Negotiation Profiles and Concession Patterns

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Abstract

Negotiation literature suggests that negotiators' behavior depends on their negotiation profile and other aspects such as context, counterpart and prior experience. This study intends to examine the relationship between the profile, concession patterns and other aspects of the negotiations. The results show joint effects of negotiators' profiles, their gender and negotiation knowledge on their concession pattern and value. We divided the participants into two groups of negotiators, those who made the first offer and those who made the second offers. Group analysis shows significantly different effects for each group.

Keywords: negotiation profile, concession, Thomas-Kilmann conflict mode instrument, negotiation strategy.

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1. Introduction

Blake and Mouton (1964) formulated a "managerial grid", known in literature as the dual-concern model. The purpose was to give managers a how-to approach to conflict resolution. The authors viewed the model as a prescriptive tool; however, after its empirical validation in numerous experimental studies (e.g. Lawrence et al. 1967; Rhoades et al. 1999), it is now considered descriptive. It provides a typology that allows the positioning of individuals' typical approaches to negotiations.

Dual-concern model allows us to determine how people approach particular negotiation given their concern for the own and the counterparts' outcomes. However, it does not tell us whether a person is a competitor, collaborator, compromiser, avoider or accommodator. Although many negotiation textbooks focus on the distinction between competition and collaboration (Shell 2001), experimental studies show that people who have a strong predisposition to collaborate can become effective competitors when their counterpart competes (Kelley et al. 1970; Miller et al. 1975).

The ability to change from one strategy to another indicates that some negotiators may effectively use two or more approaches. Following this observation Thomas and Kilmann (1974) developed a research instrument, known as TKI, which has been used to determine the strength of the approaches. The combination of strength of the five approaches for a person is this person's *negotiation profile*. Each of the five approaches used to construct the profile takes a value between 0 and 12. TKI comprises 30 true/false questions measuring self-reported predispositions for using the five approaches. The questions are context-free so the person's profile does not describe her predispositions in a particular conflict or negotiation situation. Instead, it can be seen as the person's "repository" of approaches and her ability to use them.

Shell (2001) collected TKI scores from 1682 global executives participating in negotiation training. He confirmed that people may have predispositions for several approaches including, sometimes, those they do not prefer. Shell's study also indicates that strong and weak predisposition for a particular approach influences their concession pattern and the agreement. For example, he observed the following (op. cit., p. 167):

- Negotiators who are weakly predisposed toward accommodating tend to be stubborn and make little or no concessions;
- A strong predisposition for compromising leads to willingness to close the gap and sometimes, to make significant concessions;
- Negotiators with a low compromising score make few concessions albeit for different reasons than low accommodators, and they can be expected to reciprocate; and
- Negotiators strongly predisposed toward competition tend to make small concessions and only when they have to.

Other studies show that collaborators seek an agreement that is balanced (Eek et al. 2006); that collaborators concede more than competitors (Esser et al. 1975); that a change of strategy (e.g., from cooperative to competitive) causes increased concessions (Hilty et al. 1993); and, that negotiators who have competitive counterparts make small concessions whereas they make significantly larger concessions when they negotiate with cooperative counterparts. The significance of concessions has been recognized; Hendon states that "the heart of negotiation

is the concession process" (2003, p. 75), and Ma et al. (2006, p. 3), note "negotiation is all about concession".

This overview suggests that the negotiators' behavior depends on their profile and other aspects such as context, counterpart, prior experience and relationship. TKI, being a diagnostic instrument, allows to recognize differences in individual profiles. We are interested in whether it can be used to determine several types of profiles and if it can be used to classify individuals into groups sharing a similar profile.

It has been recognized that the negotiation process and results strongly depend on the behavior and the initial offers made by both sides (Raiffa et al. 2003). As the negotiation progresses reciprocity, deadlines and other aspects play an increasing role. However, negotiators who have similar profiles should initiate the negotiation similarly because they are under no different external influences, including those made by the counterpart.

Many experimental studies are based on the assumption that a particular negotiation approach can be effectively induced (Carnevale et al. 1992; De Dreu et al. 2000; Chen 2010). The use of incentives to induce an approach sought by the experimenter introduces potential for error and (possibly unconscious) resistance. External influence may shape their behavior, particularly when people have very weak approaches comprising their profile. To remove this possibility, we decided to first determine the negotiators' profile and then observe their concession behavior.

E-negotiation allows for anonymous negotiation. This means that the parties are not influenced by their perception of the counterparts in terms of their visual cues (including non-verbal communication). While preparing to negotiate the participants do not know anything about their counterpart. In Section 2 we discuss two e-negotiation experiments, from which data was collected for the purpose of this study.

Concession-making is one of the most important sub-processes in negotiation. In Section 3, we used data from this and earlier experiments to propose several distinct concession patterns. Section 4 discusses different profiles of negotiators, propose five types of distinct profiles and analyze the impact of these profiles on negotiators' behavior. Section 5 examines the relationship between negotiation profiles and concession patterns. The paper concludes with a discussion on the findings and implications for future research.

2. Inspire Experiments

There were two online negotiation experiments lasting three weeks. The participants were university students from all over the world and the experiment was part of their class activities. They first registered online and they were then randomly matched into dyads. In the experiment the participants were negotiating anonymously.

To obtain participants' profile we asked them to fill in the TKI questionnaire before they learned about the negotiation case and the features of the system. The system we used is Inspire (Kersten et al. 1999). We organized two online experiments, one in Fall 2009 and one in Spring 2010. Kersten, Wu and Wachowicz (2010) discuss the Fall experiment in more detail; the Spring experiment was very similar involving the students from the same universities and

taking the same courses.

In the Fall experiment there were 141 negotiations (282 students); some of the students dropped out, others did not exchange any offers and as a result we could use data from 125 negotiations. In addition, we decided not to use 6 negotiations in which at least one partner set preferences in such a way that they mirrored preferences of his counterpart (e.g., the best alternative for the company he represented was the worst for him). Based on the same criteria as those used for the Fall experiment we reduced 69 negotiations set up in the Spring experiment to 52. Thus, the dataset represents 171 dyads (342 students).

Inspire allows for predefined preferences and additive value function (called rating) for user-determined preferences and tradeoffs. The participants were asked to enter their own preferences. They were given general information about interests of the company they represented and the issues and options were ordered from best to worst. In addition, the case contained such descriptions as "option A is much worse than B" or "A is strongly preferred over B".

The construction of the value function allows for the graphical display of the negotiation progress; it is the negotiation history graph. An example of such a graph is shown in Figure 1.

Note that in the negotiation case the negotiators are called *Cron Sart*, representing Cypress Inc., and *Nars Taman*, representing Itex Inc. All participants representing one side negotiated under the same assumed name so that they did not need to use their own names and disclose their identities.
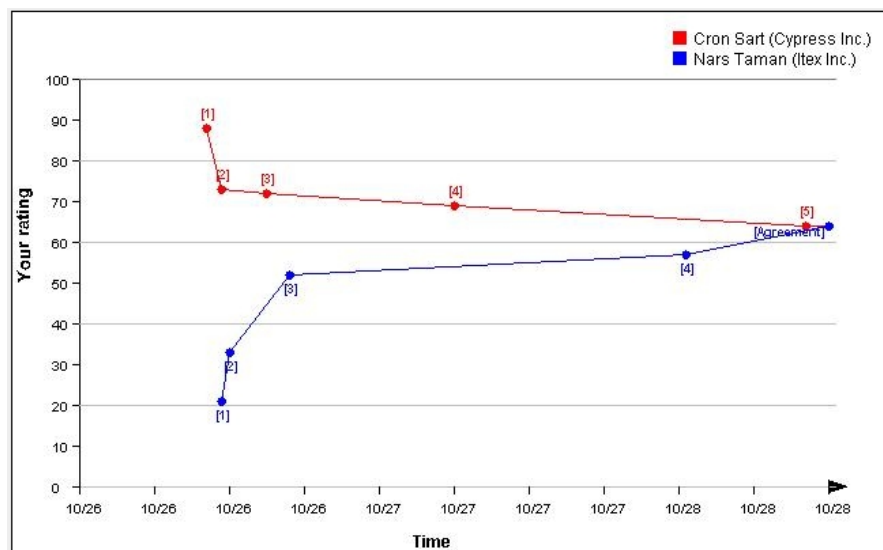

Fig. 1. An example of the negotiation history graph (as seen by Cron Sart)
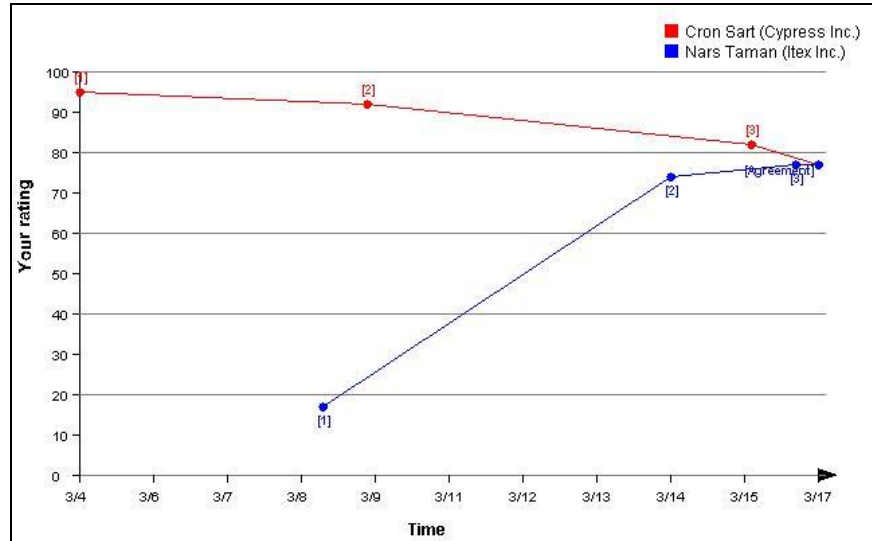
Fig. 2. Another example of the negotiation history graph (as seen by Cron Sart)

A history graph is constructed for each party separately and it displays this party and the counterpart's offers in the party's value function space (y-axis) and time (x-axis). We can see that both the negotiator (quasi- concave curve in red) and her counterpart (quasi- convex in blue) begin the negotiations with large concessions which then became progressively smaller. This suggests that both sides were collaborating.

Another negotiation instance is given in Figure 2. In this process the negotiator (Cron Sart) appears to compete making small hesitant concessions. In this way, she forces her counterpart, who does not appear to be competitive but perhaps avoiding or accommodating, to yield and make a very large concession (difference between offer 1 and offer 2). Because of the deadline the negotiator then makes a larger concession; this is also indicative of her competitive approach (Carnevale et al. 1986).

Other features of the Inspire system, including the offer construction and exchange, free text messaging, post-settlement settlement, and negotiation dance chart are discussed in detail by Kersten and Noronha (1999).

3. Concession Patterns

Making a concession means that the negotiator proposes an offer which she considers, in comparison with her previous offer, worse for her but better for her counterpart (Pruitt 1981, p. 19). A concession is made by one party but assessed by both. It is therefore possible that what one side may consider a concession may not be seen as such by the other side. Therefore, we need to take into account each of the eventualities in defining concessions.

A *concession* is the difference between two successive offers made by one negotiator such that the second offer is: (1) worse for the offer maker; and/or (2) better for the offer taker.

We can determine *concession value*, when utility or other measure is used; it is the difference

between utilities of two consecutive offers: utility of one offer less the utility of the following offer. The sum of all concessions made by one negotiator during the process is the *total concession value.*

In this section, we first classify the Inspire negotiation participants' concession patterns, and then analyze the differences of negotiation process and outcomes across these patterns.

3.1 Classifications of Concession Patterns

Following the review of literature and the negotiation history graphs we formulated ten types of concession shapes depicted in Figure 3. The shapes are concave, convex and some combinations of these two types. Negotiators' concessions are classified into competitive, collaborative and hybrid. The starting and ending points are relative, that is, two negotiators may have the same concession shapes but their first and/or last offers may have different ratings. The continuous curves represent the negotiators' concession patterns and the dashed lines represent the counterparts' concessions as seen by the negotiators on the same graph (i.e. the red and blue lines in Figure 3 which mirror the lines in Figure 1 and 2).
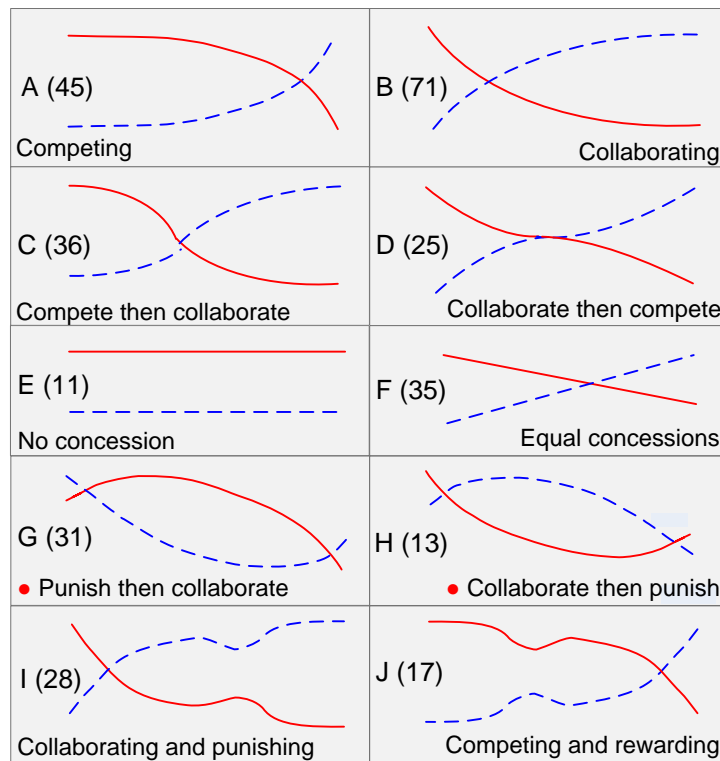

Fig. 3. Categories and frequencies of concession patterns

Two graduate students from different study programs (one from engineering and one from education) were given a description of the concession patterns and a short period of training to categorize the negotiation history graphs. A faculty member with negotiation expertise then

cross checked their coding results and solved the disagreements, which was about 20% for each coder. Some of the concession patterns made little sense, e.g., they resembled zigzags, or were consistently reversed (i.e., a curve originating from the bottom and moving up). There were 30 negotiations which we had to remove because one or both pairs made concessions that did not fit any pattern. The remaining 312 cases were used in the subsequent analysis. The final result of the coding categories is shown in Figure 3, next to the graph identifying letter, for example, A (45).

All but two graphs shown in Figure 3 have the same interpretation for both the negotiator and his/her counterpart. For example, in panel A the graph represents a competing approach for the negotiator (top red curve) and the graph representing the counterpart's concession (blue bottom curve) also represents a competing approach. The concession patterns shown in panels G and H cannot be interpreted in this way; G represents a reverse concession made by the negotiator (indicating some kind of punishment), which is followed by collaborative concessions. The counterpart's graph (G, bottom blue curve) interpretation is the reverse, that is, it indicates collaboration followed by punishment. The two graphs shown in panel H need to be interpreted in a similar way.

3.2   Negotiation process and outcomes across concession patterns

An ANOVA test was conducted to compare the negotiation process and outcome across these concession patterns. The results are given in Table 1. The concession patterns significantly differ in terms of the number of offers, negotiation time, and the rating of the first offer. However, no difference was found for the number of messages and the total message length across the patterns. This implies that the profiles have no impact on the rationalization, justification, argumentation, and other explanations included in messages and relationship-building messages.

Table 1. Negotiation process and outcomes across concession patterns (anova)

	F	Sig.
No. of offers	3.68	0.000**
No. of messages	0.451	0.906
Message length	1.322	0.227
First offer	9.055	0.000**
Last offer	2.046	0.036*
Overall concession value	11.302	0.000**
Negotiation time (days)	2.352	0.015*

To determine the negotiation outcomes, we used the last offer rating and the overall concession value rater than the final agreement rating. Otherwise, we would have insufficient number of data points required for the analysis because out of the 116 dyads only 68 reached an agreement. Using this measure, we found significant relationship between the concession patterns and negotiation outcomes, i.e. overall concession value (0.000) and last offer (0.036).

Table 2 shows the detailed results of a mean comparison. In addition to the significant differences, the percentage of agreements reached in each pattern group is also shown in the table.

Some interesting and surprising findings are as follows:

- Literature suggests that competitors' first offers are much higher than those made by collaborators. Our study does not confirm this because the ratings of first offers made by the negotiators, whose concessions correspond to patterns A, B, C, D, are similar. A possible interpretation is that cooperators' high first offers are due to the anonymity.

- Comparing the concession patterns A and B we find this study confirming that agreement rating for cooperators is higher than competitors (by 36.8%). Cooperators make fewer offers (3.64 vs. 4.62) and achieve an agreement in a shorter time (by 28.8%) than competitors.

- The opposite situation takes place with respect to patterns C and D. Negotiators who followed pattern C first competed then collaborated and the opposite is the case for pattern D. Agreement rating is higher for the negotiators who initially competed (50%) than for those who initially collaborated (36%). Those who initially competed made fewer offers and negotiated for a shorter time than those who initially collaborated. While this result needs further verification it may be the reason that the initial concession were due to a tactic and that the latter concessions corresponded to the overall strategy.

- On average, the negotiators who made no concession (pattern E) and those who made concessions of equal rating (pattern F), proposed fewer offers than the other groups. Note that while there should be no difference in the rating of the first and last offers for pattern E, the difference of 1.91 is because of the pattern's approximation; the difference for E is less than 13% of the average difference for the whole group.

- Concessions represented by patterns G and H appear very effective because they result in the last offer rating higher than the first offer rating. Following pattern G, however results in many unsuccessful negotiations (only 26% of agreements), but pattern H has very high agreement rating of all the patterns (54%) and the last offer rating is very high.

- Both the percentage of successful negotiation and the last offer ratings are highest for patterns E and H. The implication of this situations may be difficult to accept; not doing anything but repeating demands (pattern E) brings forth very good result and in the shortest time (5. 91 days on average). Collaboration followed by punishment (pattern H) also has very good results albeit achieving them takes much longer time

(10.3 days on average).The question that we need to address is if these participants were interested in representing the interest of the companies they represented.

Table 2. Mean comparison across concession patterns

	Concession pattern									
	A	B	C	D	E	F	G	H	I	J
No. of offers	4.62	3.64	4.63	4.84	2.82	2.37	3.70	4.30	7.70	5.89
First offer	90.42	91.55	94.46	93.21	76.82	87.97	70.75	76.40	77.79	86.70
Last offer	69.42	72.02	69.75	60.84	78.73	76.63	73.45	78.60	69.58	70.90
Concession value	21.00	19.52	24.71	32.37	-1.91	11.33	-2.70	-2.20	8.21	15.80
Negotiation time	9.27	7.20	7.50	11.58	5.91	6.07	6.40	10.30	9.05	9.70
Successful negotiation (%)	38	52	50	36	55	40	26	54	36	59

4. Negotiation Profiles

In this section we propose five distinct types of negotiation profiles based on the TKI scores obtained from the experiments. The implications of the profiles are discussed and their impact on negotiators' behavior is investigated. We also analyzed the relationship between the profiles and negotiators' other characteristics and his/her first offer.

4.1 Average Profiles

The average profile of the 312 Inspire negotiation participants is presented in Figure 4. For comparison we included the average profile of 6057 participants of the online survey done by Consulting Psychologists Press (CPP) (2003). We also included an example of a single negotiator's profile.
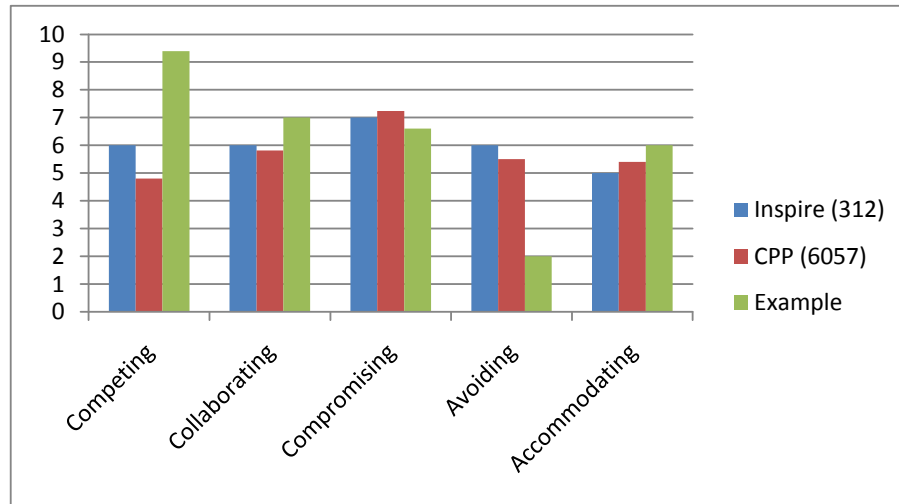
Fig. 4. Average profiles of the Inspire negotiators, participants of the CPP survey, and an example of an individual's profile.

We can see that the average profiles of the CPP respondents and Inspire users are similar. Both groups are compromising; however, more Inspire negotiators were competing and less accommodating; the CPP participants were less competing than the e-negotiation participants.

The example shows an individual's profile, which indicates that she has strong competing and weak avoiding approaches. The individual is also able to collaborate, compromise and accommodate, depending on the context and the counterpart's approach or behavior.

4.2 Five Negotiation Profiles

To reduce the number of different profiles Shell (2001) defined three intervals for the TKI scores and labeled them as weak, average and strong. He also suggested using relative intervals that depend on the population under study rather than the absolute value range from 0 to 12 for each approach. Thus, the intervals are defined in the following way: weak—25% of participants with the lowest score; strong—25% of participants with the highest score; and average—the remaining 50% of participants with scores in between weak and strong.

We followed Shell's approach to aggregate the participants' scores on the TKI. Instead of using original scores, we calculated the *Z* score which provides more precise cutting-points between the three strength levels. These levels were used to categorize the participants' negotiation profiles.

A cluster analysis (K-means) was used to identify the typical profiles in our sample. The results of ANOVA for five clusters are highly significant (< 0.000) for all five approaches; the level of every approach is highly significant in each cluster. The participants in each cluster are much

closer than others in terms of their negotiation approaches. In each cluster there is at least one strong approach, and every approach takes value "strong" in at least one cluster, except 'compromising' which is located in the middle in the dual-concern model.

Each cluster represents a group of participants. They have different *negotiation profiles*, which are characterized by the strength of the five approaches. The five profiles are shown in Table 3 followed by their detailed interpretation. The number of participants in each cluster is given in the last row.

Table 3. Five clusters of negotiation profiles

Approaches	Profiles				
	Collaborator	Hesitant negotiator	Enlightened competitor	Willing compromiser	Individualist
Competing	Weak	Average	Strong	Average	Strong
Collaborating	Strong	Average	Average	Weak	Strong
Compromising	Average	Weak	Average	Average	Average
Avoiding	Average	Strong	Average	Average	Weak
Accommodating	Average	Average	Weak	Strong	Average
Participants #	57	36	73	73	73

The profiles may be interpreted as follows:

1. *Collaborators* have strong collaborative abilities and are capable of using other approaches, except for competing. This means that collaborators cannot compete, instead they would rather compromise, avoid or accommodate.
2. *Hesitant negotiators* do not seem to be much interested in the negotiations and/or achieving an agreement. Their strength is in avoiding conflict. If such an action is not possible, they would try to compete, collaborate or accommodate rather than compromise.
3. *Enlightened competitors* have a strong competitive predisposition accompanied by an average predisposition in the collaborative, compromising and avoiding approaches. They are not interested in accommodating their counterparts' needs but can augment their competitive approach with another type or use a non-competitive approach in a particular situation.
4. *Willing compromisers* have a strong predisposition for accommodating accompanied by an average predisposition for competing, compromising and avoiding. They are not interested in engaging in collaborative activities, which arguably require more effort than the other types of activities.

5. *Individualists* are strong collaborators and competitors who are not willing to avoid a conflict but are able to compromise and accommodate.

4.3 Negotiation Profiles, Process and Outcomes

An analysis of variance (ANOVA) test was performed to examine whether negotiation profiles impact negotiators' behavior. We found no significant differences between the profiles.

Next, we took into account negotiators' other characteristics (including gender and negotiation knowledge) to verify if they affect negotiators' behavior. As the model involves more than one categorical independent variable, the multivariate of variance (MANOVA) technique was used. We found that the total message length, expected agreement rating and the number of offers were significantly different across the profiles within the same gender and knowledge groups (Table 4). This suggests that gender, negotiation knowledge and negotiation profile jointly affect negotiators' behavior. Further comparison of this result among the five profiles indicates that: 1) there was a significant difference between *collaborators* and *hesitant negotiators* on expected agreement rating (0.001), and 2) *enlightened competitors* differ significantly from *collaborators* and *hesitant negotiators* in terms of message length (0.011) and the number of offers (0.008).

Table 4. Impact of negotiation profiles (MANOVA)

Groups	Independent	Dependent	F	Sig.
	Profiles	Message length	4.407	0.002**
Overall	Profiles	Expected agreement	2.632	0.036*
	Profiles	No. of offers	2.903	0.023*
First-mover	Profiles * Gender	First offer rating	2.472	0.048*
	Profiles	First counteroffer	2.569	0.044*
	Profiles * First offer	First counteroffer	1.57	0.047*
Second-mover	Profiles * First offer	No. offers w. messages	3.721	0.027*
	Profiles * First offer	Last offer	4.422	0.014*

To determine the possible reasons for the dependent variable values (e.g., message length, expected agreement and no. of offers) we decided to do group analysis. Observe that first offer should be considered as a dependent variable of negotiation profile for those who made this offer, but it is an independent variable for the offer recipients. We thus divided the sample into the following two sub-groups:

1. The group of *first-movers* that comprised negotiators who made the first offer during the negotiation, and;
2. The second-mover group comprised negotiators who received the first offer and made the second offer (i.e. the first counteroffer).

The impact of profiles and first offer on negotiation process and outcomes was analyzed using MANOVA. Table 4 summarizes the results for the two groups and the overall group.

In the first-mover group, it was found that profiles and gender jointly affected the first offer (0.048). In the second-mover group, the profiles alone affected the first counteroffer (0.044), and the profiles and the first-offer from the first-movers jointly affected the first counteroffer (0.047), the number of offers with messages (0.027), and the last-offer (0.014).

The different impact of profiles across the three groups indicates that: 1) negotiation profiles may be correlated with negotiators' other characteristics such as gender and negotiation knowledge; 2) profiles affect each individual's first offer, which is also strengthened by the negotiation's first offer; and 3) those who were second-movers in negotiation are more likely to present more arguments by sending more offers with messages. Also their last offer will be affected by their negotiation profiles and the first offer received from the first-movers.

5. Negotiation profiles and concession patterns

Both the literature review and the results from above analysis lead us to examine the relationship between the proposed negotiation profiles and concession patterns. Also, the effect of first offer is also taken into account. In addition to an analysis using the overall sample, we also divided and compared the first-mover and second-mover groups.

5.1 Negotiation profiles and concession patterns

First, the distribution of concession patterns across negotiation profiles was analyzed and the result is shown in Table 5. The numbers in bold show consistent relationship between profiles and patterns (e.g. collaborators with collaborative-like concession making pattern). The numbers shown in italics indicate an unmatched relationship.

Table 5. Frequencies of negotiation profiles and concession patterns

Profiles	Concession pattern										Total
	A	B	C	D	E	F	G	H	I	J	
Collaborator	7	**17**	4	4	7	**9**	0	3	*2*	4	57
Hesitant negotiator	8	4	3	4	*1*	5	4	0	6	1	36
Enlighten competitor	**13**	*17*	**9**	6	*1*	5	7	5	5	5	73

Willing compromiser	10	20	8	5	1	8	10	4	5	2	73
Individualist	7	13	12	6	1	8	10	1	10	5	73
Total	45	71	36	25	11	35	31	13	28	17	312

Both interesting and surprising results were found. For instance, as expected enlightened competitors fell under patterns A and C, and willing compromisers and collaborators under B and F. However, some enlightened competitors made concessions with pattern B, and the individualists had both collaborative and competitive patterns (B, C, G, I). This indicates that negotiators may have predisposition to use more than one approach. It also suggests that people may adopt opposing approaches in negotiations depending on the context and the counterparts' strategies.

Observe that many willing compromisers also made concessions that correspond to pattern B which indicates collaborating in negotiations. This appears to contradict the profile description, however, the reason is that concession making patterns do not allow us to distinguish between compromising, collaborating and/or competing concessions.

5.2 Prediction of concessions using negotiation profiles and first-offer

The generalized linear modeling technique was also used to analyze the impact of negotiation profiles and first-offer rating on concession pattern and overall concession value. We also conducted the analysis across three groups: the overall group, the first-mover group and the second-mover group. In the MANOVA model, the profiles and negotiators' other characteristics were the factors and the rating of the first offer was covariate. The results are summarized in Table 6.

Table 6. Relationship of negotiation profiles and concessions

Groups	Independent	Dependent	F	Sig.
Overall	Profiles * Knowledge	Concession pattern	2.179	0.029*
	First offer	Concession pattern	4.411	0.037*
	First offer	Concession value	13.587	0.000**
First-mover	Profiles	Concession pattern	2.433	0.051

	Profiles * Gender	Concession value	2.544	0.043*
	Profiles * Knowledge	Concession pattern	2.217	0.047*
	First offer	Concession pattern	19.35	0.000**
	First offer	Concession value	61.34	0.000**
Second-mover	First offer	Concession value	9.578	0.002**

In the overall group, we found that profiles and the level of negotiation knowledge jointly affected concession patterns (0.029) but not overall concession value. The first offer rating significantly affected both the concession patterns (0.037) and the overall concession value (0.000).

In the first-mover group, profiles alone had a slightly significant effect on concession patterns (0.051), while the effects were significant when considering the negotiators' level of negotiation knowledge (0.043). Moreover, it was found that profiles and gender together affected overall concession value in this group. Also, there were significant effects of the first offer rating on both concession pattern and concession value (0.000). In the second-mover group, only first offer rating was found to significantly affect overall concession value but not on the patterns.

In addition, we conducted a group analysis in order to compare negotiators' profiles, concessions, and behavior across the first-mover group and the second-mover group. We found that there were significant differences between these two groups in terms of the first offer rating, message length and negotiation time. It was also found that their concession values were different. A detailed difference contrast analysis shows that the first-movers sent shorter messages in total and spent longer time at the negotiation (Table 7). They also proposed a higher rating in the first offer at the beginning but then conceded more value through the negotiation. This finding contradicts the "first-mover" advantage observed in face-to-face negotiations (e.g. Oesch et al. 2002), but it is consistent with recent studies on e-negotiation settings (Johnson et al. 2009).

Table 7. Group comparison between first-movers and second-movers

Contrast			Dependent	
	Message length	First offer	Concession value	Negotiation time

Estimate	-84.598	7.244	8.628	3.052
Std. Error	31.434	1.9	2.431	0.744
Sig.	0.008**	0.000**	0.000**	0.000**

6. Discussion

In order to explore the relationship between negotiation profiles and concession patterns of e-negotiation participants we organized two online experiments. Five distinct negotiation profiles were proposed based on the TKI scores and ten concession patterns were classified using the negotiation history graphs. The implications of negotiation profiles and concession patterns were discussed and their relationship was analyzed. We found that:

- Profiles alone had no significant influences on negotiators' behavior and outcomes; however, when taking into account negotiators' other characteristics (e.g. gender and negotiation knowledge) profiles had significant effect on the number of offers, total length of messages and expected agreement value.

- Profiles and the first offer jointly affected the first counteroffer rating. The first offer rating had a strong effect on the overall concession value among the overall group, first-mover group and second-mover group. This might indicate the "first-mover" effects; however, the results show some disadvantages of such effects that have been acknowledged in e-negotiation studies.

- There was significant relationship between negotiation profile and concession patterns in the overall group and the first-mover group, but there was no direct relationship between profiles and concession value.

In summary, the findings indicate the relationship between the negotiation profile, concession patterns and negotiation outcomes; the first offer plays a particularly important role, which strengthens the effects of profiles on concessions. It also indicates that negotiators' concession patterns may not necessarily reflect their negotiation profile. It may be the choice in making actual concessions concerning other aspects such as the context, the first offer rating, and the counterpart's negotiation strategy.

This research focused on the relationship between negotiation profiles and concessions at the individual level. Future work needs to be done at the dyad level, because it will enable analysis of negotiation approaches and concession making from both sides' perspectives. Qualitative approach involving open-ended questionnaires and content analysis may gain insights into why people having certain negotiation profiles make specific types of concessions or reverse concessions. Studies on the dynamics of negotiation approaches and concession-making behavior may also provide insights for negotiation research and practice.

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