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# A Model to Choose a Management Team for a Tourism Company

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## ABSTRACT

In Portugal, many tourism companies deal with a management problem regarding their low dimension and productivity. Therefore, an additional concern must be given to the management model, in order to increase their success. An innovating model is given for a situation in which a hotel aims to choose a management team according to a set of competences and skills to give the company the necessary ability to be competitive and to survive in a very competitive market. This paper aims at presenting, through game theory, a way to have the best choice that allows ordering the potential candidates that will constitute the co-leadership team. This requires a successful team with a renewed co-leadership model of co-leaders.

**Keywords:** Hotel management model, co-leadership, shared leadership, complementary skills, game theory, two-part game, code form.

## 1. INTRODUCTION

Co-leadership, shared leadership, leadership in a team, or even co-management, for example, are different expressions with similar meanings that may be used in a study like the one that is worked on this paper.

In History, great leaders have always been rare and usually have been surrounded by a team of other real leaders. The world is in constant and global turmoil and people are much more cultured and sophisticated, more knowledgeable, more autonomous and more demanding than before. Nowadays it is even more difficult to find out a single person with all the key skills necessary for an effective and efficient leadership. Consequently, this work intends to focus the shared leadership or co-leadership in modern organizations. The co-leadership core is based on a management team with complementary competences, which can be enlarged from top to down.

A model to choose the co-leadership team will be presented in this study. One of the prerequisites for a successful co-leadership is to have a team spirit. Besides, it is essential to have complementarities among the pairs of the management team.

There are innovations that must be taken to guarantee the survival of the lodging industry companies, given the features of this kind of business (very large fixed costs, big seasonality, very large demand elasticity and supply rigidity, the low mean scholar level of human resources, etc.). Accordingly, companies must be innovative to overcome the challenges.

The study of literature reveals successful co-leadership cases. In this study, it is also intended to identify the factors that make the combination of co-leaders to be

successful, particularly in lodging industry. The model considers the skills and competences of the candidates that are important to the functions they will assume.

Nowadays it is more difficult to find out a single person with all the key skills necessary for an effective and efficient leadership. If true leaders are rare and it is difficult to find all the key skills in one person, why not trying a board comprised of complementary skills, working as a team?

It is clear that the shared leadership is not only by itself a sufficient condition for success. But there are some prerequisites such as to have a team spirit or to have complementarities among the pairs in co-leadership, as it will be seen later.

It is necessary to have in mind that a leadership team should not be confined just to the top leaders but to have in mind that it should be enlarged to all team until the front line. The co-leadership is possible and desirable, based on ordinary people throughout the structure. Anyway, it demands a co-leadership culture.

Although the prevailing view that the co-leadership may not work, the study of literature reveals many cases of successful co-leadership and it may happen either in organizations, in natural resources management or in many other areas.

So, it is important to identify the factors which make the combination of co-leaders to be successful. As an introductory view, it can be said that these factors may include:

- the selection of directors with team spirit,
- the complementarities of skills,
- the way how the distribution of roles and tasks is made,
- emotional guidance,
- coordination mechanisms
- others...

It is important to state that there are no unique solutions for a successful co-leadership, owing to the fact that it considers a set of diverse factors as well as attributes of leaders and different conditions existing in companies.

In the tourism sector it is important to refer that many companies have conservative “leaders” and changes in the organization are not easily got. Co-leadership is a necessary alternative of managing this kind of companies. In particular, many Portuguese companies are still far away from being aware of this, when the current times demand for changes in this direction.

## **2. CONDITIONS FOR THE SUCCESS OF CO-LEADERSHIP**

Until now, co-leadership is a theme that has not been much searched for scientific research. The question is put up when it is wondered what is the most effective leadership model mainly for an organization with a considerable dimension.

Heenan and Bennis (1999), Pitcher (1997) and O'Toole et al (2002) were among the first to give attention to a new way of seeing and thinking organizational leadership. This implies the need to leave the usual thinking on an individual endeavor and start to think on the leadership as a shared effort in a team.

In turn, concerning the top co-leadership, O'Toole et al (2002) say that the first thing to be understood about the shared leadership is that its practice is neither new nor strange in the leadership field. They say there are many cases in the past and present, showing shared leadership at the top of a business. Many of these cases did not even come down to just two leaders (dyad), but three (triad) or more.

Of course co-leadership is not, by itself, a sufficient condition for success. It cannot result, by itself, in good leadership practices and may not even be as good as a leadership made by just one person. Indeed, History also shows that there are many failures. In general, the leadership may be shared more effectively when complex situations exist and when more skills are required. However this is not enough. It is absolutely necessary that there is a team spirit among the pairs of the direction and that this spirit is extended to the company's employees.

Townsend (1970) refers the advantages of collegial leadership and shows how the functions can be shared by two managers working as a team. He says that the best dyads are as yin and yang, explaining: "None of us is very good, but our weaknesses (and strengths) can be balanced". The co-leaders is "to distribute sporadic tasks, have the prior control of the strategic issues and keep each one informed about the failures of the day".

Investigations carried out by O'Toole et al (2002) indicate that the main factors explaining the causes of success or failure of the shared management model are:

- the key criteria for selection, i.e. whether they are selected as a team or as individuals;
- emotional guidance and the roles of directors,
- which roles result from the co-leadership,
- how the skills are complemented,
- how to work together and how to involve others in the leadership team.

In short, to have a successful and effective leadership model, it is not enough to make a tasks distribution for two, three or more co-leaders. It is necessary to take into account and respect permanently a set of conditions.

Some may be presented as follows:

- A necessary condition for the success of such a kind of co-leadership is that members have different complementary skills. This is, really, the true leadership team, considering that tasks are in accordance with the competences of each member. This means that power can be distributed at the summit in various ways and by different people, depending on the requirements imposed by the project strategy and the strengths and weaknesses of each team member. Consequently, if one person (or two) has (have) as many skills as the ones required by the project strategy, in this case it will not be necessary to extend the senior leadership team; if not, the team should be extended to three or more people who complete the skills considered necessary for the project strategy to be successfully carried out and even to have a project spirit to be renewed. By doing this, the organization remains effective, efficient and will continue to exist. As examples (just a few) the following ones can be mentioned: Intel (Noyce, Moore and Grove co-leading the company), GM (Welch and more three or four co-leaders) and most recently Google (by co-founders Brin and Page who make up the board with several other co-leaders).
- Another condition that can be considered necessary is that there is mutual understanding, humility and confidence. Each team member must not only have sufficient self-confidence, but also be well aware of his limitations and that he needs the complementary competences of other colleagues, with different skills, so that he will succeed in achieving the objectives of the project. This requires a sense of humility. In fact, one of the biggest weaknesses of the co-leadership team is that a member of any team considers himself superior to the others. Mutual trust is absolutely essential in this kind of co-leadership model.
- Another prerequisite is to form a team to work as a team. Initially it is essential that the company is able to select a team of leaders and not just an individual. It is necessary to know the best possible profile of the various candidates' abilities. It will be more difficult to find out the interpersonal relations that lay among them. In fact, it is not simply to select an individual talent but a team of co-leaders who have complementary skills and who must be harmonious, that is, they must have "talent and chemistry".
- Another necessary condition is to have a teamwork. The main concern of the directors, after being selected must be to work as a team. The distribution of tasks will be one of the main concerns and conditions for an effective functioning of the co-leadership. Perhaps it is the most appropriate criterion for the success of the company, which may be in accordance with the interests,

skills and personality of each member of the team, combined with the needs and opportunities of the organization. However, maybe of higher priority than the division of tasks, which is very important itself, is that the team must be aligned in the process of learning relating the distribution of the success and laurels. Their big challenge is not practical or technical, but the management of their egos, that is, the capacity of each one, if necessary, to take a step back and let the other take the front, or all rise to the same stage together to share the laurels.

- Complementing this distribution of success, the full achievement of a shared leadership really depends on the way each of its components communicate, how they manage the crises, how they distribute and redistribute the common tasks, how to formulate the process of decision making, and how to develop common positions about key issues.
- Finally, another condition for the success of this leadership model is to find the best way for the team to work together, which means to work coordinately. The co-leaders, after being in charge, should discuss and find the best way to coordinate the possible interdependence of their tasks and to resolve the resulting ambiguities, not letting anything pass to their subordinates.

In short, the most important is to put the efficacy of the joint project ahead from the ego of each one and to be together in the process of decision making and show that each member of the team is in solidarity with the others and show unity in good and bad times. They must show they are honest in their roles and they are clear in the attitudes and fair with themselves and with each other considering the contribution of each one.

Considering that, the big issues at the outset are:

- In what way each one of the team is good for the place?
- Where does the company need a member team to be successful?
- How will the team coordinate the group and communicate inside the group in order not to stumble or overwhelm each member?
- How to ensure that inside the team members communicate the right way?

There are no unique solutions, due to the fact that they depend on the mode of distribution of roles and tasks that members should perform. The greater the interdependence of individual tasks is, the greater the likelihood of confusion, so greater is the concern in the coordination of tasks. It is important that the resulting problems do not go outside and are not accumulated.

### **3. CO-LEADERSHIP IN TOURISM ORGANIZATIONS**

#### **3.1. The General Problem**

It is important to express again that great leaders have always been rare and they will be always rare. Moreover, even the most famous leaders apparently "loners" were surrounded by a team of other real leaders that supported and advised them (O'Toole et al, 2002).

It is interesting to refer that many of the ones who were hotels' directors some years ago, they are now away from management teams because meanwhile the references on management have changed drastically. Some historic hotels in Portugal, for example, that dominated the tourism business activity have been overtaken by youth organizations that quickly turned into hotel groups and that are transforming the hotel scene in Portugal.

The lodging industry companies have now to give much importance to the creative and visionary powers and competences, have to differentiate themselves from others, have to innovate, have to get away from the usual practices and go outside traditional boundaries. They have now to try new things, experiments, to take risks and to make measured mistakes, learning from them.

The new social and business environment demands more and better skills. However it is not easy to find them in a single person. In the lodging industry business, in Portugal, despite the strong context changes in the sector, the dominant model is still the one of a

centralized management in one person, the general manager. And often this general director is the owner himself.

On these conditions it is not easy to have an effective and efficient management of the company. Besides, it will be very difficult or even impossible to gather in a single person the management activities and all the key skills that are needed today for an effective and competitive management.

### 3.2. Implementing a new management practice in Tourism Organizations

A lodging industry company management must bring together key skills and be supported by the language and by the information of the system of USALI<sup>1</sup> and BSC<sup>2</sup>.

Thus, it seems to be very difficult to find all the key skills in one only person. Due to this fact, it would be interesting to have a board comprising complementary skills, by integrating several people working as a team (co-leadership), using information and management control as a link for a common language and a common control of the company. That is, a more effective and efficient shared leadership seems to be possible in a dyad or triad in the strategic top, extending it throughout the organization, motivating, involving and exploiting the potential of several intelligences (IQ<sup>3</sup>, EQ<sup>4</sup> and SQ<sup>5</sup>).

## 4. THE GAME

The central entity that is going to select managers (Hotel A) aims to reduce the number of candidates to choose just the ones who are important to the organization, selected according to the skills and competences considered important for the job. Each one of the three candidates according to a specific profile is ranked on a scale from 1 (lower) to 10 (higher). The Hotel A attributed 10 points, 8 points and 5 points to the candidate classified in 1st place, 2nd place and 3rd place respectively. The probabilities of candidate  $i$  ( $i=1,2,3$ ) accepting the  $j$ -th offer to this activity have been defined, considering that the first  $j-1$  offers to the others have been declined, are denoted by  $p_{ij}$  where:

$$\begin{array}{lll} P_{11} = 0,5 & P_{12} = 0,2 & P_{13} = 0 \\ P_{21} = 0,9 & P_{22} = 0,5 & P_{23} = 0,2 \\ P_{31} = 1 & P_{32} = 0,8 & P_{33} = 0,4 \end{array}$$

In which order can the three potential candidates be offered to the activity if Hotel A maximizes the expected number of points? It is supposed that no candidate is requested more than once and, each time a candidate rejects, another one is requested, until at least one has accepted or all have rejected.

## 5. GAME ELEMENTS

This game which is made up of two parts – a selection process and an acceptance process – attests that the payoffs in the first part of the game (potential candidates) will be the intermediaries of the second part of the game (decision elements).

This work analyses only the second part of the game since the first stage corresponds to a situation that has already been explored sufficiently by other authors. Thus:

- Players:
  - o Hotel A: 4
  - o Potential Candidates:
    - Player classified in 1st place –1
    - Player classified in 2nd place – 2
    - Player classified in 3rd place – 3

<sup>1</sup> USALI - Uniform System of Accounts for the Lodging Industry is a cost accounting system management for the hotel used internationally (see Lamelas, 2004).

<sup>2</sup> BSC – Balanced Scorecard (see Kaplan and Norton, 1996)

<sup>3</sup> IQ - Intelligence Quotient.

<sup>4</sup> EQ - Emotional Quotient or Emotional Intelligence Quotient.

<sup>5</sup> SQ – Spiritual Quotient.

- Strategies:
  - o Hotel A: Hotel A wants to establish the order in which the potential candidates will be invited to maximize the expected number of points. In this way the strategy for the Hotel A will be the order in which the three potential candidates can be offered to the job until at least one has accepted or all have rejected the offer - P.
  - o Potential Candidates: The strategy of each potential candidate is to accept the offer – A - or to reject the offer - R.
- Payoffs:
  - o Hotel A: Hotel A payoff is (a function of the attributed points in the daily pre-selection and of the potential candidates' probabilities of acceptance to remain) the expected number of points of each possibility in the order of the proposal presented to the potential candidates. Thus, for instance, it is possible to have:
    - Player 1 rejects the offer, 3 rejects the offer, 2 accepts the offer, Hotel A payoff is:  $\frac{1}{2} \times \frac{1}{5} \times \frac{1}{5} \times 8 = 0.16$ , where  $\frac{1}{2}$  is the probability of player 1 rejecting the offer,  $\frac{1}{5}$  the probability of player 3 rejecting the offer and  $\frac{1}{5}$  the probability of player 2 accepting the offer.
  - o Potential Candidates: For these players it is possible to define: if the player accepts the offer, he gets the "total prize", that is, he gets payoff 1. On the other hand, if he rejects the proposal, he does not get anything so his payoff will be 0.

## 6. GAME REPRESENTATION

To represent the game, code form game representation will be used. Code form is basically a table where the strategies that are available to any player are codified.

**Definition:** A code form game consists of a finite table, with evident extension in the case of infinite moves and infinite players, where only some cells are filled. The cells will be filled in the same order that the game is played. For that it is needed:

$R = \{1, 2, \dots, R\}$  - a set of rounds;

$J = \{1, 2, \dots, J\}$  - a set of moves;

$C = \{1, 2, \dots, J + 3\}$  - a set of columns;

$L = \{1, 2, \dots, L\}$  - a set of lines;

$N = \{1, 2, \dots, N\}$  - a set of players;

$E_N = \{e_1, e_2, \dots, e_N\}$  - a set of strategies available to each player;

$E = E_1 \times E_2 \times \dots \times E_N$  - a set of all such strategy profiles - space of strategies profiles;

$RN : L \times \{1\} \rightarrow R$ , a function that indicates the round number;  
 $a_{i1} \rightarrow r$

$PN : L \times \{2\} \rightarrow J$ , a function that indicates the move number;  
 $a_{i2} \rightarrow j$

$JE : L \times C \rightarrow N \times E_N$ , a function that indicates who moves and what action is played;  
 $a_{ic} \rightarrow (N, e_N)$ ,  $c \neq 1, 2, J + 3$ ,

$$PJ : L \times \{J + 3\} \rightarrow IR^N$$

$$a_{i,J+3} \rightarrow (u_1, u_2, \dots, u_N)$$

a function that gives the payoff of every player (for all the players) where  $u_N : E \rightarrow IR$  is a von Neumann-Morgenstern utility function.

**Note:** It can be denoted that when  $RN(a_{i1}) = RN(a_{i-1,1})$ ,  $PN(a_{i2}) = PN(a_{i-1,2})$  and  $JE(a_{ic}) = JE(a_{i-1,c})$ , the cells are not filled. The line is changed when the move changes. The column is changed when the player changes.

Code form game idea lies in the game estimated linear reading. The table is built containing the whole game information. The table 1 illustrates the code form game representation in the game example that is considered.

Reading the table from the left to the right, the first column indicates the period number and the second one indicates the move number. The following columns mention who moves when and in what circumstances and what action is played when somebody is called upon to move. Last column indicates the payoffs vector in accordance with the strategies chosen by the players.

As one can see, it is easy to verify that the order in which the three potential candidates can be offered the possibility to be chosen must be:

To invite in the first place the candidate classified in 2nd place, 2; if he rejects the proposal the candidate classified in first place, 1, should be invited and if he does not accept the candidate classified in third place, 3 should be invited. The pay-off obtained in the game by Hotel A is  $7.60 = 7.2 + 0.4 + 0 + 0$  (see bold numbers in the Table 1).

**Table 1. Code Form Game**

1	1	(4,P)			
	2		(1,A,0.5)		(5,1,0,0)
			(1,R,0.5)		
	3			(2,A,0.5)	(2,0,1,0)
				(2,R,0.5)	
	4				(3,A,0.4)
					(3,R,0.6)
					(0.5,0,0,1)
	3			(3,A,0.8)	(0,0,0,0)
				(3,R,0.2)	(2,0,0,1)
	4				(2,A,0.2)
					(2,R,0.8)
					(0.16,0,1,0)
	2		(2,A,0.9)		(0,0,0,0)
			(2,R,0.1)		<b>(7.2,0,1,0)</b>
	3			(1,A,0.2)	(0.2,1,0,0)
				(1,R,0.8)	
	4				(3,A,0.4)
					(3,R,0.6)
					(0.16,0,0,1)
	3			(3,A,0.8)	(0,0,0,0)
				(3,R,0.2)	<b>(0.4,0,0,1)</b>
	4				(1,A,0)
					(1,R,1)
					(0,1,0,0)
	2		(3,A,1)		(0,0,0,0)
			(3,R,0)		(5,0,0,1)
	3			(1,A,0.2)	(0,1,0,0)
				(1,R,0.8)	
	4				(2,A,0.2)
					(2,R,0.8)
					(0,0,1,0)
	3			(2,A,0.5)	(0,0,0,0)
				(2,R,0.5)	(0,0,1,0)
	4				(1,A,0)
					(1,R,1)
					(0,1,0,0)
					(0,0,0,0)



## 7. FINAL NOTES

Although the often predominant view that the leadership team does not work, the leadership model is sufficiently implemented with success and allows some important ideas. There are enough examples of successful co-leadership. Thus, one can conclude, with a significant degree of confidence, that the co-leadership, mainly for the companies with a considerable size, can be successful. The question is to identify all the factors that make this combination a success. Among these factors, the following ones may be considered:

- criteria selection,
- complementary skills,
- respect and empathy,
- distribution and coordination of tasks.

This seems to make sense but it is not a common practice. It is important that this type of research and analysis continue to test these and other factors.

Besides, the game presented that the player who has decision power is not always the one who decides the game. In other words, Hotel A is the player who dominates the situation; therefore, the Hotel decides who the best candidate is. But, in fact, the ones who actually decide the game are the potential candidates when they accept or refuse the proposal. So, the potential candidates are the ones who determine the game's outcome; starting from a situation of weakness they gain control of the game. They are the result of the first part of the game and become the deciding elements of the second part of the game.

On the other hand, this game shows how much the Game Theory is still a science with a long way for games with more than two players. No solution concept for this kind of games is universally accepted. One reason for this is the situation described herein since we could not find the respective equilibrium using existing solution concepts, such as the Nash equilibrium, the Shapley value, and so on. This in no way reduces the significance of Game Theory. Of course we cannot forget that the Game Theory is one of the few theories that defines rational procedures which were previously considered as irrational situations. It is also relevant to state that its concepts and ideas have already provided very important knowledge in the formulation of situations regarding the real world conflicts. This way, we can come to the conclusion that the Game Theory is an asset to humanity.

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Research interests: Mathematics. Game theory. Management applications.

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Research interests: Hotel business. Hotel professionals' motivation and satisfaction, productivity, the use of hotel management tools, such as the Uniform System of Accounting in the Lodging Industry (USALI) and the Balanced Scorecard (BSC), the relationship between leadership models of management and performance.

Manuel Alberto M. Ferreira (PHD) - Full Professor

Research interests: Mathematics. Statistics. Stochastic process. Game theory. Chaos theory. Management applications. Finance applications. Social problems applications. Bayesian inference.

José António Filipe (PHD) - Assistant Professor with Habilitation

Research interests: Mathematics. Statistics. Game theory. Chaos theory. Queues theory. Natural resources economics. Finance.

Manuel Coelho (PHD) - Associate Professor with Habilitation

Research interests: Economics of Natural Resources and the Environment. Sustainable Development. Fisheries Socio-Economics. Maritime Sociology. Climate Change. Energy Economics. Urban and Regional Economics. European Integration. Law and Economics. Institutions and Development. Law of the Sea. Cultural Economics.