CRONBACH ALPHA VALIDATION AND CORRELATION ANALYSIS OF WORK PRACTICES MEDIATION MODEL

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ABSTRACT

Relational Coordination (RC) is the important factor to improve the performance of an organization. This project objective is to improve quality of Care provided by the hospitals in India by analyzing the parameters of RC. In order to provide better quality of care RC parameters are analyzed in selected hospitals. The relational coordination parameter is considered by Survey methodology. Relational coordination is meant for the purpose of integration of various tasks. It is the mixed combination of Communication and Relationship ties of relationship. Parameters of RC selected from the detailed literature review includes relational ties such as shared goals, shared knowledge, mutual respect and communication ties such as frequent communication, timely communication, accurate communication and problem solving communication. 2 Questionnaire has been framed one based on work practices mediation model and other based on Quality and Efficiency outcome. Both are tested for validation with the sample size of 30 to 50. Survey is conducted and the impact factor is found for better outcome. Correlation Analysis is done between various RC parameters for betterment of Quality

Keywords: Relational Coordination, HealthCare and patient perceived

I. INTRODUCTION

TYPES OF FLOW IN SCM

Flows in SCM can be divided into three types:

- Product flow
- Information flow
- Cash flow

COORDINATION IN HEALTH CARE

The group of people working for the attainment of a specific goal with mutual understanding is meant to be Coordination. Coordination, the management of interdependencies among tasks is believed to be critical for organizational performance. Well-coordinated work processes are expected to produce higher-quality outcomes. Fig 1 Its main objective is to transform relationships for high performance with sharing of common goals, sharing of knowledge and mutual respect towards each other’s work through communication that is timely, accurate and problem-solving oriented.

RELATIONAL COORDINATION (RC)

Relational coordination is meant for integration of various tasks. It is the mixed combination of Communication and Relationship ties of relationship

DIMENSIONS OF RC

The dimensions of relational coordination were analyzed through field research, and validated through various methods. The seven dimensions of RC are Frequent, Timely, Accurate, Problem Solving Communication, Shared goals, Shared Knowledge and Mutual Respect.

MEDIATION MODEL

The Mediation model framed for this study which includes the Work practices followed and the RC dimensions. With the help of this model Questionnaire is going to be framed. Further RC analysis should be based on this Mediation model. The mediation model comprise of

- Work practices
- Relational Coordination
- Quality and Performance outcome

Cross functional teamwork refers to selection criteria for care providers to check whether teamwork ability is an essential criterion for them as show in Fig 2. Cross functional rewards is to check whether rewards are based on individual performance or team criteria. Cross-functional conflict resolution can be measured by checking whether any formal conflict resolution process in place between the care providers. Cross-
functional performance measurement is measured by checking whether each of the processes carried out corresponds to quality of care provided.

Cross –functional team meetings are done to enhance participation of different functional groups and also to improve the frequency of participation.

II. LITERATURE SURVEY

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From the literature survey, it is found that there is some flaws in Health Care department due to lack of maintainance of RC parameters.

III. METHODOLOGY

Fig 3 Methodology for RC implementation

IV. PROBLEM ENVIRONMENT

Hospitals are service related organizations in which quality matters. To have the best quality of service provided to the customers, the coordination between various units of the hospital should be effective as show in Fig 4. For this thesis, we have chosen Velammal Medical College Hospital and Research Institute-Madurai to perform the study as it is one of the largest hospitals in Madurai.

Fig 4 RC Model in Indian Hospital

OBJECTIVES

The main objective of the project is,
- To improve the quality of service provided to the patients by coordinating the various tasks carried out.
- Improving dimensions of relational coordination (Communication and relationship)
- Facilitate easy and accurate sharing of information
- Quality and Efficiency outcomes

QUESTIONNAIRE 1:

CROSS FUNCTIONAL TEAM WORK:
1. How team work process lifts health care?
2. Does the patient’s health history analysis supports care providers for better performances?
CROSS FUNCTIONAL TEAM REWARDS:
6. Do you get rewarded for your individual work effort?
7. How often do you get reward for your work based on team performance?
8. Do you feel happy for the rewards you receive?
9. Does rewards received changes based on the performance of team
10. Do a new idea in a team is appreciated and rewarded?

CROSS FUNCTIONAL TEAM MEETINGS:
11. Do you participate in cross functional team meetings regularly?
12. Does the meeting conducted help to reach the organizational goals?
13. Do you participate in cross functional team meeting conducted by other departments?
14. Does planning and Timing is followed in Team meetings?
15. Does the cross functional team meetings enhance your skills?

CROSS FUNCTIONAL CONFLICT RESOLUTION PROCESS:
16. Do you have a formal Conflict resolution method when subjected to problem?
17. Do your Team members help you to solve your problems?
18. Do you ever felt a conflict with the other care providers?
19. Do you think Cross functional conflict occurs due to lack of communication from top to bottom level in your organization?
20. Do you think cross functional conflict will affect the service given by care takers?

CROSS FUNCTIONAL PERFORMANCE MEASUREMENT:
21. Does cross functional approach influences patient staying duration in hospital?
22. How problem solving approach influences patient’s length of stay?
23. Does cross functional team meeting carried out influences patient’s length of stay?
24. Does patient’s length of stay is influenced by cross functional reward?
25. Does cross functional conflict resolution enhance patient’s length of stay?
26. Does the cross functional team work among Care takers support patient’s length of stay?
27. Cross functional approach and service quality have what type of relationship?
28. Does Service quality is enhancing by Problem solving approach?
29. Does the cross functional team meeting carried out increases service quality?
30. Does the cross functional rewards to the providers improve service quality?
31. Does Service quality is improved by cross functional conflict resolution?
32. Does the impact of cross functional team work made impact in service quality.

RELATIONAL COORDINATION:
33. Do you share information with other co workers in your department periodically about the patients?
34. Do you communicate with the persons outside your department about the patients?
35. Does Timely communication is going on in your department regarding the patient’s health?
36. Does Timely communication is going on with other department people regarding the patient’s health?
37. Does accurate communication is carried out inside your department about the patients?
38. Does accurate communication is carried out with other department people about the patients?
39. Do the persons in your department come forward to solve the problem of the patients at critical situation?
40. Do the persons outside your department come forward to solve the problem of the patients at critical situation?
41. Do you get proper respect in your department for your work?
42. Do you get proper respect outside your department for your work?
43. Do your goals are get shared outside your department for the care of the patients?
44. Do your goals are get shared outside your department for the care of the patients?
45. Do the members in your know about your role in caring for the patients?
46. Do the members outside your department know about your role in caring for the patients?

VALIDATING A QUESTIONNAIRE
First, we should validate the RC dimensions to check the internal consistency. For this we are going to use individual responses through survey. For index validity, Cronbach alpha should be greater than 0.70 for an exploratory study, and greater than 0.80 for a non-exploratory study (Nunnally, 1978).

CRONBACH ALPHA
Coefficient of internal consistency is tested by Cronbach alpha. It is used as an estimate of the reliability of variables. This was named by alpha by Lee Cronbach. The expression was derived from Kuder–Richardson Formula.

\[ \alpha = \frac{K}{K-1} \left(1 - \frac{\sum_{i=1}^{K} \sigma_{Y_i}^2}{\sigma_X^2} \right) \]

K- Number of questions
\( \sigma_X^2 \) Variance of total number of choices by variables
\( \sigma_{Y_i}^2 \) Variance of number of samples.
The Cronbach alpha calculation to test the reliability of the questionnaire is shown below. This Cronbach alpha calculation done in MS Excel can also be done using SPSS Software. Show results in Fig 5 & 6. The calculations are done based on the scores from the questionnaire which was responded by 50 respondents. Since it is for validation only a sample of respondent is chosen to test the reliability.

For all the questions the respondents answered them based on a seven-point Likert scale. Based on the answered values variance for each question was calculated in the excel sheet.

Here, From the result, it is found that the Cronbach alpha value is 0.925225036 which shows the internal consistency is in Excellent level. So, it is Feasible to continue the survey further.

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Fig 5 Acceptable alpha values for checking internal consistency

TABLE 1 Shows the correlation analysis of wor practices mediation model

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Fig 6 Cronbach alpha calculation for Questionnaire 1

Fig 7 Cronbach alpha calculation for Questionnaire 2

Here, From the result it is found that the Cronbach alpha value is 0.8996 which shows the internal consistency is in Appropriate level for Quality outcomes

CORRELATION ANALYSIS
Correlation is used to analyze relationship stability between two dependent or independent variables. The Pearson Correlation is one type of correlation used in our research. This type of correlation is also known as linear or product-moment correlation.

Coefficient of Correlation = Covariance of two variables/product of their STD Dev
For my thesis work, correlation analysis was done for the 12 variables taken for study. The results from SPSS suggests that, each variable has a strong relationship with one or many other variables at a significance level of either 0.05 or 0.01. Generally, for study purposes the significance level chosen would of 0.05.
The results of correlation analysis suggest that all work practices have a strong relationship with at least any one of the Relational coordination dimensions which clearly indicates that the mediation model is positive. The output thus obtained indicates that there exists a correlation (either positive or negative) for each of the variables with one or more other variables. For a significant level of 0.05 when the p value falls below 0.05 i.e., p<0.05 then the null hypothesis will be rejected and subsequently alternate hypothesis gets accepted. Hence it can be inferred that the variables chosen for study has some relationship among them.

RESULT AND DISCUSSION
CRONBACH ALPHA:
The (Cronbach alpha) value of questionnaire collected from the Staffs is 0.925. This shows that the internal consistency is in excellent level. Similarly, the (Cronbach alpha) value of questionnaire collected from the patients is 0.89. This shows that the internal consistency is in appropriate level.

CORRELATION ANALYSIS:
For my thesis work, correlation analysis was done for the 12 variables taken for study. The result from SPSS suggests that, each variable has a strong relationship with one or many other variables at a significance level of either 0.05.

The output thus obtained indicates that there exists a correlation (either positive or negative) for each of the variables with one or more other variables. For a significant level of 0.05 when the p value falls below 0.05 i.e., p<0.05 then the null hypothesis will be rejected and subsequently alternate hypothesis gets accepted.

The results also suggest us that when the Relational coordination dimensions (7 dimensions) are increased the work practices that are dependent on it are also increased. The extents to which the Work Practices vary are also determined and it clearly gives us an idea about the relational coordination dimensions that are critical to quality outcomes and efficiency out comes as well. These Relational coordination dimensions are the core areas on which the management has to focus to improve the overall quality of care provided to the patients.

CONCLUSION
In service industries like hospitals, the quality of care provided to the customers plays a key role in customer satisfaction. To obtain this the relational coordination among departments at Velammal Medical College Hospital and Research Institute by effectively analyzing the relational coordination parameters among the departments. Questionnaire has been framed and tested for validation using sample data and has found to be well within the range. The questionnaire framed is based on the seven dimensions of relational coordination with 2 question from each parameter and 32 questions from work practices. This survey will be conducted based on the questionnaire framed and the results are analyzed by comparing with the best practices. At the end of the thesis possible improvements that can be implemented are proposed by analyzing the results of the survey conducted. The

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*correlation is Significant at the 0.05 level (2-tailed), **Correlation is Significant at the 0.01 level (2-tailed)
solutions obtained by this project can be generalized for application in other hospitals and other service industries by altering the questionnaire design based on the respondents and the area where we are applying.

REFERENCES