Extrinsic or Intrinsic Motivation of E-Negotiation Experiments’ Participants

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Abstract
Motivation of the negotiation experiments participants affects their behavior and performance. We asked students participating in online experiments to assess the subjective importance of seven objectives associated with the negotiation. Based on the responses we identified three types of motivation. We also identified four participants’ profiles which differ in the assessment of the significance of the motivations. The implications of the relationship between profiles, motivation, and the process and its results is discussed.

1. Introduction
Typically, behavioral experiments, including negotiations involve students. In some situations they are paid a fee, which may have a performance component. In other situations students participate in experiments as part of the coursework, for example, an assignment. Teich et al. [1] stress the significance of providing the participants with proper motivation; one that has particular relevance for students. Two important questions to consider in setting up and evaluating laboratory and online experiments are: (1) What is the proper motivation? and (2) What are the implications of using different types of motivations?

The motivation of the participants of an experiment needs to be in-line with the expectations of the experimenter. Incentives are used in order to direct the participants’ efforts and make them interested in achieving goals that the experimenter sets for them.

Financial rewards, which include flat-fee and performance payments, provide extrinsic motivation. They have been widely used in economics and social studies to assure that students (and other subjects) not only follow the instructions and perform the activities comprising the experiment, but that they are engaged and interested in doing this. The rarely stated assumption is that the task is not sufficiently interesting or engaging for the participants to be intrinsically motivated.

Our earlier experiments, discussions with participants, and reviews of other studies led us to reconsider that assumption [2-4]. While we found Inspire users being engaged in the negotiation and striving to achieve good agreements, we realized that their motivation could differ. They could be interested in: (1) completing their negotiation because they became involved in it; (2) the application of technology to conflict management and resolution, or (3) acquiring and practicing skills.

As far as we know there has been only one study in which negotiators’ incentives were compared [5]. This study compares two extrinsic motivations (money and points) and, as we discuss in Section 2, it is of limited use for our experiments. Not having earlier studies to rely on, we decided to conduct an exploratory study that would provide a basis for the construction of a tentative model and hypotheses for future experiments.

The paper has five more sections. The negotiation experiment is discussed in Section 2. In Section 3, the participants’ motivation is discussed; in it we propose four motivational profiles. The implications of the different motivations are presented in Section 4. The influences of three particular objectives on the negotiation and its results, and the negotiator’s assessments are given in Section 5. Concluding comments and discussion are given in Section 6.

2. Background
Extrinsic motivation refers to the performance in an activity achieved because of the perception that the performance will have a strong impact on the achievement of valued outcomes which are different from the activity itself. Thus, in addition to direct payment, other examples of extrinsic motivation are: improved job performance, grades, promotion, social reciprocity [6, 7].

Studies on reinforcement, reward and motivation have produced interesting albeit not conclusive results. Some researchers observed that participants involved in interesting tasks who did not receive a reward were
more engaged in performing them than participants who were given a reward. Deci [, 1971 #7 in an early study, showed that paying participants and giving them other tangible rewards for performing an interesting task decreased their interest in the task and its results. This means that extrinsic rewards may undermine intrinsic motivation, which would be a very troubling result for many experimenters.

Since the 1970s, a number of studies have been conducted but the results are mixed. One meta-analysis showed that the undermining effect may indeed take place, however, a careful experimental design can reduce it so that the effect is inconsequential [Cameron, 1994 #4]. A more recent meta-analysis both criticizes the earlier one and restates that tangible rewards have a substantial undermining effect [8].

Behavioral economics heavily relies on experiments, therefore the issue of extrinsic motivation obtained through proper incentives is of key importance. Experimental economists predominantly rely on monetary rewards assuming that they induce better performance of participants [9]. Perhaps not surprisingly, the “appropriate reward” becomes an important issue. Camerer and Hogarth’s [10] review of 74 studies led them to conclude that financial incentives have a strong effect on judgment and decision tasks but have a weaker effect in games and auctions. Gneezy and Rustichini [11] observed that the effect of monetary compensation is non-monotonic and contingent on other motivations, including intrinsic. Eisenberger, Pierce and Cameron [12] state that rewarding people for performing both interesting or ill-defined activities decreases their intrinsic motivation, while rewards for high performance and difficult tasks increases it. The undermining effect of extrinsic motivation is troublesome because it is one of the key anomalies. It suggests that raising monetary incentive reduces, rather than increases, supply [13]. Benabou and Tirole [14] also report the negative impact of incentives on intrinsic motivation, which affects performance.

One notable difference between many economic experiments and these conducted in psychology, education, and management is context, which may or may not make the task interesting and relevant. Economic experiments are typically context-free and describe abstract situations. In contrast, psychological experiments and, in particular, those conducted in such domains as management, marketing and information systems are rich in context as they often rely on using meaningful and realistic cases.

In negotiation research motivation tends to be considered in terms of influencing the negotiators’ specific types of activities. Most often researchers look into ways of influencing the parties to cooperate, get out of the “fixed pie” syndrome, and achieve integrative agreements [15-17]. These studies report on the application of a single type narrowly focused motivation.

Little is known about the role of different types of motivation in negotiation experiments. One exception is an early study reported by Kelley et al. [5]. The authors conducted eight experiments in which two different reward systems were used: money and points. They observed that monetary rewards produced better results because there was less conflict, less hard bargaining, and fewer threats; the agreements were reached faster and the participants were less willing to revoke them.

Despite Kelley et al. [5] contention, these results may indicate that the use of points caused the participants to be more interested and more involved in the actual negotiation (e.g., they were more competitive and took longer to negotiate), while the use of money led the participants to be willing to achieve agreements quickly so that they could be paid. Again, this result may be troublesome to researchers who undertake experimental studies. It puts in question the silent assumption that incentives (such as money) are a useful tool in experiments. These incentives may direct behavior of negotiation experiments’ participants in ways the experimenters do not expect.

3. Experimental design

The data was collected through a Web-based bilateral negotiation experiment. The participants were university students from six universities: two in Austria, and one in Canada, Poland, the U.S.A. and Taiwan. The negotiators were given three weeks, however, they could finish earlier or, if needed, request a deadline extension. The negotiations were part of students’ class activities/assignments.

The experiment involved representatives of two companies who needed to negotiate a contract. Both sides were informed about the earlier discussions between the executives and were asked to finalize the negotiation. They were also informed about the availability of other suppliers and buyers so that they could terminate this negotiation and open a new one.

There were four issues, which the participants needed to discuss. The values of three issues (price, delivery time and payment) had quantitative values, and one issue (warranty policy) had both qualitative and quantitative components. The participants were not given detailed preference structure; instead they were told about issue priority and the issue values (options) were ordered according to their importance.

The preference directions for the three quantitative issues were opposite but the case suggested non-linear preferences. This suggestion, together with the fact that each participant made his own decision regarding the preference values, created an opportunity for inteegra-
tive trade-offs. The qualitative issue was ordered differently for each of the two negotiators, that is, the best and worst options for one negotiator were neither best nor worst for the other and vice versa (i.e., they were in-between the other negotiator’s best and worst options).

All participants were given the same assignment based on the negotiations. The assignment comprised a list of open-end questions regarding the negotiation process and its assessment. To reflect course requirements, which were different at each university, the marking scheme was different for each group. The weighing of the task ranged from 10% to 25% across the groups. No grades were given for the negotiation performance. Students did not need to achieve an agreement. They also could terminate their negotiation and request a new one.

To assure privacy, instructors did not have access to the negotiation data during the duration of the course. They obtained anonymized data eight weeks after the final exams.

After the students registered online they were randomly matched into dyads. A dyad comprised students coming from different universities. The negotiations were anonymous, that is, participants used pseudonyms which were assigned to them by the experimenters. However, during the negotiation they could use free text messages and inform their negotiation counterparts about themselves.

The participants filled out the online pre- and post-interaction questionnaires respectively before and after the negotiations. The post-interaction questionnaire dealt with the assessment of self and the counterpart, process, outcomes and the system.

To learn about the participants’ motivation we needed to know their objectives. Based on literature we formulated the following nine possible objectives in participating in an experiment (underlined words are used in to denote the objectives):

1. Achieving as high a rating for the agreement as possible.
2. Applying and testing my negotiation skills.
3. Establishing a friendly atmosphere with my counterpart.
4. Learning about myself as a negotiator.
5. Learning a new system and using its functions.
6. Acquiring knowledge which is required for the assignment.
7. Learning how to negotiate online.
8. Getting paid per hour (payment).


The wide-spread use of monetary incentives limits its relevance. There are two reasons behind not using monetary incentives. One reason is that the participants needed to negotiate in order to write their assignment (Objective 6), which indicates extrinsic motivation. Ethical issues prohibit paying students for their work on an assignment. The second reason is that a combination of non-monetary motivations may provide a uniform set of effective motivational instruments.

The seven objectives which we selected (see Table 2) were presented at the end of the post-interaction questionnaire. They were measured on 7-point Likert scale (from “not important at all” to “extremely important”).

In this paper we report the results of an exploratory study in which only the first seven objectives were considered.

3. Participants’ motivations

In total, 282 students participated in the Inspire negotiations. Data analysis is based on 151 complete responses obtained from 253 participants who negotiated during the same period. Most of the participants were between 20 and 30 years old. Over 95% of the participants had not used any e-negotiation system before and more than 91% never participated in negotiation experiments.

3.1 Objective aggregation

First we performed a correlation analysis of the 7 items. Table 1 shows significant relationships among them, which indicates that they either explain common factor(s) or are affected by high-level construct(s).

<table>
<thead>
<tr>
<th>Table 1. Correlation among objectives.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating</td>
</tr>
<tr>
<td>Rating</td>
</tr>
<tr>
<td>Skills</td>
</tr>
<tr>
<td>Atmosph.</td>
</tr>
<tr>
<td>Learning</td>
</tr>
<tr>
<td>System</td>
</tr>
<tr>
<td>Assignmnt</td>
</tr>
<tr>
<td>Online</td>
</tr>
</tbody>
</table>

* .05 level (2-tailed); ** .01 level (2-tailed).

The significant correlations among the objectives (items) led to exploratory factor analysis. A maximum likelihood method was used to explore whether there are common factors which explain the sample data. One outlier was found and excluded from the subse-
quent analysis concerning the normality requirements. The results of the exploratory factor analysis are presented in Table 2.

A single factor model (Model 1) shows that two items (Rating and Atmosphere) load very low and that there are five items which load on one factor. The Chi-square test indicated that one factor could explain five items (significance at 1%). A three factor model (Model 2) was used to represent the seven items, including two single-item factors.

This result led us to revisit the meaning of the objectives and the relationship between the five objectives which can be represented by a single factor.

The first objective (Rating) identifies the negotiator’s interests in the substantive results because rating is an aggregate that describes the overall value of the four substantive issues. The second objective (Atmosphere) describes the process and its friendliness. Negotiators’ interest in process, their counterparts and the friendly atmosphere are indicative to the relational results [18]. The two objectives: Rating and Relational reflect intrinsic motivation because the negotiators do not need to provide any information about the achievement of these objectives or their components.

The remaining five objectives refer to various aspects of learning. The need to write the negotiation assignment is one of these objectives. Motivation, which is oriented on the assignment work that entails a grade, is extrinsic. Although the participants were not graded on their negotiation performance but on their description of the process and its assessment, we may conjecture that the participants’ expectation regarding the assignment’s quality was correlated with their involvement in the negotiation. The recognition that four objectives are intrinsic and one is extrinsic may be troublesome if there indeed was a significant difference between these objectives.

Well-researched meta-studies [e.g., 8, 10, 19] give different conclusions as to how intrinsic and extrinsic motivating factors influence behavior. The distinction between these two broad categories is also not well defined and in some situations they may coexist and support one another. To complicate matters, Hoffman and Novak [20] claim that goal-directed behavior is extrinsically motivated while experiential behavior is intrinsically motivated [see also 21]. If we were to use this categorization, then we would have to conclude that all the nine objectives refer to certain achievements, thus they should be considered extrinsic.

This, we think, is the case with the motivation related to learning. It may be seen as intrinsic, because it is not directly associated with any reward obtained from performing an activity. On the other hand, learning may be considered as increasing the person’s ability and making her better equipped to obtain a job, better career or promotion. The difficulty is that these two categories of motivations are not well defined and a particular type of motivation may be considered to belong to either or both of them [22, 23]. In this case, acquiring new or improving old skills and knowledge may an extrinsic motivation. Therefore, we have grounds to hypothesize that the aggregate objective learning reflects a coherent set of motivational types. The fact that its component belongs to both broad classes does not undermine its relevance and usefulness. This is because some extrinsic incentives are autonomously regulated and integrated [24]. In effect, they are extrinsic from the incentive giver perspective but become intrinsic for the recipient.

### 3.2 Four profiles of negotiators’ motivations

Elliot and McGregor [25] proposed a framework for the construction of behavioral profiles based on students’ efforts towards achievement of their goals. Their and others’ experiments confirmed that there are four profiles which differ in students’ approach towards the realization of their two high level goals (mastery and performance) [26]. This suggests that students participating in e-negotiation experiments may also have different profiles.

Frequency analysis of the three factors describing the objectives indicates that we can recode the factor values (7 for Substantive and Relational, and 35 for Learning) to three values for each factor. The importance of the distribution of the objectives is given in Table 3.

### Table 3. Frequency of objectives’ importance.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Substantive (%)</th>
<th>Learning (%)</th>
<th>Relational (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9 (6)</td>
<td>10 (6.7)</td>
<td>14 (9.3)</td>
</tr>
<tr>
<td>Neutral</td>
<td>2</td>
<td>78 (52)</td>
<td>45 (30)</td>
</tr>
<tr>
<td>Important</td>
<td>3</td>
<td>63 (42)</td>
<td>95 (63.3)</td>
</tr>
</tbody>
</table>

We can see that 6% or less of the participants stated that none of the objectives were important for them.
For over 60% learning was an important objective and for 42% all three objectives were important.

Cluster analysis shows that there are only 3 persons in the group for whom every objective is unimportant and one person for whom two objectives are unimportant and one important. For the remaining 145 participants at least two objectives are neutral. The four data-points representing the four distinct participants were removed from further analysis.

Using K-means cluster analysis, we obtained four clusters, for which each of the three objectives (dimensions) is significant (less than 0.001). Strength of participants’ motivation in each of the clusters is given in Table 4.

### Table 4. Participant motivation profiles based on objectives’ importance

<table>
<thead>
<tr>
<th>Clusters (centers)</th>
<th>Substantive</th>
<th>Learning</th>
<th>Relational</th>
<th>Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster 1</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>No motivation</td>
</tr>
<tr>
<td></td>
<td>(1.96)</td>
<td>(1.81)</td>
<td>(2.26)</td>
<td></td>
</tr>
<tr>
<td>Cluster 2</td>
<td>Neutral</td>
<td>Important</td>
<td>Neutral</td>
<td>Focus on learning</td>
</tr>
<tr>
<td></td>
<td>(2.06)</td>
<td>(2.91)</td>
<td>(1.69)</td>
<td></td>
</tr>
<tr>
<td>Cluster 3</td>
<td>Important</td>
<td>Somewhat important</td>
<td>Somewhat important</td>
<td>Focus on substantive outcomes</td>
</tr>
<tr>
<td></td>
<td>(3.00)</td>
<td>(2.66)</td>
<td>(2.51)</td>
<td></td>
</tr>
<tr>
<td>Cluster 4</td>
<td>Neutral</td>
<td>Important</td>
<td>Important</td>
<td>Focus on relationship and learning</td>
</tr>
<tr>
<td></td>
<td>(1.93)</td>
<td>(3.00)</td>
<td>(3.00)</td>
<td></td>
</tr>
</tbody>
</table>

Participants | 27 | 32 | 59 | 27 |

Each cluster represents a group of participants. They have different motivation profiles, which are characterized by values of the three objectives. In Table 4, the profiles are briefly summarized in the row Motivation; the number of participants in each cluster is given in the last row.

### 4. Motivation implications

We were interested in differences between participants in different clusters. Therefore, we explored whether the participants’ characteristics affected their motivation. Subsequently, we studied if the motivations affected the negotiation process and its results and the negotiator’s assessment of their own and their counterparts’ behaviors. Finally, we considered the relationship between motivation and satisfaction.

The differences in the participant profiles may be due to their personality traits, gender, culture and education.

The numbers of participants in each group are different (Table 5), therefore, we used an analysis of variance (ANOVA) to test whether there were any significant differences in terms of the demographics between the groups. The results showed that the negotiators’ background, for example, gender, age, English proficiency and past experience in negotiations, did not significantly vary across the participant’s profiles.

The negotiation process may be described in terms of the form of information exchanged and the length of the process. The Inspire users negotiate exchanging information in three ways: (1) offers without text containing explanations, arguments, etc., (2) offers accompanied by free text messages; and (3) free-text messages without offers. The length of the process is measured in days.

One of the indicators of the negotiation approach is the opening offer and the first counter offer. These offers often show the competitive/collaborative approach of the negotiators. Therefore, we considered ratings of the first offer made by each participant. We have also considered the total length of all messages, which may be a proxy for the negotiators interest in the process and relationship.

Analysis of the data did not show any statistical significance for the four profiles having an impact on information exchange, negotiation length, and rating of the first offers. The results indicate, however, differences between the groups, that warrant further studies. For example, participants who had no motivation to negotiate achieved the lowest rating and those who were focused on learning and/or relationship exchanged more information than others.

Agreement rating significantly varied across the four profiles (0.000), which was tested using ANOVA. Participants who focused on substantive outcomes achieved the highest agreement rating.

Upon completion of the experiment, the participants were asked to report the assessment of their own behavior and the behavior of their counterparts. They evaluated their behavior on seven dimensions shown in Figure 1.

![Fig. 1. Perceived own behavior.](image-url)
ANOVA, we obtained significant differences for only two behaviors: persuasive (0.01) and fair (0.002). The negotiators who focused on substantive outcomes considered themselves the most persuasive and those who focused on learning—the least. Negotiators who focused on both learning and relationship considered themselves the most fair, while those who focused on substantive outcomes—the least.

We also asked the participants to assess their counterparts on nine dimensions, shown in Figure 2. We can see that the differences between the clusters are more pronounced. Indeed, from the ANOVA test we obtained that five counterpart behaviors were significantly different: cooperative (0.003), trustworthy (0.037), likeable (0.000), fair (0.000) and flexible (0.005), and one behavior: honest, was slightly significant (0.053).

The most cooperative, flexible and honest counterparts were found by negotiators who focused on substantive outcomes. They also found their counterparts the least exploitative. These assessments may be related to the fact that these negotiators achieved the highest rating of the agreements.

Participants who focused both on relationship and learning considered their counterparts to be the most likable and fair. Together with the participants who focused on substantive outcomes they saw their counterparts trustworthy.

Those who did not want to negotiate (Cluster 1) and those who were focused on learning did not value their counterparts highly (see Figure 2). One difference is the exploitation assessment; while it was not ranked high, the highest value was given by participants focused on learning.

E-negotiations involve social, economic and technical aspects. The participants may, therefore, assess these different aspects differently and be satisfied with some facets of the whole exercise more than with others. Yu’s [27] review of literature on satisfaction indicates that seven different types may be identified. They are shown in Figure 3. We have also considered the negotiator’s overall satisfaction.

Participants focused on both learning and relationship (Cluster 4), expressed the highest overall satisfaction and also satisfaction with relationship, information and communication. In particular their overall satisfaction is very high: the average rating is 0.5 on the scale (-0.6:0.6). The second group with relatively high satisfaction, are participants focused on substantive outcomes (Cluster 3). They are the most satisfied with self-performance and the outcome (substantive). This means/shows/suggests that these two groups achieved what they wanted.

The least satisfied are the remaining two groups (Clusters 1 and 2). While participants with no motivation to negotiate (Cluster 1) achieved a relatively high level of satisfaction with relationship, their overall satisfaction is the worst.

5. Impact of the objectives

In this section the relationship between the three objectives and their impact on all 145 participants’ activities and their results are discussed.

The same process and outcome variables which were used for the analysis of the four clusters (Section 4.2) were used to analyze the impact of the objectives. The results of the ANOVA test are presented in Table 5.

We found that the objectives affected both process and outcomes. Focus on the substantive outcomes lead to a higher rating of the first offer and resulted in a higher agreement rating. Learning also positively impacted the agreement rating, while Relational outcomes had a significant impact on the length of the negotiation.

The participants for whom substantive outcomes

We compared the patterns of satisfaction (i.e. the eight different types of satisfaction) between the four profiles, using ANOVA. The results showed that the four profiles were significantly different in terms of the overall satisfaction (0.001), satisfaction with information (0.011), and satisfaction with self-performance (0.018).
were important made higher opening offers; this may indicate that their approach was competitive. On average, their first offer was at the 88.2% level. They also achieved a much higher average rating of the agreement (80.2%), much more than others who considered this objective neutral (62.2%) or unimportant (42.6%).

Table 5. Objectives’ impact on process and substantive outcome (ANOVA).

<table>
<thead>
<tr>
<th>Substantive outcomes</th>
<th>Learning outcomes</th>
<th>Relational outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>No. of offers</td>
<td>0.15</td>
<td>0.86</td>
</tr>
<tr>
<td>No. of messages</td>
<td>0.20</td>
<td>0.82</td>
</tr>
<tr>
<td>No. offer+msgs</td>
<td>0.75</td>
<td>0.47</td>
</tr>
<tr>
<td>Negotiation days</td>
<td>0.29</td>
<td>0.75</td>
</tr>
<tr>
<td>Message length</td>
<td>0.83</td>
<td>0.44</td>
</tr>
<tr>
<td>1st offer rating</td>
<td>3.58</td>
<td>0.03*</td>
</tr>
<tr>
<td>Agreement rating</td>
<td>24.28</td>
<td>0.00**</td>
</tr>
</tbody>
</table>

Interestingly, the more important the learning objective was for the negotiators, the higher the agreement rating was (about 25 points). However, their agreement was 10 points lower than those substantive outcome-oriented negotiators.

Somewhat unexpectedly, we found that the participants for whom the relational outcomes were important, had shorter negotiations than all other participants. This is surprising as more time may be required to build relationship. However, one may consider that either these participants built a better relationship with their counterparts so that they were able to reach an agreement faster, or they were not working as hard as those substantive people, to reach better deals.

We also compared the effects of the objectives on the negotiators’ assessment of their own and their counterparts’ behavior. The negotiators who were focused on the substantive outcomes, viewed their counterparts’ behavior as significantly more exploitative. The learning objective affects the negotiators’ assessment of their own honesty but not of other behavioral assessments of themselves and their counterpart.

The negotiators’ interests in achieving high relational outcomes resulted in their effort to be honest and fair. These negotiators viewed their counterparts as also being fair.

Using MANOVA, we found that for one interaction between two objectives several results were statistically significant. The two objectives are Learning and Relational. The fact that these objectives interact appears justified as a concern for having a good atmosphere between two participants is likely helpful in learning. On the other hand interest in learning, which may be seen as inward-oriented may be complemented with the outward-orientation of interest in achieving good relational outcomes. Recall that in one type of the motivational profile participants focus on both relational outcomes and learning (Table 4). There was also “no motivation to negotiate profile” in which neither of these objectives were important.

Negotiators who were concerned with both learning and relational outcomes considered themselves honest and saw their counterparts as cooperative, trustworthy, likable and fair.

Apart from the impact of the objectives on the negotiation process, outcome and approaches, we also examined their effect on negotiators’ satisfaction – an indicator of negotiation and system assessment. A series of regression analyses was carried out, in which the three objectives were predictors (i.e. independent variables) and each type of satisfaction was the dependent variable.

Overall, three types of satisfaction (relationship, information and self-performance) and the overall satisfaction were significantly affected by the objectives (all at 1% level with F test of $R^2$ change). Note that the adjusted $R$ squares were small (less than 10%) for all the regressions except satisfaction with self-performance (13%). This indicates that the objectives alone can only predict small variations in satisfaction. Further studies may concern other factors such as achieved agreement and negotiation effort.

Overall satisfaction was significantly affected by the Learning objective (0.000), which may implicate that learners would be satisfied with their overall experience in e-negotiations. Learners were also more likely to be satisfied with their performance ($p<0.034$). This was also the case with the negotiators who were mostly concerned with the Substantive objective. Negotiators whose objectives were relational outcomes, on the other hand, were more likely to be satisfied with their relationship with their counterpart (0.001), the information exchanged through the negotiation (0.002), and the system that they used to negotiate (0.047).

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In addition, from the MANOVA test of the effects of the participants’ objectives on their satisfaction, we obtained that: (1) for those participants who wanted to achieve a high rating in the negotiation, the substantive outcome and self-performance had a significant impact on their satisfaction; (2) for those participants for whom the learning objective was important, both the process and overall experience significantly contributed to satisfaction; (3) relationally-oriented participants cared about the information aspect; and (4) those...
for whom both a high level of learning and relational objectives were important were highly satisfied with their relationship with the counterpart, and information.

In summary, participants’ objectives do affect the negotiation process and outcomes, their behaviors and approaches, and their assessment of different aspects of the negotiations. Negotiators with different objectives approached the negotiation differently and reached different outcomes. They also assessed the negotiations with different focuses which contributed to their satisfaction.

6. Conclusion and discussion

In reviewing literature on negotiation experiments, experiments with group and negotiation support systems, and e-negotiation experiments, we could not find any discussion on the participants’ objectives and/or motivation. Researchers in education and behavioral economics devote much effort on shaping or affecting motivation in desired directions. The differences between these two fields and experiments in management, sociology and information systems are significant.

Education literature focuses on incentives and the roles of extrinsic and intrinsic motivations on learning and knowledge acquisition. The role of the experiments is to determine what type of incentives help the learning process. Therefore, the research objectives are quite different from the experiments in which researchers seek answers to conflict resolution in a simulated environment.

Behavioral economics focus on mechanism design and the deviations from the rational behavior of the mechanisms’ users. They remove all, seemingly irrelevant, context and the interface in which the mechanism is, out of necessity, embodied.

Researchers in social sciences, management and information systems try to simulate reality in a laboratory or online. For social scientists, the context, the case, and the process are very important; if they bear no resemblance to reality, the results would be uninteresting. For others, the interface and the interactions between the system and its users are the focus.

6.1 Summary of the findings

Convergence in technologies requires that researchers include all important facets of computer-mediated interactions, including users’ interest in the system, their use of the system, perceived usefulness and satisfaction. When the system is an intermediary, its impact on the perception of the counterparts, ability to influence them, etc. are important. Therefore, issues like users’ motivation, their actual objectives, their profiles become important.

The findings of this study suggest that:
1) Our assumption regarding the Inspire users’ motivation in participating was partially confirmed, i.e. they did try to gain both substantive and relational outcomes. It was, however, also partially wrong because many of the participants intended to learn (about themselves, new skills, or new systems) only. This may bias the experimental design and thus results.
2) This study implies that context may have a significant impact on motivation. Context matters in terms of its impact on the participants’ motivation. The negotiation case, online environment, and anonymous interactions led most students to be engaged in the process. However, in this study we cannot distinguish the impact of the context in which the interactions took place and the broader task which was the assignment.
3) We found that the participants’ motivations affect their behavior and thus outcomes. Their activities were purposeful and resulted in outcomes they wanted to achieve. For instance, those who highly rated substantive outcomes, made high opening offers and reached better deals.
4) There is a relationship between the participants’ motivation and the importance they attach to different aspects of the negotiations. The more they were motivated by certain issues (e.g. relational outcomes) the more they would weight the aspects of the negotiation which support these issues (e.g., relationship building).

6.2 Propositions

This paper describes exploratory research in the area of e-negotiation which has grounding only outside of the negotiation domain. Therefore we did not formulate hypotheses and present a research model rather used bootstrapping in the sense that the initial question about motivation lead to construction of objectives, to their aggregations, to motivation profiles and finally the impact of profiles and individual objectives on the negotiation process, outcomes and assessments.

The results obtained form online experiments can now be summarized in two tentative models. Model 1, illustrated in Figure 4, represents the impact the objectives, which negotiators have on their behavior, negotiation process and its outcomes, and on the negotiators’ assessments of the process and their and their counterparts’ behaviors.

1 The impact of context on face-to-face negotiation has been confirmed in experiments in which the participants cooperativeness (competitiveness) depended on the case they were given [28].
Model 2, illustrated in Figure 5, represents the impact of the motivation on the negotiators’ profile. Negotiators’ profile influences the results they achieve.

In Model 2, the impact of the context and the counterpart are indicated. In this study these important variables were not considered.

In this experiment all participants played one of two roles of the same negotiation case. We have mentioned that context affects negotiators’ behavior, therefore similar experiments should be conducted for different types of cases.

Out of necessity, we have conducted an analysis at the level of an individual negotiator. Behavioral studies show that negotiators take into account their counterparts’ actions and adjust their own appropriately. Therefore, analysis at the dyad-level is needed but, in order to do it we need significantly more cases than we collected in this experiment.

6.3 Future work

We have analyzed one experiment in which the participants were not rewarded. They engaged in the negotiation in order to obtain information relevant to the assignments they were required to do. Although they were neither paid for their participation nor was the performance relevant to their assignment, almost 41% were strongly interested in achieving a highly rated agreement. The others, however, were neutral on substantive outcomes. We plan to conduct experiments in which the participants are rewarded for performance and see if the reward changes this ratio.

When we formulated the nine objectives (Section 3), the distinction between intrinsic and extrinsic motivation was clear and it conformed to the literature [6, 7]. Data analysis led us to combine five objectives into one (Learning), which has four intrinsic components and one extrinsic component. Although all components refer to learning and knowledge, such an aggregation may be seen inappropriate. Our perspective changed after we noted that many studies are inconclusive and some contradict others. Learning motivation may be intrinsic, extrinsic or both because it may enrich the person and be a value in itself, it may advance the person’s career and reward (e.g., in terms of course grades), or it may be both pleasant and rewarding. This unexpected result indicates that some types of motivation may be intrinsic in one context but extrinsic in another.

Another implication of our study is that motivation which occurs in real-life may play a significant role in experiments. We observed that only two objectives (Rating and Atmosphere) are related with the negotiation, which may mean that negotiation is seen as a “game” the participants are asked to play. The objective Learning is associated with the participants’ real-life concerns and needs. This objective was very important for 39% of the participants and somewhat important for an additional 39%. This means that the outcomes of the game may be strongly moderated by the experiential motivations (related to the process).

In real-life, not every negotiator is motivated by substantive or relational outcomes. Many negotiations are conducted by people for whom this is part of their job and they are not rewarded based on the agreements they reach. Experiments in which students participate and in which there are no financial incentives may serve as a good proxy for such situations. Also, assessment of characteristics (e.g., negotiation approach) of those negotiators for whom substantive and relational outcomes were important, irrespectively of no reward being offered for their achievement may also provide useful insights.

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8. References


