

## **Building a Strategic Model for Managing Water Negotiation in the Ministry of Water Resources**

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### **Abstract**

The research attempts to present a strategic model for the purpose of negotiation on shared waters in the Ministry of Water Resources since it is regarded as the instrumental technical authority when negotiating about that natural resource with the riparian states. The research aims to answer many related questions through the theoretical and conceptual framing of negotiation strategies, tactics, and styles, and then through the strategic analysis of the internal and external environments of negotiation in the above- mentioned ministry. The research also suggests a negotiating strategic model submitted to relevant officials. In order to achieve the objectives of the research, an intentional sample consisting of 42 specialists in negotiating on shared water in the Ministry of Water Resources and many relevant ministries and bodies were chosen. The researchers adopted the questionnaire to collect the data that were analyzed by using a number of statistical methods. The researchers have concluded that the S-O strategy in the proposed strategic model must include a competitive strategy, as well as a set of hard tactics, along with strengthening the negotiation team with negotiators of realistic, analytical, problem-solving, friendly, competitive and imposing power styles.

**Key words:** Negotiation, Negotiation Strategy, Negotiation Tactics, Negotiation Styles.

### **RESEARCH METHODOLOGY**

#### **1- Research Problem**

The research attempts to answer the following questions:

1. What strategies, tactics, and styles can be included in the relevant negotiating strategic model?
2. What are the nature and dimensions of the relevant negotiating strategic model?
3. Has building a negotiating strategic model an impact on the negotiation process?

#### **2- Research Importance**

The research derives its importance from the issue it deals with, and the problem that it aims to address, in addition to the following points:

1. The research provides a scientific and practical effort to build a negotiating strategic model that effectively uses negotiation strategies, tactics, and styles in negotiating on shared water.
2. The research provides a guideline for the Iraqi officials when negotiating shared water.

#### **3- Research Objectives**

The main objectives of the research are:

1. Providing a mechanism for building the negotiation strategic model and the components it contains.
2. Clarifying the nature and dimensions of the model by identifying the strategies, tactics, and styles that can be included.
3. Studying the direct and indirect impact of external and internal environment variables related to the proposed model.
1. Shedding the light on the strengths, weaknesses, opportunities, and threats affecting the proposed model.

**4- Research Hypotheses**

- The first main hypothesis (H1): There is a statistically significant effect of the factors of the internal environment in the external environment for negotiation on shared water in the Ministry of Water Resources at a significant level (0.05).
- The second main hypothesis (H2): There is a statistically significant effect of the factors of the external environment in the internal environment for negotiation on shared water in the Ministry of Water Resources at a significant level (0.05).

**5- The Hypothesis Figure of Research**

The hypothetical figure is prepared depending on several sources as shown in Table (1).

**Table (1): Sources of variables related to the hypothesis research scheme**

<b>The Variable</b>	<b>The source</b>
External Environment	Hitt et al, 2018
Internal Environment	Hitt et al, 2018
Negotiation Strategies	Lum, 2011
Negotiation Tactics	Zohar, 2015
	Lewicki et al, 2016
Negotiation Styles	Saleh, 2012
	Miller, 2014
	Posecion, 2018
	Sigurdardottir, 2019

**6- Research Community & Sample**

The research community is composed of the bodies listed below:

**Table (2) the research Community**

<b>The Body</b>	<b>The Description</b>
Ministry of Water Resources.	The Main Technical Organization
Ministry of Foreign Affairs.	Supportive diplomatic Organization
Ministry of Agriculture.	Supportive technical organization
Ministry of Health and Environment.	Supportive technical organization
Ministry of Planning.	Supportive technical organization
Prime Minister Office, Board of Consultants, Office of Agriculture And Water.	Supportive technical organization

The researchers have selected an intentional sample of 42 members of the ministers' deputy, general directors and their assistants, consultants, heads of departments, heads divisions, experts, and researchers who were involved and previously participated in negotiation on shared water with the riparian states within the above study community.

**THEORETICAL SIDE**

**First: Negotiation Strategies**

Lum (2011) lists five negotiation strategies:

1. “Competing” by which the negotiating party focuses on the objective outcome of the negotiation, more than on the relationship with other negotiating parties.
2. “Accommodating” The negotiating party according to this strategy focuses on the relationship with the other negotiating parties rather than on the objective outcome of the negotiation.
3. “Avoiding” in this strategy, the negotiating party withdraws from the negotiation, and does not cooperate with the negotiating parties.
4. “Compromising” The negotiating party by this strategy focuses on the fairness of the decision for all the negotiating parties. It also emphasizes standards during the negotiation process.
5. “Collaborating” The negotiating party according to this strategy focuses on innovation and problem-solving. It also strives to create new options that meet the common or interlocking interests of all the negotiating parties.

**Second: Negotiation Tactics**

Lewicki et al. (2016) classify negotiation tactics into:

A. Negotiation tactics for competitive negotiation strategies:

These tactics include evaluating the objectives of the other negotiating parties, their point of resistance, and the cost of ending the negotiation process. In order to determine what these parties want to achieve through the negotiation process is to diagnose, to neutralize their resistance points, and to determine the material and moral costs of ending the negotiation for them.

B. Negotiation tactics for cooperative negotiation strategies:

These include:

1. Superordination: In this tactic, the negotiating party replaces the interests led to the conflict with the other negotiating parties by other interests that bring it closer to these very parties.
2. Compromise: It includes staying in the current location and maintaining the status quo. It is not a desirable tactic except in cases where the positions of the negotiating parties are very entrenched.

Zohar (2015) divides negotiation tactics into two categories:

A. hard tactics that are used when choosing a competitive negotiation strategy, it includes:

1. Threat Tactics. By these tactics, an expression of willingness to inflict future harms is expressed. They include intimidation, attack, ultimatum, and cutting off ties
2. Time-related Tactics, including delaying, setting a final date controlling schedule, and setting the agenda
3. Authority related tactics. They are divided into limited authority, unauthorized negotiations.

B. Soft Tactics. These tactics are used when choosing a collaborative negotiation strategy which include revealing information and promises.

**Third: Negotiation Styles**

Saleh (2012) set out his classification of negotiators styles from an explanation of their most prominent personal characteristics. The behaviors exhibit during negotiations:

1. The Pragmatic Style: The negotiator of such a style tends to invest time efficiently while presenting realistic propositions, as well as full awareness of the environment surrounding the negotiating position.
2. The Analytical Style: The negotiator’s characteristics in this style tend to be highly curious and slow to form a reaction, and not to rush to respond.
3. The friendly style: The negotiator’s characteristics in this style tend to be social, likable, optimistic, favorable to peace and harmony, with hope and great positive energy.

Miller (2014) states that there are many negotiation styles, namely:

1. Smoothing style: the negotiator of this style attempts to adopt the shared viewpoints on certain issues to help facilitate movement toward a consensus and resolution of the conflict.
2. Problem-Solving Style: the negotiator here emphasizes the underlying interests rather than positions, and encourages parties to maintain and build their relationship even if they disagree rather than creating an adversarial process.

Posecion et al (2018) classify negotiation styles into three styles:

1. The Avoidance Style: This is reflected in the passive negotiators who prefer to stay away from problems and difficulties and withdraw from positions and tend to transfer responsibility for the tasks entrusted to them to the other party
2. The Collaborative Style: Negotiators of this style show an open and honest communication, and focus on searching for creative solutions that satisfy and achieve a mutual sense for all negotiation parties.
3. The Utilizing Style: Negotiators of this style try to maintain relations with other negotiating parties, mitigate conflicts, and reduce differences.

Sigurdardóttir et al (2019) point out other styles:

1. The Competitive Style, which whereby the negotiator becomes more oriented towards strength, firmness, and generally uncooperative with the rest of the negotiating parties.
2. The Compromising Style, which includes characteristics of both the competition and cooperation styles.

**PRACTICAL SIDE**

**First: Strategic Analysis of the Environment for Negotiation on Shared Water in the Ministry of Water Resources**

The exploratory and confirmatory factor analyses were adopted to analyze the questionnaire prepared by the researchers for the internal environments with all its sub-factors which are: capabilities factor (management), (research and development), (human resources), (information management systems), Tangible resources (financial resources), (physical resources), (technological resources), intangible resources (human resources (reputational resources), (innovation resources), capacity building (Non-replaceable capabilities), (Valuable capabilities), Value Chain (Outsourcing). And to the external environment factors which are: (the political-legal, the economic, the demographic, the socio-cultural, the technological r, the sustainable environment, and the global factors).

**Exploratory factor analysis**

When conducting an exploratory factor analysis for the internal environment. The value of the KMO test statistic is (0.813), which is greater than the specified value of (0.50), indicating that the sample size is sufficient and appropriate for the study. The exploratory factor analysis also highlighted the recording of (13) factors with distinct values of (1) or more, which conforms to the conditions of factor analysis as well. As for the paragraphs that each factor included, most of them have saturated values of (0.50) or more and due to all the main conditions in the exploratory factor analysis to be fulfilled. As for the explained variance, the (13) extracted factors were able to explain (80.773%) of the total variance, which means that the exploratory factor analysis has been able to explain the vast majority of the discrepancy between the opinions of the sample members, noting that the first factor explaining variance is the first factor, capabilities factor (management) with an explained variance ratio of (22.998%), while the least factor explaining variance is the thirteenth factor (value chain /outsourcing) with a variance ratio of (2.362 %). The results also showed that most of the sub-factors were saturated in the thirteen factors extracted within the exploratory factor analysis and their saturation values exceeded (0.5), which indicates the applicability of this condition in the analysis as well.

When performing the analysis for the external environment segment, the value of the KMO test statistic was (0.50), indicating that the sample size is sufficient and appropriate to study that part. The exploratory factor analysis also highlighted the existence of (7) factors that had distinct potential values (1) or more, fulfilling the conditions of factor analysis. As for the sub-factors that each factor included, their saturation values were (0.30) or more, and therefore all the main conditions were fulfilled in the exploratory factor analysis of this part. As for the explained variance, it is noticed that the seven extracted factors were able to collectively explain (58.899%) of the total variance, which is a good percentage, and means that the exploratory factor analysis has been able to explain approximately two-thirds of the discrepancy between the opinions of the sample members. Noting that the first factor (the political-legal factor) was the first factor with an explained variance ratio of (14.704%), while the least explanatory factor for the variance was the seventh factor (the global factor) with a variance ratio of (4.778%). The results also indicated that all the sub-factors were saturated in the seven factors extracted within the exploratory factor analysis and that their saturation values exceeded (0.5), indicating the applicability of this condition in the analysis.

**Confirmatory Factor Analysis**

The two segments of the internal environment and the external environment have achieved all the required criteria. Accordingly, the confirmatory factor analysis can be performed in accordance to the method of the greatest possibility. The saturation values of the factor in the internal and external environments exceeded (0.30), showing a positive indicator of the quality of the two environments model.

**Second: Results of Structural Equation Model Analysis of the Effect of the Internal Environment on the External Environment Factors**

The first main hypothesis (H1): There is a statistically significant effect of the internal environment factors in the external environment to negotiate the shared water in the Ministry of Water Resources at a significant level (0.05).

In order to make a decision on the first main hypothesis of the research, from which seven sub-hypotheses arise, the effect of the factors of the internal environment segment on each of the external environment factors was measured through the Structural Equation Model by calculating the simple linear regression equation:

$$Y = a + \beta_i X_i$$

Then, testing the effect relationship by using the (F) test to demonstrate the significance of the regression equation (influence) calculated, in addition to using the coefficient of determination (R2) to explain the amount of variation achieved by the factors of the internal environment axis combined in each of the external environment factors, and by using the statistical program (SPSS). As a result of accepting all the seven sub-hypotheses stemming from the first main hypothesis of the research, i.e. accepting 100% of the sub-hypotheses of the first main hypothesis, it is concluded that the first main hypothesis of the research can be accepted.

The second main hypothesis (H2): There is a statistically significant effect of the external environment factors in the internal environment for negotiating shared water in the Ministry of Water Resources at a significant level (0.05).

In order to make a decision on the second main hypothesis of the research, from which thirteen sub-hypotheses arise, the effect of the external environment factors together were measured as an independent variable in the factors of the internal environment segment separately as a dependent variable. In view of the variables in this study, they are neither subject to nor bound by a certain pattern in terms of being temporally regressive variables, as they are independent in a certain period of time and then turn into dependent variables by adopting the Structured Model (SEM) by calculating the simple linear regression equation, which is:

$$Y = a + \beta_i X_i$$

After that, testing the effect relationship by using the (F) test to show the significance of the regression equation (influence) calculated, in addition to using the coefficient of determination (R2) to explain the amount of variation for each factor of the internal environment segment in the external environment, and by using the statistical program (SPSS). It is also tested by using the program (Amos 24), and the results were all significant.

**Third: Building a Strategic Model for Negotiating On Coastal Waters in the Ministry Of Water Resources Using Delphi Method**

The researchers used Delphi method in building negotiation strategy model for:

- 1) Negotiation strategy (two rounds).
- 2) Negotiating tactic (one round only).
- 3) Negotiation styles (two rounds).

The negotiation strategies “competitiveness, cooperative, accommodating, avoidance” were chosen, which will be included in the negotiating strategic model. Negotiation tactics related to each chosen strategy have been also included according to a key assumption that indicates a necessity of compatibility and harmony between the negotiating strategy and the tactic used. The researchers prepared and sent a list of nine negotiation tactics to the experts, explaining the concept of each tactic, as well as explaining the aspects of the appropriate tactics for each negotiating strategy chosen as a first round. These tactics which are consistent with the foregoing negotiating tactics to be used with the strategies indicated above will be:

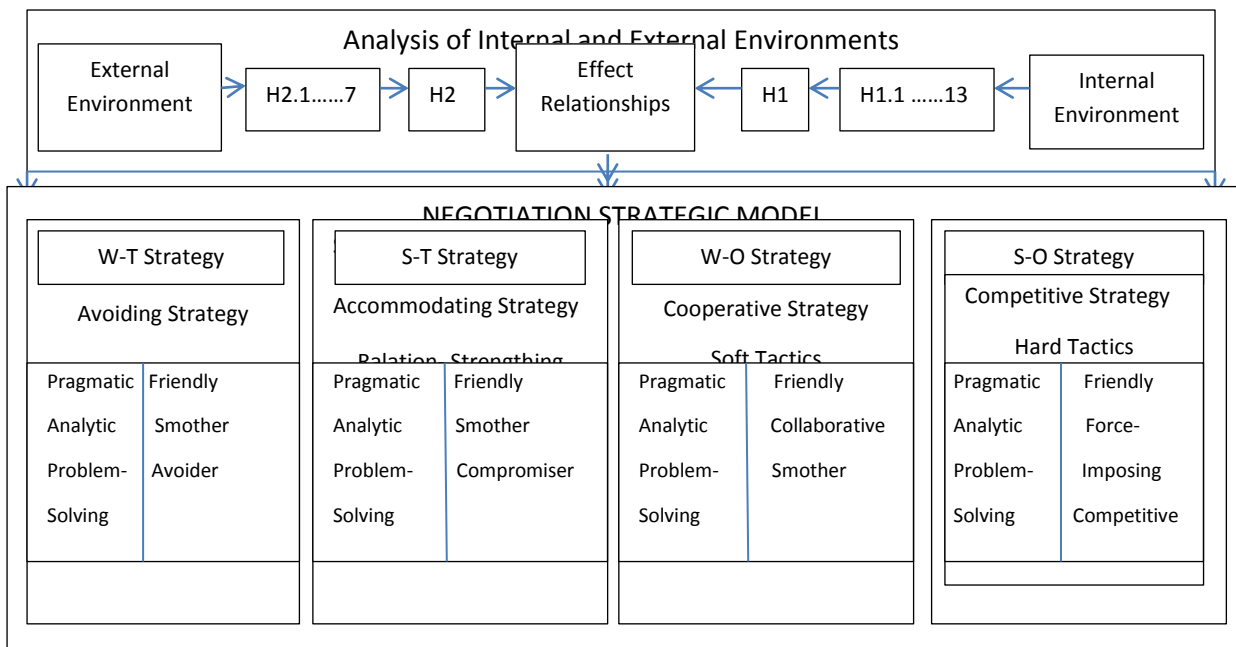
- A. Hard Tactics (Competitive Strategy).
- B. Soft Tactics (Cooperative Strategy).
- C. Relations-Enhancing Tactics (Emotional Consensual Strategy).
- D. Withdrawal Tactics (Avoidance Strategy).

As for negotiation styles, the researchers have included some negotiation styles that are compatible with the directions of negotiation strategies and tactics. After discussing with the experts, the researchers explained

that the strategic model will consist of six negotiation styles for each strategy, as the researchers concluded that they prefer the presence of some negotiating styles in all four strategies which are common styles. They indicated that there are specific negotiation styles to each strategy which are specialized styles. Based on the previous mentioned parts, the researcher sent several negotiating styles to the experts to determine the common styles in the first round and these styles were “force-imposing, problem-solving, smoothing, compromising, competitive, cooperative, avoider, analytic, pragmatic, slow-coach, trouble-maker, aggressive, peacock, hesitator”. These styles were to determine the specialized styles in the second round. The results were as follows:

- A- The Competitive Strategy (Force-Imposing Style).
- B- The Cooperative Strategy (Smoothing style).
- C- The accommodation Strategy (Compromising Style).
- D- Avoidance Strategy (Smoothing Style).

Based on what has been presented above, the strategic model for negotiating shared water in the Ministry of Water Resources will be as shown in the figure below.



**FOURTH: CONCLUSIONS & RECOMMENDATIONS**

**First: Conclusions**

1. The analysis of the external environment highlighted that the political-legal, cultural – social, and global factors are all directed towards opportunity. The economic factors are the demographic factor, the sustainable environment, and the technological factors are heading towards threat.
2. The affirmative factor analysis of the internal environment highlighted that the capabilities including management, research and development, human resources, information management systems, and the tangible resource include technological resources, physical resources, intangible resources or human resources, reputational resources, competency-building factor or non-replaceable capabilities, valuable capabilities. The value chain factor are destined to be force factors. Both the tangible resources factor represented in financial resources and the intangible resources factor represented in creative resources are two factors that tend to be weak.
3. The results of the statistical analysis showed the existence of a statistically significant effect at a significant level (0.05) for the segment of the internal environment in each of the external environment factors. Therefore, the acceptance of all the seven sub-hypotheses stemming from the first main hypothesis of the research was achieved, and the first main hypothesis of the research was accepted.

4. The results of the statistical analysis showed the existence of a statistically significant effect at a significant level (0.05) for the factors of each of the internal environment factors separately in the external environment. Thus, the acceptance of all thirteen sub-hypotheses stemming from the second main hypothesis of the research was achieved.
5. The S-O strategy in the proposed strategic model included the adoption of a competitive strategy, as well as a set of hard tactics, along with strengthening the negotiation team with negotiators of realistic, analyst, problem-solving, friendly, competitive, and imposing styles.
6. The W-O strategy included the adoption of a cooperative strategy, as well as a set of soft tactics, along with strengthening the negotiation team with negotiators with realistic, analyst, problem-solving, friendly, cooperative and amicable styles.
7. The S-T strategy included the adoption of an emotional consensual strategy, as well as a set of relations-enhancing tactics, along with strengthening the negotiation team with negotiators of realistic, analyst, problem-solving, amicable, moderating and bargaining styles.
8. The W-T strategy included the adoption of the avoidance strategy, as well as the tactic of withdrawal, along with strengthening the negotiation team with negotiators of pragmatic, analyst, problem-solving, friendly, accommodating, and avoidant styles.

**Second: Recommendations**

1. We recommend that the ministry of Water Resources to maintain the distinctive strengths that it possesses in its internal environment related to capabilities and tangible and intangible resources and building core competencies.
2. The ministry of Water Resources is recommended to thoroughly investigate the financial causes that have led to the emergence of weakness in both the tangible resources or financial resources and intangible resources or innovation resources, in order to address the weakness appropriately.
3. We recommend the government of Iraq including the ministry of Water Resources, the relevant ministries and bodies to investment the crucial opportunities that both the political-legal and social-cultural factors carry when negotiating shared water with the riparian states, especially in neutralizing threats in the same environment.
4. The government of Iraq, including the ministry of Planning, the Ministry of Water Resources, and the relevant ministries are recommended to conduct a comprehensive, systematic and regular survey of all external environment factors that represented threats to the negotiation on shared water in the future.
5. We recommend that the Ministry of Water Resources to adopt strategic concepts and shall not be limited to a strategic model for negotiating along with the vision and mission. There is a real prompt need for the ministry to adopt strategic management concepts in its future work.

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