Relational Coordination in Higher Education Institutes: Identification of the Weak Links

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Abstract

Students' academic success in Higher Education Institute (HEIs) is highly dependent on effective communication and coordination of its human resources. Relational coordination (RC) explain the performance of tasks that are carried out through coordination and communication among several individuals or groups of individuals. This research aimed to measure the degree of Relational Coordination (RC) among professionals (faculty members, program coordinators, administrative staff, departmental heads and top management) as they perform coordinated tasks targeted at students' academic success and to identify the week links (where RC is lower) in a reputable private sector HEI in Peshawar, Pakistan. The three relational dimensions i.e., shared goals, shared knowledge, and mutual respect, and four communication dimensions i.e., frequent, timely, accurate, and problem solving communication, for task integration were used to assess relational coordination. Findings suggested that within functions relational coordination for Head of Departments and Top Management is relatively stronger while it is weaker for functional groups of Faculty members and Program Coordinators and weakest for functional group of Administrative staff. Between groups RC is weakest for 'Program Coordinators and Administrative Staff', 'Head of Departments and Administrative Staff' and 'Faculty members and Administrative Staff'. These are the three weakest links, which calls for interventions on part of management of HEIs.

Keywords: *Relational Coordination, Relational Coordination Theory, Higher Education Institutes (HEIs), Weak links*

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Introduction

Higher Education Institutes (HEIs) today are growing more and more complex and so are the tasks and activities performed to carry out the various facets of jobs. Many complex tasks performed in modern organizations cannot be completed solely by a single individual, rather a (functional or cross-functional) groups of individuals are required to perform such tasks successfully. Relational coordination (RC) is a relatively new concept, that explain the performance of tasks that are carried out through coordination and communication among several individuals or groups of individuals typically from different functional areas. Relational coordination (RC) is defined as, "a mutually reinforcing process of communicating and relating for the purpose of task integration, that is expected to drive performance when work is highly interdependent, uncertain and time constrained" (Gittell, 2003). RC explains that how interdependent tasks are managed by groups of individuals, workgroups or even organizations in situations of uncertainty and time constraints in swiftly varying circumstances (Kamatchi, Selwin & Prasad, 2015).

Relational coordination theory (RCT) introduced by Gittell (2003) explains the relational process underlying the technical process of coordination and states that coordination not only involves the management of interdependence between tasks but also between the people who perform those tasks. RCT proposes three relational dimensions i.e., shared goals, shared knowledge, and mutual respect, and four communication dimensions i.e., frequent, timely, accurate, and problem-solving communication that work together in effective coordination of work. The theory explains the influence of relational forms of coordination on quality and efficiency outcomes and rather than signifying formal organizational structures as obstructions or substitutes to relational coordination, state that formal organizational structures can well be designed to support relational forms of coordination.

Students success in Higher Education Institute (HEIs) is highly dependent on effective communication and coordination of its human resources. This study aimed to measure the degree of relational coordination among employees (faculty members, program coordinators, administrative staff, departmental heads and top management) as they perform coordinated tasks targeted at students' academic success, and to identify the week links (where RC is lower) in a reputable private sector HEI in Peshawar, Pakistan. The seven dimensions of communicating and relating for task integration were used to assess relational coordination. Findings revealed that within functions relational coordination for head of departments and top management is relatively stronger while it is

weaker for functional groups of faculty members and program coordinators. However, weakest relational coordination is within the functional group of administrative staff. Findings for between functional groups revealed that relational coordination is stronger among program coordinators and head of departments, it is relatively weaker between faculty members and program coordinators, faculty members and head of departments, program coordinators and top Management and top Management and administrative staff. However, the weakest relational coordination is between 'faculty members and administrative staff', 'head of departments and administrative staff' and 'program coordinators and administrative staff'.

Problem Statement & Research Question

Relational coordination is proved to have significant positive impact on quality and efficiency outcomes of the coordinated work practices in health-care, airline, banking and other sectors. The need for innovation in the current management and administration in HEIs and restructuring of current systems is important for quality and efficiency outcomes. To examine the relational coordination among professionals in HEIs as various essential tasks are performed through interaction of individuals from different functional groups is a necessary first step prior to the development of specific coordination and teamwork improvement interventions. To improve relational coordination, it is important to identify the weak links (areas of lower relational coordination) and to propose suitable interventions to provide directions and recommendations for HEIs policy makers. Specific research questions of the study were:

- What is the degree of relational coordination among HEIs employees while they coordinate the tasks targeted at student success?
- Among which groups of employees, the relational coordination is significantly low?

Literature Review

Relational Coordination

Organizational work that produces best outcomes is more often labeled as high-performance work systems, high-involvement work systems, and high-performance human resource management. All of such concepts recognize the worth of capitalizing on the employees. Gittell (2003) presented a view that essentially outspreads beyond commitment

of employees, worker's skills and motivation level as conjecturers of organizational quality. Rather, she incorporates employee-to-employee relationships as additional causal mechanism that effects performance of an organization by introducing the Relational Coordination Theory (RCT). RCT recognizes the reciprocally reinforcing process of interaction between relationships and communication carried out for the purpose of task integration. Coordination includes managing the tasks interdependence as well as interdependence among the tasks performers (Gittell, 2003). According to Siddique (2014) relational coordination is considered as an emergent theory for distinguishing the relational dynamics of coordination work and specifically refers to consolidation of an organization's tasks and activities for the purpose of achieving stated and implied goals.
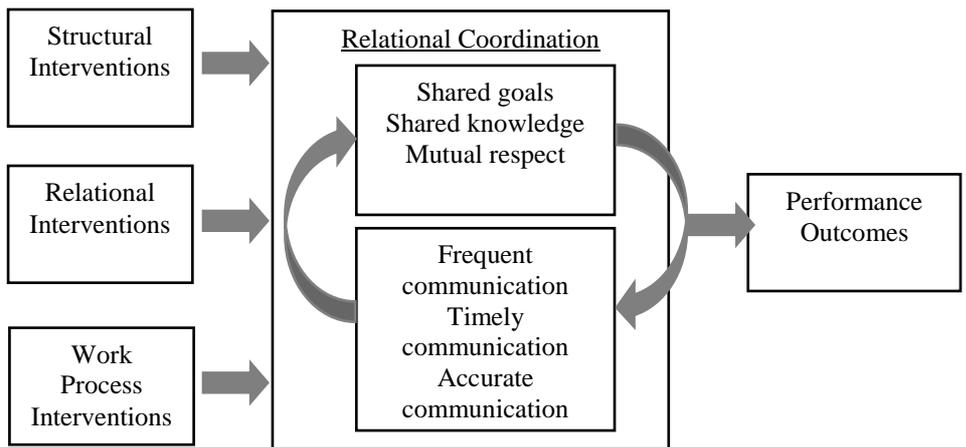

Figure-1: A model of relational coordination (Source: Gittell, 2003)

RCT presents that organizational work results in quality outcomes through a reciprocally reinforcing web of relationships and that of communication carried out for task integration (Gittell, 2003). Increasing levels of task interdependence, time constraints and uncertainty are typical characters of organizational work. Gittell (2011) state that tasks interdependence results in feedback loops among the tasks, thus increased relational coordination is required among the participants for mutually adjusting their activities in response to the results of each other's tasks. RCT specifically proposes that both outcomes of efficiency and quality can concurrently be improved, moving beyond the typically found efficiency and quality tradeoffs (Gittell, 2006; Gittell & Logan, 2015). The theory effectively hypothesizes that the quality and efficiency

outcomes are simultaneous effected by relational coordination, especially in the conditions of reciprocal interdependence of task, uncertainty of task or input, and time constraints. Positive associations have been established between a varied range of risk-adjusted outcomes, including quality, efficiency and worker outcomes and relational coordination over the years of research (Gittell & Logan, 2015). RCT proposes three relational dimensions i.e., shared goals, shared knowledge, and mutual respect, and four communication dimensions i.e., frequent, timely, accurate, and problem solving communication that work together in effective coordination of work.

Relational Dimensions: Shared Goals, Shared Knowledge, and Mutual Respect

The relational dimensions of relational coordination are task-based relationships rather than personal ties and are theorized as ties among work roles rather than individuals performing the tasks. Relationships of shared goals, shared knowledge, and mutual respect enable employees to produce products or deliver service that best suits customer needs (Coffey, 2015). According to Gittell (2012) these relationships empower workers to connect in a meaningful way across boundaries allowing them to coordinate "on the fly" increasing their ability to improvise when needed. Shared values and objectives of a workgroup leads to reinforcement of relationships (Hackman, 1990) and increased productivity (Lacayo-Mendoza & Pablos-Heredero, 2016). With shared goals participants coordinate specific functional goals that encourage an environment in which promote problem-solving, rather than blaming each other. Shared knowledge among group members leads to building trust and teamwork effectiveness (Lacayo-Mendoza & Pablos-Heredero, 2016) and productive interactions (Hoegl & Gemuenden, 2001). Shared knowledge helps participants to see the interrelation of their specific tasks with the whole process and to comprehend the other's role, thus enabling them to communicate accurate information timely. Gittell (2011) state that mutual respect can help remove the barrier of status among participants. It encourages the receptivity to communication between participants regardless of their relative status and promote the development of shared goals and shared knowledge (Gittell, Beswick, Goldmann, & Wallack, 2014).

Communication Dimension: Frequent, Timely, Accurate and Problem-solving

The three relational dimensions reinforce and are reinforced by specific dimensions of communication that support coordination and high

performance, namely frequency, timeliness, accuracy and a focus on problem-solving (when problems arise) rather than blaming. Group members should be constantly connected via solid communication channels possible that allow for feedback and problem solving (Tushman, & Nadler, 1978; Katz & Tushman, 1979). Frequent communication helps to build relationships through the familiarity that grows from repeated interaction (Gittell, 2012). Team leaders should strive to enhance frequent communication among members (Rogers & Kincaid, 1981). Beside frequency, time of communication is also very important (Pinto, & Pinto, 1990; Brodbeck, 2001; He, Butler, & King, 2007) as achievement of organizational goals depends upon the communication to be taken place in the precise moment (Waller, 1999). Delayed communication may result in errors or delays, with negative implications for organizational outcomes (Gittell, 2012). The effective coordination of work also depends on accurate communication as well. Relevant and accurate communication is critical for work group effectiveness as it aid in achievement of goals and implementation of HR strategies (Goggin, Bowman, Lester, & O'Toole, 1990). Gittell (2012) stated that if information is inaccurate, either an error will occur, or instead a delay will occur as participants halt the process to seek more accurate information. Task interdependencies often result in problems that require joint problem solving therefore, effective coordination requires participants to engage in problem solving communication (Gittell, 2012). Blaming other workgroup members can harm organizational outcomes (Deming, 1986) while problem solving communication can help to adopt positively to unforeseen circumstances (Lacayo-Mendoza & Pablos-Heredero, 2016).

Relational Coordination and HEIs

Higher levels of relational coordination can result in improvement of academic excellence in higher education institutes. Teaching and learning in HEIs is largely dependent on effective coordination of the employees as this will lead to enhanced knowledge, mutual respect and exchange of ideas (Smith, Rainie, & Zickuhr, 2011). Relational coordination model is successfully applied in various industries like healthcare (Gittell, 2009; Havens, Vasey, Gittell, & LIN, 2010; Gittell, Weinberg, Bennett & Miller, 2008), airline (Gittell, 2001; Gittell, 2006) and banking (Siddique, 2014). In HEIs the role of relational coordination is studied in various contexts such as its relevance to improve competitive position through digital social networks (Lacayo-Mendoza, & Pablos-Heredero, 2016) and levels of teacher satisfaction in the e-learning context (Margalina, et, al., 2014). Increased level of

relational coordination among members of HEIs is expected to enhance quality of education (Lacayo-Mendoza, & Pablos-Heredero, 2016).

Measurement of Relational Coordination

Relational coordination can be measured and analyzed to determine the communication and relationships networks through which work is coordinated across functional and organizational boundaries. RC can be measured using "The Relational Coordination Survey" (Gittell, 2003) which is a Likert format scale measuring the four dimensions of communicating (frequency, timeliness, accuracy of communication and problem-solving communication) and three dimensions of relations (shared goals, shared knowledge, and mutual respect) between workers as they interact on the job. The participants are surveyed in a particular work process about their communication and relationships with other participants in that work process (Gittell, 2012). Because coordination is the management of interdependencies between tasks, and because people are typically assigned to tasks through their roles, relational coordination is measured as coordination between roles rather than between unique individuals.

Interventions: Relational, Work Process and Structural interventions

To improve relational coordination and to achieve quality and efficiency outcomes, three kinds of interventions needed are Relational, Work Process and Structural Interventions (Gittell, 2012). Intervention should be inclusive of all groups to strengthen all ties, and avoid backlash. According to Gittell (2009) interventions should focus on work process to give all groups something to work on together and improving relationships for the purpose of improving performance outcomes. Relational interventions may focus to build the new relational dynamics. Participants need a safe space for trying out new ways of communicating and relating. Participants need psychological safety to speak up and to admit they don't know everything. Work process interventions needs to connect new relational dynamics to improvements in the work itself. Work process improvement creates opportunity to build shared goals, shared knowledge and mutual respect (Gittell, 2011). Gittell (2011) further add that structural interventions are required to support the new relational dynamics. Structural changes will be needed to sustain the new relational dynamics or people will return to their previous ways of working.

Methods

This research study used a cross-sectional, descriptive design to answer the research question. Survey design was used to measure the responses of the individuals participating in coordinated tasks with regard to the degree of relational coordination. The use of survey design was considered appropriate as it provides easiness to gather data from a broad sample and also enhance the generalizability of research findings (Kerlinger & Lee, 2000). The first step in measuring relational coordination is to identify a work process that serves a client population of interest termed as the focal work process (Gittell, 2012). In this case students' academic success was selected to be the focal process. Second step is then to identify the roles or functional groups that are involved in carrying out that focal work process (Gittell, 2012). While providing quality education many tasks are performed through interaction and coordination of various individuals or group of individuals. It is helpful to conduct informational interviews to identify all functional groups that are expected to impact the quality and efficiency outcomes of that focal work process (Gittell, 2012). Thus, interviews were conducted to identify functional groups involved in the selected work process. The identified groups included faculty members, program coordinators, head of departments (HODs), top management and administrative staff.

Population and Sample

The population for the study included professionals working in a reputable private sector HEI providing educations at graduate and under graduate level. Administering the 'Relational Coordination Survey' to all the participants in various functional groups of the focal work process was not feasible due to time and cost constraints. For smaller groups (i.e., HODs, program coordinators and top management) all the participants were surveyed, while for larger groups (i.e., faculty members and administrative staff) a sample of respondents was selected based on simple random sampling after obtaining relevant data of the participants at the site of the study.

Measures

Relational Coordination was measured using "The Relational Coordination Survey" (Gittell, 2003) which is a Likert format scale measuring the four dimensions of communicating (frequency, timeliness, accuracy of communication and problem-solving communication) and three dimensions of relations (shared goals, shared knowledge, and mutual respect) between workers as they interact on the job. The Relational Coordination Survey is previously used in patient care coordination study by Gittell (2009) and Cronbach's alpha was found to

be 0.86 (N=338). Additional studies have provided evidence that the relational coordination construct is generalizable to work processes in surgical care (Gittell, 2009), medical care (Gittell, Weinberg, Bennett & Miller, 2008; Gittell, Godfrey, & Thistlethwaite, 2013), financial sector (Siddique, 2014) and the criminal justice system (Bond & Gittell, 2010). The measure is a 5-point scale (1 = never; 5 = constantly/always), and the data identify networks of connections in an integrated work process. Higher relational coordination scores reflect better relational coordination in interdependent work processes. Specifically, within work group scores less than 4 are weak and greater than 4.5 are strong; between work groups' scores less than 3.5 are weak and greater than 4 are strong. To lessen the problem of socially desirable responses to survey questions, the relational coordination survey asks respondents to report the behaviors of *others* as opposed to being asked to report their own behaviors.

Data Analysis, Results & Discussion

Computing relational coordination score

Relational coordination score was first computed for each individual respondent, by computing a variable for each of the seven dimensions of relational coordination and then aggregating the scores into one single score for relational coordination for each respondent. In order to assess relational coordination at the dyadic level, five new variables for each survey respondent were computed–one for relational coordination with faculty members, another for relational coordination with program coordinators and so on. The aggregation of scores on these new variables that measure relational coordination with each individual functional group (including employees own functional group) were placed into a matrix diagram. To avoid biasness, of relational coordination score due to the over or under-representation of a functional group, a weighted RC score, was computed for each functional group following procedure used by (Gittell, 2011)

Factor Analysis and Cronbach's Alpha

Results of Confirmatory Factor Analysis suggested that relational coordination was best characterized as a single factor. Factor loadings for all the items were in acceptable range (1.59 to .81), thus none of the items were dropped. Chi-square (χ^2=269.84, p=.83), Goodness of Fit Index (GFI=.76), Comparative Fit Index (CFI=.81), Root Mean Square Error of Approximation (RMSEA=.061) and Root Mean Square Residual (RMR=.59) were also within acceptable ranges. Cronbach's alpha was 0.86, suggesting that this construct has a high level of reliability.

Analyzing the Patterns of Relational Coordination

Patterns of relational coordination found between different functional groups were analyzed by developing a Dependency Structure Matrix, as proposed by Sosa, Eppinger & Rowles (2003) which is used to visualize the patterns of relational coordination.

Table-1: Symmetrical Matrix of Relational Coordination Ties

Functional Group	Faculty Member	Program Coordinator	Head of Department	Top Management	Administrative Staff
Faculty Member	**3.537415**	3.170068	3.170068	2.544218	2.265306
Program Coordinator	3.865079	**3.825397**	4.000000	3.198413	2.833333
Head of Department	3.761905	4.238095	**4.047619**	3.523810	2.619048
Top Management	3.761905	3.619048	4.190476	**4.285714**	3.476190
Administrative Staff	2.934066	2.857143	2.780220	2.461538	**2.703297**
Total	3.549107	3.433036	3.502232	2.966518	2.660714

Table-1 shows patterns of relational coordination within functional groups and among functional groups. Within-function ties are highlighted in bold. Results shows that within functions relational coordination for Head of Departments (RC= 4.0) and Top Management (RC=4.2) is relatively strong while it is weak for functional groups of Faculty members (RC=3.5) and Program Coordinators (RC=3.8). However, weakest relational coordination is within the functional group of Administrative staff (RC=2.6). Table 1 also shows that within-functions ties reported by any given functional group tend to be stronger than the between function ties.
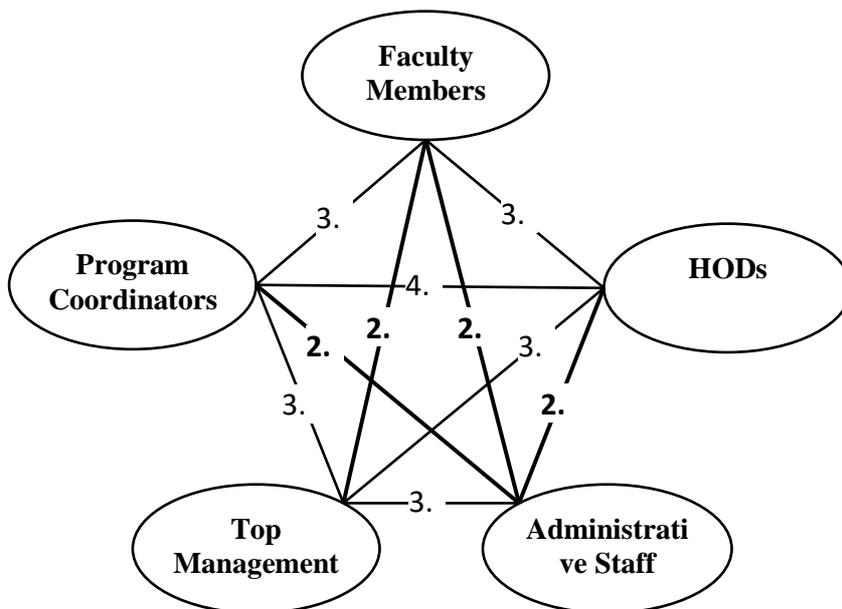
Figure-2: Strength of relational coordination between functional groups.

From the results (Table-1) the strength of relational ties between each of the functional groups in the study can be observed and it can be assessed where ties are weakest, and where they are strongest. Between work groups' scores less than 3.5 are considered to be weak and greater than 4 are considered to be strong. Figure-2 shows that relational coordination is stronger among Program Coordinators and Head of Departments (RC=4), it is relatively weaker between Faculty members and Program Coordinators (RC=3.1), Faculty member and Head of departments (RC=3.1), Program Coordinators and Top Management (3.1) and Top Management and Administrative staff (RC=3.4). However, the weakest relational coordination is between Program Coordinators and Administrative Staff (RC= 2.8), Head of Departments and Administrative Staff (RC= 2.6) and Faculty members and Administrative Staff (2.2). These are the three weakest links, which calls for interventions on part of management of HEIs.

Table 2: Results of ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.035	4	2.509	4.294	.004
Within Groups	34.469	59	.584		
Total	44.504	63			

Results of ANOVA

Table-2 presents the results of one-way analysis of variance. The results suggested that the differences in relational coordination between the five functional groups are significant.

Results of t-statistic

Independent sample t-statistic was used to assess the significance of differences at dyadic level i.e., between any two groups.

Table-3: Results of t-statistic

Functional Groups	RC	t	df	Sig. (2-tailed)	Levene's Test F	Sig.
Faculty Members → Program Coordinators	3.17	-2.803**	37	**.008**	2.283	.139
Faculty Members → Head of Departments	3.17	-3.317**	18	**.004**	5.208	.031
Faculty Members → Top Management	2.54	-2.887**	25	**.008**	1.089	.307
Faculty Members → Administrative Staff	2.26	.537	18	.598	6.728	.014
Program Coordinators → Head of Departments	4.00	-.358	22	.724	.893	.355
Program Coordinators → Top Management	3.19	-1.159	22	.259	.020	.888
Program Coordinators → Administrative Staff	2.83	2.298*	16	**.035**	12.25	.002
Head of Departments → Top Management	3.52	-.877	10	.401	3.642	.085
Head of Departments → Administrative Staff	2.62	2.578*	15	**.020**	12.35	.003
Top Management → Administrative Staff	3.47	2.903**	16	**.010**	6.674	.010

Table-3 shows that the differences were significant between all the groups accept for (1) faculty members and administrative staff, (2) program coordinators and head of departments, (3) program coordinators and top management, and (4) head of departments and top management.

Limitations & Future Research Directions

This study has a number of limitations, which can be addressed by future research. First the data for this research was gathered from one organization, which raise issues of generalization to other type of organizations. Generalizability may be increased by extending the study to other types of organization settings. Second, the study was based on cross-sectional data collected at one point in time. Future research might address this issue by using experimental and longitudinal designs. Third, the current study's focus is restricted to identification of weak links only, however, future studies can focus on development of specific interventions. Finally, other studies should replicate this study in other settings and explore the level of relational coordination in other types of organizations in further detail in those settings.

Implications & conclusion

Relational coordination (RC) explain the performance of tasks that are carried out through coordination and communication among several individuals or groups of individuals. This research contributes to literature of relational coordination by exploring it in higher education context of Pakistan. The findings revealed that the level of relational coordination among several groups was significantly lower (the weak links). Thus, specific teamwork and structural interventions are required in relation to those groups to enhance the level of relational coordination.

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