

## **Minnesota Innovation Survey at the Brazilian Hospital Services Company**

**Helder Pacheco de Medeiros**

*Federal University of Rio Grande do Norte – UFRN  
Graduate Program in Production Engineering – PPGEP/UFRN  
Natal, RN, Brazil*

**Eric Lucas dos Santos Cabral**

*Federal University of Rio Grande do Norte – UFRN  
Graduate Program in Production Engineering – PPGEP/UFRN  
Natal, RN, Brazil*

**Wilkson Ricardo Silva Castro**

*Federal University of Rio Grande do Norte – UFRN  
Graduate Program in Production Engineering – PPGEP/UFRN  
Natal, RN, Brazil*

**Felipe Martins Pedrosa**

*Federal University of Rio Grande do Norte – UFRN  
Graduate Program in Production Engineering – PPGEP/UFRN  
Natal, RN, Brazil*

**Davidson Rogério de Medeiros Florentino**

*Federal University of Rio Grande do Norte – UFRN  
Graduate Program in Production Engineering – PPGEP/UFRN  
Natal, RN, Brazil*

**Júlia Lorena Marques Gurgel**

*Federal University of Rio Grande do Norte – UFRN  
Graduate Program in Production Engineering – PPGEP/UFRN  
Natal, RN, Brazil*

**Hélio Roberto Hékis**

*Federal University of Rio Grande do Norte – UFRN  
Graduate Program in Production Engineering – PPGEP/UFRN  
Natal, RN, Brazil*

**Ricardo Alexsandro de Medeiros Valentim**

*Federal University of Rio Grande do Norte – UFRN  
Graduate Program in Management and Innovation in Health – PPGGIS/UFRN  
Natal, RN, Brazil*

**Custódio Leopoldino de Brito Guerra Neto**

*Federal University of Rio Grande do Norte – UFRN  
Graduate Program in Management and Innovation in Health – PPGGIS/UFRN  
Natal, RN, Brazil*

**Amália Cinthia Meneses Rêgo**

*Full Professor of the Graduate Program in Biotechnology, Potiguar University (UnP) - Laureate International Universities – Natal, Rio Grande do Norte, Brazil; Ph.D in Health Science*

**Irami Araújo-Filho**

*Correspondence Author, Postgraduate Program in Biotechnology at Potiguar University UnP - Laureate International Universities. Full Professor, Department of Surgery Federal University of Rio Grande do Norte*

*Potiguar University. Federal University of Rio Grande do Norte – UFRN Graduate Program in Management and Innovation in Health – PPGIS/UFRN Natal, RN, Brazil; Ph.D in Health Science*

*Natal - RN, 59020-650, Brazil [orcid.org/0000-0003-2471-7447](http://orcid.org/0000-0003-2471-7447)*

*CV: <http://lattes.cnpq.br/3975706297235540>*

*[https://www.researchgate.net/profile/Irami\\_Filho](https://www.researchgate.net/profile/Irami_Filho)*

*E-mail: [irami.filho@uol.com.br](mailto:irami.filho@uol.com.br)*

*Tel: +55 84 988760206*

**Abstract**

Promoting innovation is bringing to the field of organizations (public or private) a strategic bias recommended for decision-making. Knowing their determinants factors is one of the essential tasks that managers face due to the high level of complexity involved. The purpose of this study was to present, through the Minnesota Innovation Survey (MIS) method developed by the Minnesota Innovation Research Program (MIRP) of the University of Minnesota in the United States. The characteristics favorable to the innovation environment in University Hospitals agreed to the Brazilian Company of Hospital Services (EBSERH), considered one of the largest public company of public character in health services in Brazil. Seventeen hospitals (43.59%) from a total of 39 branches were surveyed in all regions of the country, through a structured electronic questionnaire containing 83 questions related to the 29 dimensions directed to the development of health innovations. With this, it was sought to determine the main variables related to change in this context. As a result, the characterization of eleven dimensions favorable to innovation in these hospital organizations was verified, with a strong correlation between them, determinants for an innovative environment in public health policies. In terms of contributions, the research developed an essential method for management, control and innovation of health care service providers, which can be used in a wide range of contexts, highlighting the main factors favorable to organizational environments focused on innovative processes, creating a theoretical basis pleasant practice for new research to be carried out using the methodology used.

**Keywords:** university hospitals, health care reform, organizational innovation, health services administration, health care survey, public health systems research

**Introduction**

In the last decades, the debate on the quality of health services has acquired global importance; in view of the fact that several countries have adopted as a priority theme the monitoring and improvement of the quality of medical care in response to well-known incidents of systematic malpractice, which directly affect between 2.9% and 16.6% of users of medical facilities. The growing demand for more resilient health service standards is the result of the understanding that the health sector is one of the main influencers of society's quality of life <sup>(1-3)</sup>.

In general, innovation is defined as the marketing of a new product, service or idea. For him, the combination of new technological features or new features of services constitutes what is called a new product <sup>(4)</sup>.

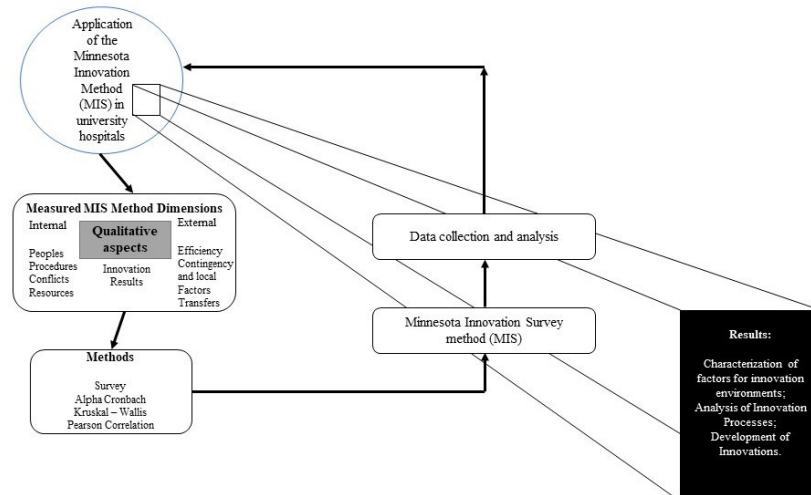
According to Schumpeter, "innovation has shown itself as the engine of capitalist society and is a phenomenon capable of destroying old ideas and conceiving new ones simultaneously by the process of "creative destruction". The entrepreneur brings with it the main attribution of reformulating or re-creating modes of production, to commercially exploit an invention or a technological possibility, either by producing a new product or by creating an old product in a new way <sup>(5)</sup>.

In this sense, the search for innovation in hospital organizations is theorized as crucial for the long-term survival of both public and private institutions; the novelty is inserted in this context as a recurring element in its definition. The general characteristics of the innovation system in the health sector include close cooperation between hospitals and universities, the increasing role of outsourcing to the private sector, and user participation as a co-producer of innovations <sup>(6)</sup>.

Existing literature on hospital innovation activities is scarce. There are at least two reasons for this: first, conceptual difficulties in applying the definition of standard innovation, which was developed mainly for technological innovations in manufacturing, for the health sector; and according to the lack of innovation data for hospitals. Developing routines and support mechanisms that support organizations' innovative research efforts not only provides incentives for continuous research but also opportunities for cumulative learning. Existing studies on hospital innovation are case studies <sup>(7,8)</sup>.

The model applied of the Minnesota Innovation Survey (MIS) questionnaire to evaluate innovations in organizations focuses on the criteria of parsimony, significance, and generalities, by which, by collective agreement, five central concepts of the model were established: ideas, people, transactions, context, and results, considered its core in the perspective of innovation management <sup>(9)</sup>.

It has a broad focus on change processes as well as background and motivations for change engines. Therefore, MIS research, with its focus on research on aspects of change, could serve as the basis for developing an instrument to measure improvements. The survey is based on a theory of innovation management that encompasses five basic concepts: ideas, people, transactions, context and results. These concepts are seen as central factors in the management of innovation processes <sup>(10, 11)</sup>. The next Figure 1 discusses in framework format synthesis to the MIS model:

**Figure 1: MIS Methodology Framework**

This way, the objective of the present study was to identify the relevant and timely dimensions of the innovation environment in University Hospitals of the Brazilian Hospital Services Company (EBSERH) network, observing the relationships between the dimensions found and highlighting how these characteristics contribute to the innovative process in these institutions.

## Methods

### Ethics approval and Consent to Participate

The research project was approved by the Research Ethics Committee of the Onofre Lopes University Hospital (REC/UHOL), registered with CAAE/Research Brazil Platform (Certificate of Presentation for Ethical Appreciation) N<sup>o</sup> 55277467.4.0000.6456/, and the collection was made after the letter of agreement was issued and appreciation of REC/UHOL.

The study was accomplished in 17 University Hospitals connected to the EBSERH Network in the North, Northeast, Midwest, South and Southeast regions of Brazil. The research was realized in a single step, using as a data collection instrument a survey (questionnaire) of the MIS methodology, originally built in the English language, and translated by the Innovation's Forum of the Getúlio Vargas Foundation of São Paulo. The present study, which presents the characteristic of an applied nature, had as purpose discussed relevant and useful information about the context of hospital organizations in the development of environments conducive to innovation.

As described by Yin, the case study investigates a contemporary phenomenon within its real-life context, especially when the boundaries between event and context are not clearly defined. In this way, this model was identified and attributed to the research for having applied the data collection methodology to a specific group, in which the proposed entries aimed to know the participants' perception of an innovation object <sup>(12)</sup>.

In order to constitute the sample of the study, managers of all the organizations agreed to the company were invited, in 39 HUs, belonging to 31 Federal Institutions of Higher Education (FIHE). However, only 17 hospitals (43.58%) participated of the research.

The questionnaire was applied to managers related to the areas of Administrative Management, Health Care and Information Technology (IT), as they are the promoters of planning, execution or implantation with some type of innovation. In this way, these main actors of the studied hospital organizations received a highlight in the application of the collection instrument, comprising the representations of the sample group.

It is worth noting that the EBSEH network nowadays has 50 University Hospitals (HU) in its entire infrastructure, classified by the status of: with contract, without contract and public company. These so-called subsidiaries are spread across all regions of the country designed to provide quality services to the community in each region where they are located. A distribution map of the agreed HUs and survey participants can be seen in Table 1.

**Table 1:** Distribution of contracted UH's - EBSEH

Phases	Federal Institutions of Higher Education	Federal University Hospitals
With Contract	31	39
Without Contract	3	10
Public Company	1	1
<b>Total</b>	<b>35</b>	<b>50</b>

Source: EBSEH

The research was done through an electronic form, developed by the *Google Forms*<sup>®</sup> tool and sent by e-mail to all potential participants, making available through a link added to the body of the invitation message to facilitate access and participation of the survey. Then all possible respondents were contacted by phone and asked to participate of the research.

The questionnaire consisted of 83 questions, representing the 29 dimensions previously mentioned. The questions addressed to the respondents were distributed on multiple choice questions. Each research collaborator should choose only one answer option from among the listed ones. Table 2 shows the set of answers possibilities presented to the respondent, which, during the analysis, were assigned values based on the *Likert scale*: 5 (five) points, 1 (one) being the smallest importance value and 5 (five) the most important, besides two discursive questions.

**Table 2:** Types of possible responses in the MIS Methodology

Types of response possibilities of the survey MIS				
Not satisfied	Not satisfied	Indifferent	Fairly satisfied	Very satisfied
No chance	Little chance	50% chance	Fairly likely	Almost right
Strongly disagree	Partially disagree	I have no opinion formed	I agree partially	I totally agree
Anything	Very little	In part	Enough	Much
Non-contact	Monthly or less	Almost weekly	Daily	One more time
None	Few	Some	Strong	per day
Not sure	Uncertainty	Certainty Moderate	Very sure	Very strong
Several times a day	Sometimes per day	Almost every day	Almost weekly	Absolutely sure
Always the same	Almost always the same	A little different from each other	Quite different from each other	Monthly or less
Generally, did not cause overload	Sometimes caused overload	In the right measure to deal with	Hard to deal with	Completely different
1 hour	1 day	1 week	1 month	Almost impossible to deal with

The data obtained were first tabulated in a spreadsheet using *Excel*<sup>®</sup> software from *Microsoft*<sup>®</sup>, in order to group the questions belonging to the same dimensions. Afterwards, the answers to the *Statistical Package for the Social Sciences – SPSS*<sup>®</sup> *Statistics Base 22* software were exported, allowing the statistical analysis in order to obey a more rigorous process of investigation and understanding of the data collected, necessary to guarantee significant and relevant results in function of the hypothesis and the objectives raised for the research.

In statistical terms, the *Kruskal-Wallis* non-parametric mean comparison test was used as an alternative to the parametric analysis of variance analysis, when the assumption of normality and homogeneity of the data is not met. *Pearson's correlation (r)* was also established as a parameter of analysis: a linear relationship measure between two numerical variables, with a scale between -1 and 1. In it, a positive correlation means the relations of measures in which, when a variable increase, the other tends to increase as well. While in negative correlation, as one variable increases, the other tends to decrease. Hereafter, a classification of correlation coefficient: Above 0.70 (positive or negative), indicates strong correlation; between 0.30 and 0.70 (positive or negative) indicates moderate correlation; from 0 to 0.30 (positive or negative), we have a weak correlation. From these instruments of analysis, the treatment of the obtained data gained representation and meanings.

## Results

Through the *Cronbach's Alpha statistical test*, the reliability of the data could be assured, ensuring a confidence index in 11 (eleven) dimensions on innovation, which obtained a Cronbach's alpha above 0.80, that is, the consistency of the data is classified as satisfactory in the research instrument, according to Table 3.

**Table 3:** Cronbach's Alpha statistical test for the strategic planning questionnaire

Description	Alpha de Cronbach's
<b>General Questionnaire</b>	<b>0,875</b>
Satisfaction of Innovation	0,871
Innovation goals reached	0,874
Innovation goals not achieved	0,875
Leadership in innovation	0,869
Innovation support	0,872
Obtaining Resources	0,869
Engagement in innovation	0,873
Communication in innovation	0,875
Difficulties and impediments	0,876
Conflict management	0,873
Planning and implementing innovation	0,873

The item "Satisfaction of innovation" was analyzed based on a previous experience experienced by each respondent, whose arguments were based on the following questions: "Level of satisfaction with the result that innovation had" (43.48% and 39.12% ), "Satisfaction with the personal progress expected with this innovation" (47.83% and 39.12%), "Degree of satisfaction for the contribution this innovation has brought to your company" (52.17% and 34.78% %), for responses considered as "Satisfied" and "Very Satisfied", respectively. In general, a high satisfaction level was obtained on the results, demonstrated by a sum of items evaluated above 60%.

Other evidence presented in the analyzes is related to the recognition or reward for the achieved innovation goals. Of the questions proposed by the methodology: "The group as a whole was recognized or rewarded for the results achieved" and "Only a few individuals were recognized for their personal dedication", 56.52% of respondents declared "quite likely" the recognition and reward for results obtained during the execution of an innovative process, which in turn, 47.83% claimed "Little chance" of only some to be recognized for their dedication to innovations.

As opposed to this aspect, questioned about the possibility of reprimands or charges for unreached innovation goals, the respondents reported "Little chance" (43.38%), followed by "Very likely" (37.78%) when asked "The group as a whole was rebuked or charged." However, 52.17% of the answers to the question "Only a few individuals were reprimanded or charged" indicated that there was "Little chance", as well as 26.09% reported having "No chance" for this to happen.

For the leadership dimension in innovation, the degree of agreement in the responses was quite high (over 60%), in the evaluated items of this aspect. Among the questions mentioned, the most outstanding were: "Generally the people who lead the innovation process encourage others to also try to innovate", presenting a percentage of 73.91% for the "totally agree" response alternative, followed by the percentage of 60.87% for the same answer when asked if "Generally the people who lead the innovation process constantly remind us of the need for each to commit to the result of innovation", as well as 56.53% of the same alternative answers "I totally agree" were made clear in the face of the question "Generally the people who lead the process of innovation care about the good relationship in the group".

Another important aspect of the research was the focus on innovation support. For the different questions proposed, the respondents bet answers between "Pretty" and "Much" in the following propositions: "In the interaction between you and the group that participated in this innovation, there were conversations or discussions that helped in the relationship between you and that helped in the development" (56.52% and 30.43% respectively), "Do you consider yourself satisfied with this partnership?" (65.21% and 21.74% for the same answers), as well as "In the execution of this innovation, I knew I could trust the people who were part of the innovation, just as they could trust me too?" (52.17% and 26.09%, respectively, between "Pretty" and "Very").

In terms of aspects such as: "How much of the work that you or your group should normally have done was done by other people or groups so that you could develop this innovation?" 34.78% were shown for "Very Little". In "Did you or your innovation group, when they needed to change the activities of other people or groups, were able to easily make this change?" 60.87% of responses were attributed to the "In part" alternative. Just as by questioning whether there were any conflicts or differences of opinion between you or your group with other people or groups within the company who were involved in the innovation, 47.83% also attributed their answers to the same alternative.

For the development of an innovation, it is important to obtain resources (financial, materials, spaces and equipment, as well as people) that facilitate the implementation and continuity of the actions of those involved in the change process. In this analysis, when asked how much of these aspects were facilitated by the innovative process, we obtained the following answers: "Financial resources" (13.04% answered "Nothing", 21.74% opted for "Very little" and 26.09% defined as "In part" and "Fairly"). In terms of "Materials, spaces and equipment", 30.43% of the respondents defined as applied "In part", as well as in the aspect "Attention of higher instances", a percentage of 34.78% opted for the same alternative answer. Regarding the "People" resource, the frequency of responses was between "Pretty much" (39.13%) and "Very" (21.74%). These analyzes reveal some difficulties in terms of resource planning and in many cases of projections about these elements in the face of innovation.

In order to understand the aspects related to the Engagement in Innovation, some questions were proposed through the methodology, making the analysis of this dimension timely under the following propositions: "Define where we intended to arrive with this innovation", the answers "Pretty much" and "Very" (43.48% and 39.13% respectively), and in "Defining and detailing the activities that needed to be done in order to conclude with innovation, to "make it happen" with the alternatives "Pretty much" (43.48% ) and "Very" (34.78%) presented a sum of frequencies above 60% of the evaluated items.

However, in the items how many rules existed that indicated how you should proceed to develop this innovation, answers varied between "Some" (43.48%) and "Pretty much" (34.78%), also about the existence of rules, manuals or procedures that indicated how their work should be performed and if they existed, if they were detailed, the respondents pointed out alternatives between "Very little" (26.09%), "Pretty much" (30.44%) and "Some" (26.09%), respectively. Despite these results, we have

a higher percentage of "Pretty much" and "Very" in most of the evaluated items, adding a sum between items evaluated above 60%, which reinforces also an important element to foster a timely context for innovation.

In addition to seeking to maintain a cohesion and willingness of the actors in the midst of an innovative process, the Communication aspect in innovation also has important relevance as a favorable feature in the context of innovation. Based on issues related to the topic within the applied methodology, research data revealed the frequency of contacts of items related to this dimension based on the following aspects: "Individuals from other groups who were also working with innovation" 56,52% of the respondents indicated the "Weekly" answer alternative, when "People of higher levels in the organization" 47.83% indicated as "Monthly" response and 30.43% as "Daily" response.

Also, in "During the development of this innovation, how often did you and your group communicate with people in other areas of the company who were also involved in this innovation?", Responses indicated frequencies between "Weekly" (39.13%), and "Daily" (30.43%). On the other hand, communicability with agents or actors external to the institution where the innovation takes place had high frequency percentages in the responses with alternative "Non-contact" (39.13% in relation to "Consultants of other organizations and" Consumers ", 65.22% for "Suppliers", 56.52% when referring to "People of government or regulatory agencies").

From the research, questions such as "Difficulty in getting help from qualified people who could contribute to the development of this innovation" obtained a percentage of 34.79% for a "Little" response alternative and 30.43% "Some", also in cases of "Difficulty in knowing what this innovation would serve, if the objectives of its development were clear", 52,17% of the respondents pointed out "None" as a common answer. In "Difficulty in knowing the details of how to develop this innovation" response percentage of 47.83% indicated the "Little" alternative.

Regarding the "lack of support from key (very important) people who resisted participating in this innovation and could jeopardize the success of innovation," 39.13% and 43.48% of respondents indicated that they had "Little" or "Some" difficulty in this aspect during innovation, respectively. Evaluating the sum of the answers "Strong" (30.43%) and "Very strong" (8.70%) related to the question: "Difficulty in obtaining financial and other resources necessary for the development of innovation" presented the greatest difficulty of this dimension. These data corroborate with the analysis described above on the importance of obtaining resources in the face of an innovation.

The analyzes present important results on the following issues: in the item "Discussing the issues openly with the people involved" the respondents indicated a percentage of 60.87% in relation to the "Strong" response alternative, to "With the presence of a manager or superintendent to resolve the issue with the people involved" 47.82% noted "Strong" as the best answer. Also, in "What is the degree of link between departments or groups involved in innovation?". The frequency of responses "Strong" was 56.52%. These results showed that a greater openness among the members of the groups to present their opinions and the presence of a manager acting as mediator of possible conflicts form important elements within the innovation process.

Among the responses obtained in relation to the Innovation Planning and Execution dimension, the following frequencies were found in the related items: "You were able to know in advance the correct and necessary steps to develop this innovation (steps mean steps and initiatives taken that were fundamental to the continuation of innovation)?" respondents presented a percentage of 52.17% in the "Moderate" alternative and 43.48% in the "Easy" response. About "Did you have any certainty that the innovation would work?" was obtained a frequency of 39.13% for the "Surely" alternative.

With regard to "In the innovation phase that you participated, how often did problems arise that were difficult to solve?" 47.82% highlighted the "Almost weekly" response. For the question "Were the problems different each time they arose?" The answer "A little different from each other" (69.57%) had a high choice among the participants. When mentioning "How far in advance did you know the type of work that would be charged to you?", Following the same percentage of 39.13%, the answers highlighted the "1 month" and "1 week" aspects. The question "How long you believe that the



partnership between your group and other groups that participated in the innovation lasted?" Presented a 69.56% response rate "It is still strongly present." This dimension is focused on planned actions while unfolding an innovative process. Not specifically if it is a prior planning of tasks and executions to be put into practice. The non-parametric *Kruskal-Wallis test* was also applied for a significance level of 1%, evidencing statistical differences among the 11 dimensions presented, as presented in Table 4.

**Table 4:** Comparison of Dimensions

Domains	Minimum	Maximum	25%	Medium	75%	Average	SD*	VC**
Satisfaction of innovation	2	5	4	4	5	4,16	0,8	19,3
Innovation targets reached	1	4	3	3	3,5	3,04	0,56	18,48
Innovation targets not achieved	1	3,5	2	2,5	3	2,43	0,73	29,89
Leadership in innovation	1,58	4,75	3,58	4,25	4,5	4,01	0,77	19,12
Innovation support	2,73	4,36	3,36	3,64	3,91	3,6	0,43	11,82
Obtaining resources	1,75	5	2,75	3,25	4	3,36	0,93	27,74
Engagement in innovation	2,88	4,88	3,13	3,5	3,88	3,59	0,55	15,23
Communication in innovation	1,33	3,33	1,89	2,22	2,67	2,27	0,52	22,79
Difficulties and impediments	1,33	4,33	1,83	2,33	2,83	2,4	0,71	29,6
Conflict management	1,6	3,8	2,8	3	3,2	2,98	0,5	16,91
Planning and executing innovation	2,57	4,29	3,29	3,43	3,86	3,47	0,41	11,95

\* Standard deviation\*\* Variation coefficient

In a general way, all the dimensions evidenced in the research proved to be important characteristics for an innovation environment in a hospital context. Some perform better, probably influenced by other dimensions that determine these variations. This can be explained by the statistical methods applied in which, for a significance level of 5%, we have moderate, positive, statistically significant correlations in which, as one-dimension increases, the other tends to increase as well, as described in Table 5, below.

**Table 5:** Correlation analysis of the Dimensions found

Correlation	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11
D1	1	0,11	-0,15	0,4	0,31	<b>0,55**</b>	0,38	-0,07	-0,2	-0,05	0,27
D2		1	0,04	0,18	0,17	0,32	0,29	-0,03	-0,34	0,19	-0,39
D3			1	-0,21	0,1	0,04	-0,05	0,38	0,12	0,22	-0,07
D4				1	<b>0,64**</b>	0,39	0,24	-0,21	-0,24	0,18	<b>0,44*</b>
D5					1	0,3	0,38	<b>0,57**</b>	-0,37	0,06	<b>0,63**</b>
D6						1	0,04	0,11	0,18	0,32	0,22
D7							1	-0,18	-0,22	-0,04	0,17
D8								1	0,41	<b>0,45*</b>	-0,3
D9									1	0,28	-0,11
D10										1	0,18
D11											1

\*Value -  $p < 0,05$  \*\*Value -  $p < 0,01$

An interesting fact observed in these analyzes showed a statistically significant negative moderate correlation. These results denote some inverse relationships between dimensions, which would fit a new study to find out in what sense these facts, happen. However, the positive correlations happen by the natural degree of dependence between the dimensions.

## Discussion

The application of the questionnaire proposed by the research, aimed at knowing what characteristics are necessary for a hospital organization to present a favorable environment for innovation, according to the Minnesota Innovation Survey (MIS), obtained expressive analyzes, starting with the use of the Cronbach alpha test (Table 3) guaranteeing the reliability of the data, as well as its consistency. Therefore, the assumption is that the dimensions assessed represent important characteristics for an innovative environment.

The verification, in a second time, of the comparison between the dimensions studied using *Kruskal-Wallis non-parametric test* (Table 4) allowed us to identify evidence of characteristics important for the development of favorable environments for innovation in hospital organizations.

Through the *Correlation test (Pearson's correlation)* of the dimensions surveyed (Table 5), the relationship between the factors proposed by the methodology and the observed analyzes showed levels of statistical significance between them.

In the analyzes, internal dimension factors such as: Innovation goals achieved, Innovation goals not achieved, Leadership in innovation, Communication in innovation, Conflict management and Planning and implementing innovation, as having a direct implication in the process of make the environment favorable to innovation have had expressive results in the characterization of environments favorable to innovation<sup>(1-3,7,12)</sup>.

These measures were also evidenced in works such as those by Machado where the methodology was applied to describe the interaction of these factors with the organizational climate in companies of various sectors (Chemical, Research, Metallurgical, Metal Mechanics, Mining, Mechanical Industry), observing aspects of innovation (especially Leadership) on Management, Products and Processes<sup>(13)</sup>.

Still in this perspective, another study of Machado aimed to compare the behavior of these same variables, identified in three companies and relating them to the others in the same study<sup>(14)</sup>. In this perspective, La Falce et al. demonstrated the evidence the evidence of Leadership and Communication in innovation as fundamental elements, through the MIS for the understanding of the perception of innovation, research carried out with students of specialization who work in companies which have innovation in the state of Minas Gerais<sup>(15)</sup>.

Machado and Carvalho, to describe a new model for the project for the design of innovation-friendly environments based on the MIS constructs, it can be point out that Leadership in Innovation is a factor that is present in both methodologies and have more highlight in the study<sup>(16)</sup>.

In terms of communication in innovation, the study of Barzotto, aims to characterize the innovation environment of the Hospital Minister Costa Cavalcanti, located in the West of the State of Paraná, presented within the perspective of the internal dimension of MIS the results more expressive<sup>(17)</sup>.

De Carvalho *et al.* in another study of (conducted in three organizations of the metal-mechanic sector in the states of Rio Grande do Sul, Goiás and São Paulo, besides the Leadership factor, Conflict Management also related to the internal dimension of the MIS, presented as an important feature in the development of environments conducive to innovation<sup>(18)</sup>.

The components of the external dimension observed through the application of the Minnesota Innovation Survey method in this study, showed results pointing the factors: obtaining resources, support in innovation, engagement in innovation, difficulties and impediments such as those of greater relevance within the statistical analyzes of the research<sup>(10-12)</sup>. In the studies of the components: obtaining resources, engaging in innovation, difficulties and impediments were highlighted in the statistical findings of the research, corroborating the importance of these elements as characteristics that must be observed and developed during the process of creating environments for innovation. These studies also reinforce the MIS methodology as an opportune instrument for the measurement of these characteristics<sup>(13,14,16)</sup>.

The last evidence presented in the analyzes of this research was focused on the presentation of important results for the results dimension, where the main characteristic measured was the innovation satisfaction (a more significant average in the results of the comparisons of the dimensions studied, according to Table 5) which enhances the perception and efficiency of the innovative process within an organization<sup>(7-9,16)</sup>. In the comparative studies, the results of this same characteristic were evidenced in indicating as a strong indicator for the favoring of innovative environments<sup>(13-15,17,18)</sup>.

## Conclusion

In conclusion, all the dimensions studied and analyzed in this study reveal the most important and favorable characteristics for innovation within the context of hospital organizations, identified in accordance with the use of the method applied to university hospitals of the EBSEERH network, in response to the problems raised in this study and compared with other studies presented<sup>(2,5-8)</sup>. Thus, the variables related to the internal dimension proposed by the MIS methodology, such as: Innovation goals achieved, Innovation goals not achieved, Leadership in innovation, Conflict management, Communication and Planning and implementing innovation were strongly identified in the analyzes, also those related to the external dimension such as obtaining resources, support in innovation, engagement in innovation, difficulties and impediments, as well as the characteristic satisfaction of innovation linked to the results dimension, stood out in the knowledge process of factors favorable to the innovation environment<sup>(15-18)</sup>.

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