negotiation in international relations. In: Kelman HC (ed)
631 *International behavior a social psychological analysis*. Holt, Rinehart and Winston, New York, pp
632 464–520
- 633 Shapiro D (2013) The HPQ/AU scandal: what went wrong? *J Corp Acc Finance* 24:49–53
- 634 Spector BI (1977) Negotiation as a psychological process. *J Confl Resolut* 21:607–618
- 635 Spector BI (2003) Deconstructing the negotiations of regime dynamics. In: Zartman IW (ed) *Getting it*
636 *done: postagreement negotiation and international regime*. United States Institute of Peace Press,
637 Washington, pp 51–88
- 638 Spector BI, Korula AR (1993) Problems of ratifying international environmental agreements. *Glob Environ*
639 *Chang* 3:369–381. [https://doi.org/10.1016/0959-3780\(93\)90025-G](https://doi.org/10.1016/0959-3780(93)90025-G)
- 640 Spector BI, Zartman IW (2003) *Getting it done: postagreement negotiation and international regimes*. United
641 States Institute of Peace Press, Washington
- 642 Stein JG (1989a) Getting to the table: processes of international prenegotiation. *Int J* 44:231–236. <https://doi.org/10.2307/40202596>
- 643
- 644 Stein JG (1989b) Getting to the table: the triggers, stages, functions, and consequences of prenegotiation.
645 *Int J* 44:475–504
- 646 Straus D (1999) Designing a consensus building process using a graphic road map. In: Susskind L, McK-
647 earnen S, Thomas-Lamar J (eds) *The consensus building handbook*. SAGE Publications, Thousand
648 Oaks, pp 137–168
- 649 Taylor PJ (2002) A cylindrical model of communication behaviour in crisis negotiations. *Hum Commun*
650 *Res* 28:7–48. <https://doi.org/10.1111/j.1468-2958.2002.tb00797.x>
- 651 Thamhain HJ (2013) *Management of technology: managing effectively in technology-intensive organiza-*
652 *tions*. Wiley, Hoboken
- 653 Ting-Toomey S (2005) The matrix of face: an updated face-negotiation theory. In: Gudykunst WB (ed)
654 *Theorizing about intercultural communication*. Sage, Thousand Oaks, pp 71–92
- 655 Tjosvold D, Law KS, Sun HF (2003) Collectivistic and individualistic values: their effects on group dynamics
656 and productivity in China. *Group Decis Negot* 12:243–263. <https://doi.org/10.1023/A:1023383200180>
- 657
- 658 Turan N, Dai T, Sycara KP, Weingart LR (2013) Toward a unified negotiation framework: leveraging
659 strengths in behavioral and computational communities. In: Sycara KP, Gelfand M, Abbe A (eds)
660 *Group decision and negotiation: models for intercultural collaboration and negotiation*. Springer,
661 Berlin, pp 53–65
- 662 Vetschera R (2013) Negotiation processes: an integrated perspective. *EURO J Decis Process* 1:135–164.
663 <https://doi.org/10.1007/s40070-013-0006-5>
- 664 Vuorela T (2005) How does a sales team reach goals in intercultural business negotiations? A case study.
665 *Engl Specif Purp* 24:65–92. <https://doi.org/10.1016/j.esp.2003.09.005>

- 666 Wagner L (2003) The mediterranean action plan. In: Spector BI, Zartman IW (eds) Getting it done: post-
667 agreement negotiation and international regimes. United States Institute of Peace Press, Washington,
668 pp 115–142
- 669 Walton RE, McKersie RB (1965) A behavioral theory of labor negotiations: an analysis of a social interaction
670 system. ILR Press, Ithaca
- 671 Wang Y, Zhao L, Wang X, Yang X, Supakkul S (2013) PLANT: a pattern language for transforming scenarios
672 into requirements models. *Int J Hum Comput Stud* 71:1026–1043. <https://doi.org/10.1016/j.ijhcs.2013.08.001>
- 673
- 674 Weigand H, De Moor A, Schoop M, Dignum F (2003) B2B negotiation support: the need for a communi-
675 cation perspective. *Gr Decis Negot* 12:3–29. <https://doi.org/10.1023/A:1022294708789>
- 676 Weske M (2012) Business process management: concepts, languages, architectures. Springer, Heidelberg
- 677 Zartman IW (2008) Negotiation and conflict management: essays on theory and practice. Taylor & Francis,
678 New York
- 679 Zartman IW, Berman MR (1983) The practical negotiator. Yale University Press, New Haven

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