The Effectiveness of Mediation in Brazilian Business Negotiations

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Abstract. Is Mediation effective in business negotiations? In this article, the Mediation versus negotiation process is under investigation. A random sample of N=600 Brazilian business negotiations was divided into the following: (i) the Negotiation group, in which 300 negotiations were carried independently, and (ii) the Mediation group, in which 300 negotiations were conducted with a mediator. One hypothesis was investigated, with a 99 percent confidence interval, through the Nonparametric Mann-Whitney U test. Key findings pointed out an average of 27 percent difference and a significant statistical difference between the groups. The null hypothesis has been rejected. Finally, this article provides scholars with a proper perspective on the alternative dispute resolution processes on business negotiations. Case analysis and further implications are discussed. Finally, conclusion and future research recommendations compile the present study.
Keywords: Business negotiations, deal value, mediation, alternative dispute resolution

Introduction

In this article, N=600 Brazilian business negotiations are investigated regarding Mediation's effectiveness, one of the methods of Alternative Dispute Resolution (ADR).

Negotiation, Mediation, and ADR approaches have attracted scholars' attention over the past decades (Raiffa, 1982; Fisher, Ury & Patton, 1981; Sebenius, 1992; Ury, 2015; Susskind & Field, 1996; Salacuse, 2008; Duzert & Zerunyan, 2015; Susskind & Cruikshank, 1987; Dias, 2020, 2020b, 2019; Moore, 2003; Zartman, 2008).

Alternative Dispute Resolution (ADR) is defined as a "method of resolving disputes without litigation" (Cornell Law School, 2020, p.1). Arbitration, Mediation, mini-trials, conciliation, Negotiation are usual approaches for ADR, but the two primary forms are Mediation and Arbitration (Cornell Law School, 2020).

Negotiation is defined as "a process of communication by which two or more persons seek to advance their interests through joint action." (Salacuse, 2006, p. 7). Additionally, Negotiation is also "a process of communicating back and forth to reach a joint decision." (Fisher, Ury & Patton, 1981, p. 20).

Mediation is defined as "the intervention in a negotiation or a conflict of an acceptable third party who has limited or no authoritative decision-making power, who assists the involved parties to voluntarily reach a mutually acceptable settlement of the issues in dispute." (Moore, 2008, p.15). Additionally, Moore (2008) describes the role of a mediator, which is "a third party, generally a person who is not directly involved in the dispute on the substantive issues in question." (p.15) Zartman (2008) also defined Mediation as a "third-party diplomatic intervention that enables conflicting parties to conduct negotiations that they are unable to do alone." (p.305).

In this article, 1,500 subjects performed 600 business negotiations, distributed in two groups, as depicted in Figure 1.

Features	Group	
	Negotiation	Mediation
Number of Negotiations	300	300

Third-party	no	yes
Number of parties	2	3
Number of issues	1	1
Negotiation Type	Type I	Type III
Number of participants	600	900

Figure 1. Case specifics

Observe in Figure 1 the inclusion of the mediator as the third party in the Mediation group. Regarding the type of negotiations, the Four-Type Negotiation Matrix (Dias, 2020) was chosen due to its straightforwardness in business negotiation classification (see Figure 2). Moreover, all the negotiators received the same set of instructions (except the mediators, who received direct instructions from the confederate - see the Research Design and Methods for a complete description). The Four-Type Negotiation Matrix is illustrated in Figure 2.

Figure 2. The Four-Type Negotiation Matrix
Source: Dias, 2020 (reprinted under permission)

Compare in Figure 2, Types I and III negotiations: Type I has two parties negotiating a single issue; Type II has multiple parties negotiating a single issue, suitable framework to the present research. Finally, the Four-Type Negotiation Matrix (Dias, 2020) is a qualitative framework useful to address all forms of negotiation processes, with no limitations on types or forms of negotiation, regardless of gender, age, ethnicity, occupation, managerial level, level income, and education from the parties.

Theoretical Rationale on Statistical Tests

The Shapiro-Wilk Test for Normality was chosen for determining the normality distribution of the data set because of the sample size (N>100). Figure 3 illustrates the Shapiro-Wilk test equations:

$$W = \frac{\left\{ \sum_{i-1}^{n} a_i (x_{(n-i+1):n} - x_{i:n}) \right\}^2}{\sum_{i=1}^{n} (x_i - \bar{x})_2},$$

Figure 3. Shapiro-Wilk Test for Normality equations

The normality test returned a non-parametric sample to be applied to two-independent variables (NEGOTIATION and MEDIATION). Therefore, the most suitable test for analyzing both variables id the Mann–Whitney U test. The equasions are illustrated in Figure 4. Note that n2 is the sample size for sample 2, and R2 is the sum of the sample ranks.

$$U_1 = R_1 - \frac{n_1(n_1 + 1)}{2}$$
or
$$U_2 = R_2 - \frac{n_2(n_2 + 1)}{2}$$

Figure 4. The Mann–Whitney U test equations

Hypothesis

H_o: the mediation approach in business negotiation approaches does not imply better value deals. Therefore, the negotiation results with or without the mediator are the same, with no statistical significance. Therefore, H_0 = μNEGOTIATION=μMEDIATION, or H_0 = μNEGOTIATION - μMEDIATION = 0, where: *μNEGOTIATION* is the mean Negotiation Approach, while *μMEDIATION* is the mean Mediation Approach.

H_a: Mediation Approaches perform more significant deal values than Negotiation Approaches.

In the next section, the research design and methods are disclosed.

Research Design and Methods

In this study, one set of two-party, one-issue role-play simulations were applied to 1,500 participants, from all the five Brazilian regions. In total, 21 cohorts were investigated in N=600 negotiations, organized into two groups: (i) 300 negotiations conducted without mediation; (ii) 300 negotiations carried out with a skilled mediator. The raw data was processed and analyzed through the Brazilian Portuguese version of the statistics software IBM SPSS 26. The confidence interval selected was 99 percent, with a 0.01 significance level (P<0,001).

The negotiations were held from January 2017 to August 2020. Out of the 1,500 participants, 60 percent were male, 40 percent female, 71 percent in the middle to high-level management positions, and 20 percent occupied low-level management positions. The selection criterion for participation was five years minimum of business negotiations experience, considered reasonable for the study purposes.

The random sample compiled 80 percent Caucasians, 60 percent married, 30 percent single; 5 percent divorced; 5 percent others. Regarding the age, 65 percent is 25-35 years old, 20 percent above 45 years old; 60 percent speak a second language besides Brazilian Portuguese. All the participants were an MBA level of education.

The negotiations took place in calm, quiet places, to avoid significant background noise that could interfere with the negotiation results. The controlled environment of the experiment followed the same protocol for all cohorts: (i) case instructions on the mechanics; (ii) case distribution; (iii) case appreciation, and reading; (iv) preparation; (v) mediators gathered in one group, and prepared in separate by the facilitator; (vi) the mediators had no formal attachment or relationship with none of the parties, therefore, kept impartial; (vii) mediators should allow the parties to engage in the negotiation process, and then, when necessary, interfere in the negotiation process.

The negotiation time was 15 minutes reading and preparing and 60 minutes until the negotiation is complete, with or without an agreement.

Finally, at the end of the negotiation, the parties should register (viii) the value deal, and (ix) the mediators should inform their performance (if they interfered or not), and provide further details on their performance.

Results and Analysis

The normality test was the first test to determine if a T-Test or a Mann-Whitney U test was suitable for analyzing the data set. The Shapiro-Wilk test was chosen due to the sample size (N>100), as revealed in Figure 5.

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	gl	Sig.	Statistic	gl	Sig.
DEAL	,199	600	,000	,852	600	**,000**
TYPE	,341	600	,000	,637	600	**,000**
a. Lilliefors Significance Correlation						

Figure 5. Normality tests
Source: SPSS 26

Observe in Figure 5, p= ,000 for both variables. (p<0,01), DEAL (the negotiations outcome), and TYPE (Negotiation = 0, Mediation = 1). Therefore, the results' distribution is not normal (p<0,01), therefore, the parametric T-test is not suitable for analyzing the data set.

Hence, the nonparametric Mann-Whitney U test was used to investigate the two variables, with independent samples, i.e., the negotiations were independent. One outcome did not interfere somehow with the other negotiation results.

The statistical confidence level adopted for this research is 99 percent. Therefore, the p-value is one percent (p=0,01). The nominal variable TYPE was assigned with the following values: "0", for NEGOTIATION negotiation approaches, and "1", for MEDIATION negotiation approaches. Negotiation and Mediation deal values are the dependent variables.

The outcome of the descriptive, exploratory analysis is depicted in Figure 6, as follows.
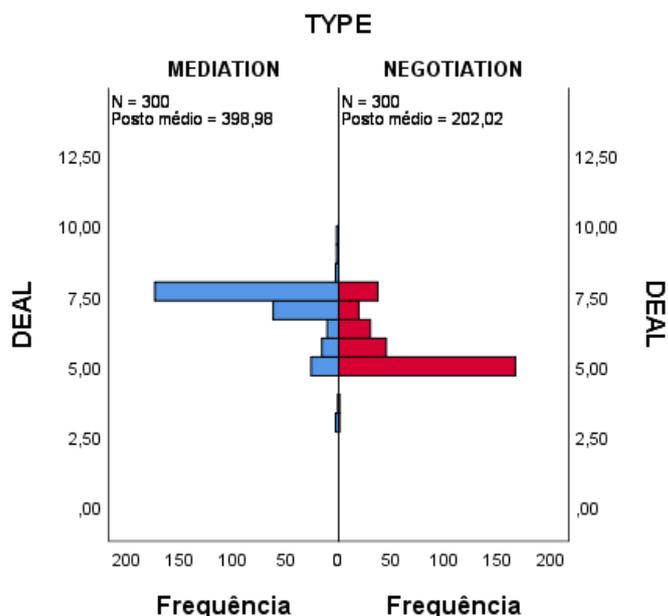
Figure 6. Mann-Whitney U test independent samples
Source: SPSS 26 extracted from the data source

The Mann-Whitney U Test Summary Independent Samples outcome is shown in Figure 7.

Posts				
	TYPE	N	Midl station	Sum of ratings
DEAL	NEGOTIATION	300	202,02	60606,50
	MEDIATION	300	398,98	119693,50
	Total	600		

Figure 7. Mann-Whitney U Test Posts
Source: SPSS 26

Figure 8 illustrates the nonparametric Test statistics outcomes. Notice the Mann-Whitney U test result for the variable DEAL of 15456,500, with p<0,01.

Test statistics[a]	
	DEAL
U de Mann-Whitney	**15456,500**
Wilcoxon W	60606,500
Z	-14,321
Significância Sig. (bilateral)	**,000**
a. grouping variable:TYPE	

Figure 8. Mann-Whitney U Test Statistics
Source: SPSS 26

Regarding the Deal values from the data sample drawn (DEAL), the Independent Mann Whitney U Test evidenced that the group MEDIATION presented a superior performance compared to the group NEGOTIATION. Therefore, U = (15456,500; p < 0,01).

In these data, regarding DEAL, the null hypothesis is rejected at the α = 0,01 level of significance. The difference between the Mediation group and the Negotiation group is statistically significant (p = 0,000; p<0,01), i.e., one in one hundred samples might result by chance. Therefore, the alternate hypothesis of *Ha* is statistically significant.

Figure 9 depicts the Hypothesis test summary and conclusions. Observe the null hypothesis rejection.

Hypothesis Test Summary				
	Null hypothesis	Test	Sig.	Decision
1	The distribution of DEAL is the same in the TYPE categories.	U Mann-Whitney Test independent samples	**,000**	**Reject the null hypothesis.**
Asymptotic significance is displayed. The significance level is ,010.				

Figure 9. Hypothesis Test Summary
Source: SPSS 26

Figure 10 compares the means between the two variables NEGOTIATION and MEDIATION, as follows.

Report				
DEAL				
TYPE	Average	N	Std Err	% N total
NEGOTIATION	**5,7446**	300	1,05384	50,0%
MEDIATION	**7,2882**	300	1,06930	50,0%
Total	6,5164	600	1,31218	100,0%

Figure 10. Means Report
Source: SPSS 26

Observe in Figure 10 that the average deals from the mediation group are 26.8 percent higher than the negotiation group, revealing a superior performance on the mediation group compared to the negotiation one.

Conclusion
Theoretical Implications

The purpose of this research was to test the hypothesis H_a regarding the variables NEGOTIATION and MEDIATION, and to answer the question posed at the beginning of the present research: *Is Mediation effective in business negotiations?* The answer is yes, for the data set investigated. One conclusion, drawing from the analysis, points out statistical significance in H_a (p<0,01), according to the Mann-Whitney U-tests results (see Figures 8 and 9). Therefore, the null hypothesis is rejected, and the alternate hypothesis is accepted.

Hence, the differences between µNEGOTIATION - µMEDIATION ≠ 0. In sum, there is a statistical relevance between negotiation and mediation groups. The Mediation group performed higher deal values than the negotiation group (i.e., without the third party, the mediator). In conclusion, the use of Mediation, one of the forms of ADR implied better results and proved to be 26.8 percent more effective than Negotiation without mediation, as illustrated in Figure 10.

Implications for Managerial Practice

The article was designed to address the impact of the Mediation on the negotiation process. The implications for managerial practice are quite clear: a skilled mediator may interfere positively with the negotiation deal value, useful for preserving relationships and avoid conflict escalation, and, therefore, litigation. The conclusions implicate in the usage of Mediation in ADR as an effective method for improving both deals and relationships.

This research also has implications in different fields of related studies, such as (i) Structured versus Situational Business Negotiation Approaches (Dias, 2020b); (ii) contract negotiation (Dias, 2019c, 2012); (iii) public negotiation projects (Dias, 2016, 2018; Dias and Lopes, 2019); (iv) retail business negotiations (Dias et al., 2015); (v) streaming video industry negotiations (Dias and Navarro, 2018; Dias, 2020c); (vi) family business succession (Dias and Davila, 2018); (vii) e-business negotiations (Dias and Duzert, 2017); (viii) credit recovery negotiation (Dias, Ribeiro and Lopes, 2019), among others.

Study Limitations

The conclusions presented in this work are limited to Mediation as one of the forms of ADR. Other forms, such as (i) arbitration, or (ii) mini-trials, for instance, are not the scope of the present research. The article is also limited to the data set collected regarding the Brazilian business negotiation scenario. Other countries or scenarios may differ in their outcomes. It is limited to the artificial classroom environment. Other business scenarios may also differ in results. Finally, the negotiations are limited to Types I and III negotiations (Dias, 2020). The negotiations Types II and IV may present distinct performance.

Future Research

Future research is encouraged to address the negotiations' outcomes versus the mediation's outcome to investigate the critical success factors on the mediation process. In this work, only negotiations Types I and III were investigated. Other types of Negotiation are encouraged to be addressed in the future. Other forms of ADR, such as arbitrations and mini-trials performances, should also be investigated. Finally, other countries should be investigated, as well.

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