

THE RELATIONSHIPS BETWEEN INFORMAL ASPECTS OF COORDINATION, INTERDEPENDENCY AND INDIVIDUAL EFFECTIVENESS

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ABSTRACT

Individual workgroup members are likely to experience interdependency within their organisational groups. Multiple interdependency (Lindenberg 1997, Rispens 2007) and relational coordination (Gittell 2000a, 2000b) theories provide a basis for analysing how coordinating different types of interdependency affect individual workgroup members' effectiveness. This paper discusses together with task, the cognitive and affective interdependencies (which form part of the informal aspects of coordination) among individual workgroup members.

1.0 INTRODUCTION

For many years, researchers have tried to disentangle the complex nature of these relationships through developing and studying several dimensions of interdependency and how they are related to effectiveness (e.g. Lindenberg 1997, Gittell 2000a, 2000b, 2003, Gittell & Weiss 2004, Faraj & Xiao 2006, Rispens 2006, Gittell *et al.* 2008a), to name just a few.

Coordination of interdependencies has been considered an important part of management within organisations in order to achieve desired performance outcomes (Gittell & Weiss 2004, p.127). Others have put it even more succinctly, saying that the need for coordination is a result of the fact that interdependencies do exist. For example, Malone and Crowston (1994, p. 90), stated: '*if there is no interdependence, there is nothing to coordinate*'. Malone and Crowston (1994) were among the first to propose an interdisciplinary study of coordination. Earlier, Thompson (1967) distinguished three types of dependencies within organisations: pooled, sequential, and reciprocal, - with corresponding coordination mechanisms, - which he arranged in order of increasing strength. In view of this background, this paper discusses both formal and informal aspects of coordination, and states the need and/or importance of the informal aspects of coordination in the current business era, with a view to provide a basis for the understanding of the informal and/or social aspects of coordination.

This paper emphasises that among the coordination mechanisms and the intentional actions as argued by the past researchers, there are also unintended or unexpected occurrences and/or actions of coordination. These unintended or unexpected events can be understood in terms of communication through informal ways of sharing information, feelings, and friendships, and that these informal ways in turn affect how employees coordinate their interpersonal interdependencies (Rispens 2006, p. 3). More specifically, recognising that

interpersonal interdependencies of workgroup members underpin the collaboration and communication skills which are needed for promoting a positive interdependence and interaction (Johnson & Johnson 1995, 1999) among the individual work group members is important. In fact, Harris and Harris (1996) termed skills such as ‘caring for another’, ‘friendliness’, ‘showing warm feelings’, and ‘offering team members support when needed’, as ‘invisible skills’, and they reinforced that these ‘invisible skills’ are an important element of effective coordination. Harris and Harris (1996, p. 29) reiterated that ‘... *communication at both the cognitive and feeling levels [affective]*¹ is what determines the success or failure of the team’. According to Tarricone and Luca (2002), the synergy between the informal aspects of coordination and interdependency is in turn expected to have positive association with an individual’s effectiveness in an organisation.

Coordination has traditionally been viewed as an information-processing paradigm by organisation design and contingency theorists (e.g. Lawrence & Lorch 1967, Galbraith 1977, Tushman & Nadler 1978). As time progresses, however, coordination is being understood to be a relational process (Gittell *et al.* 2008a, p. 155) as well, involving shared understandings of the work and the context in which it is carried out (e.g. Weick & Roberts 1993, Crowston & Kammerer 1998, Faraj & Xiao 2006).

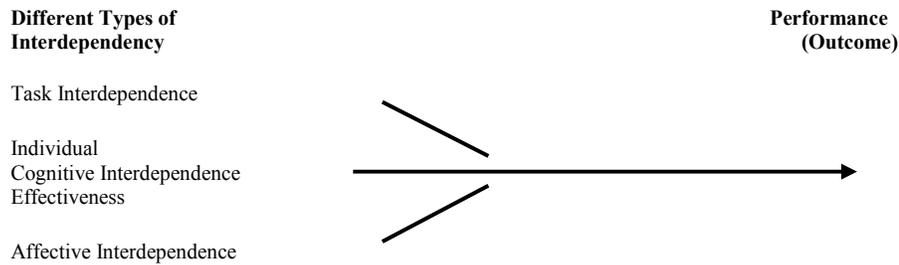
Gittell (2006) discusses the theory of relational coordination where she argues specifically that the effectiveness of coordination is determined by the quality of communication among participants in a work process (e.g. its frequency, timeliness, accuracy, and focus on problem solving rather than on blaming (Gittell *et al.* 2008a, p. 155)), which depends on the quality of their underlying relationships, particularly the extent to which they have shared goals, shared knowledge, and mutual respect (Gittell 2006, p. 75).

However, Rispens (2006) commented on Gittell’s work on relational coordination by saying that there is some missing attention and lack of conceptual clarity of informal coordination in Gittell’s work. Recognising Rispens’ (2006) view and the importance of the informal aspects of coordination, in which coordination can be viewed as an intertwined process between coordination and interdependency in an organisation.

As more and more organisations are installing workgroups and teams (Kozlowski & Bell 2003) in the belief that it is the most effective way of organizing (Tjosvold 1991), this paper addresses the importance of individuals in such workgroups as the backbone of an organisation.

Diagram Illustrating the Relationships between Different Types of Interdependency and Individual Effectiveness (Source: Developed for this paper)

¹ Emphasis added



2.0 COORDINATION IN ORGANISATIONS

It is undeniable that coordination is an important topic in organisational theory. In 1958, March and Simon found that work in organisations could be coordinated not only through pre-specified programs but also by mutual adjustment. This is because organisations have become more reliant on common ties and information sharing, or knowledge interactions (Argote 1999). Studies have proven that good coordination of work processes produce higher-quality outcomes more efficiently. Some examples since the 1970s have included those in the field of research and development (Tushman 1979, Allen 1984), new product development (Clark & Fujimoto 1991, Iansiti & Clark 1994), apparel production (Abernathy *et al.* 1999), healthcare delivery (Argote 1982, Shortell *et al.* 1994, Young *et al.* 1998, Gittell 2000a, 2000b), air travel (Gittell 2001), trauma units (Faraj and Xiao 2006) and more recently, nursing homes (Gittell *et al.* 2008a).

3.0 INFORMAL ASPECTS OF COORDINATION

One can appreciate the fact that coordination was traditionally seen as an information-processing problem (Gittell *et al.* 2008b) to be resolved by designing appropriate coordinating mechanisms to ensure that the necessary information does flow between people who play different roles within the division of labour (Galbraith 1977, Tushman & Nadler 1978), however, coordination has come to be seen as a relational process occurring through a network of relationships among people whose tasks are interdependent (Gittell 2008). Focusing on the pre-planned coordination also has its disadvantages as it makes it more difficult to explain the coordination-performance link because there are always unexpected or unintended occurrences besides the intentional actions in any organisation (Cunha & Cunha 2002). In other service settings, such as the airlines, task interdependencies are not the simple sequential handoffs found on production lines, but rather are iterative, requiring feedback among staff as new information emerges regarding a given situation. Moreover, problems of coordination at social levels may arise even if the task interdependencies are efficiently coordinated (Jones 1984).

A more recent view suggests that by integrating, team members learn the expertise and gain knowledge about their job functions and dynamically adjust their own behaviour accordingly, without having to communicate directly with each other or plan the activity (Rico *et al.* 2008). By doing so, it assists them in coordinating implicitly (Cannon-Bowers *et al.* 1993, Klimoski & Mohammed, 1994, Wittenbaum *et al.* 1996, Levesque *et al.* 2001, Espinosa *et al.* 2004, Lim & Klein 2006). This informal and/or social side of coordination seems to broaden our understanding of the way team members coordinate by interacting.

Also in recent years, various research streams and their findings provide general support for the phenomenon of the social side of coordination, and include things such as interpersonal communication (roles, norms, and status) (Kiesler 1978), values and self-regulating teams (Cummings 1978), expectations (Alderfer & Smith 1982), and cross-functional liaisons (Gittel 2001, 2002a, 2002b, 2003, 2008), - to name just a few. This has led to our understanding that the informal (social) and/or spontaneous aspects of coordination is equally as important, (if not more important), than the formal aspects of coordination.

It may be perhaps due to the limited clarity of the spontaneous or informal aspects of coordination that had convinced Gittel (2000a, 2000b, 2002a, 2002b), Gittel & Weiss (2004), Gittel *et al.* (2008a) and Rico *et al.* (2008) to carry out research on the informal side of coordination, and Olivera & Argote (1999), Levesque *et al.* (2001), Mohammed & Dumsville (2001) and more recently, Hee (2008) on the role of shared cognition in the coordination process.

Gittel (2000a, 2002a), Gittel and Weiss (2004) and Gittel (2008) studied the spontaneous side of coordination which Gittel called relational coordination. The theory of relational coordination argues that interdependencies between tasks create interdependencies between people who perform those tasks and that relationships therefore play an integral role in coordination (Gittel 2003). Relational coordination is seen as '*... a mutually reinforcing process of interaction between communication and relationships, carried out for the purpose of task integration ...*' (Gittel 2002b, p. 300), - and is comprised of frequent and timely problem-solving communication which supports, and is supported by, relationships of shared goals, shared knowledge, and mutual respect (Gittel *et al.* 2006).

4.0 INTERDEPENDENCY

Interdependence means that a change to one part of a system leads to or results from changes to one or more other parts (Victor & Blackburn 1987). Interdependence can also be understood as the degree to which the actions and outcomes of one unit are controlled by or are contingent upon the actions of another unit (Victor & Blackburn 1987, p.490).

Interdependence is an important aspect when studying coordination, since it is interdependency that requires coordination (Thompson 1967, Galbraith, 1973, Malone & Crowston 1994). Any work group unites employees in a more or less interdependent fashion. Work group members depend on each other for successful job completion and for the achievement of superordinate goals and desired outcomes (Cheng 1983, Van de Ven *et al.* 1976, Guzzo & Shea 1987 & 1992, Gittel *et al.* 2008a). A number of empirical studies have acknowledged the role of interdependence in the work groups (e.g. Thompson 1967, Saavedra *et al.* 1993, Wageman 1995, and Gittel 2002a, 2002b). Interdependence is also an important aspect in the coordination-performance link (Guzzo & Shea 1992, Campion *et al.* 1993, Saavedra *et al.* 1993, Campion *et al.* 1996, Gittel *et al.* 2008a).

In most industrialised nations around the world today, growing number of business firms are redesigning their organisations by employing technologies of higher complexity, diversity and sophistication than ever before in order to retain their competitiveness. This

means that interaction and interdependence are becoming a common thing that any organisation has to face. This is particularly true in firms where the key to competitiveness is providing services. Additionally, one could postulate that such organisational climate change could bring pronounced changes to individual members' effectiveness such as their inrole and extrarole behaviours and satisfaction. After all, information and sharing flowed primarily through face-to-face interaction such as formal and ad hoc group meetings (Pennings 1974, Van de Ven *et al.* 1976) and technologies such as emails have become an important means for such interaction (Barlett and Ghoshal 1993). Needless to say, these attitudinal changes could in turn affect members' individual effectiveness. Increased task interdependence increases the need for more coordination activities.

Johnson and Johnson (1995) stated that actions within a team or an organisation can “... *promote the success of others, obstruct the success of others, or not affect the success or failures of others*” (p. 207). Positive interdependence results in promotive interaction, negative interdependence results in oppositions or conflicting interaction and no interdependence results in an absence of interaction. This is supported by Scarnati (2001) where he states that effective social and interpersonal skills help team members create a cooperative environment where there is a genuine feeling of caring for each other which “... promotes higher self-esteem, self-efficacy, personal control and confidence in one's competencies”.

Therefore, it is the purpose of this paper to produce information to formulate a better understanding of the true nature of members' interdependences in this formidable time and relate them to their individual effectiveness.

4.1 Task Interdependence

Studies suggested that task interdependence by itself does not induce effective coordination but should be combined with common incentives and other uniting conditions (Wageman & Baker 1997, Van der Vegt *et al.* 2000, Liden *et al.* 2004). This is because having task interdependent departments which need information from each other does not necessarily mean that they exchange information (Kirkman & Shapiro 2000, Van der Vegt & Bunderson 2005). Similarly, forming a team and scheduling meetings does not mean that departmental representatives will feel cooperatively interdependent and openly discuss and solve problems (Jassawalla & Sashittal 1999, Stewart 2006). On the other hand, Van de Ven and Ferry (1980, p.242) defined workflow as the materials and objects, or clients and customers, that are transacted between units, hierarchical levels, and organisations. Workflow transactions are the inputs to and outputs from task positions (Brass 1981, p.332) - i.e. relationships between workgroup members in which necessary task resources are exchanged in order to be able to perform one's task. In line with these studies, this paper conceptualises task interdependence as workflow relationships among group members/co-workers.

4.2 Cognitive Interdependence

This paper discusses the relationships among workgroup members through which task-related knowledge and information concerning task processes are disseminated. In this

paper, cognitive interdependence is defined generally as interpersonal relationships (Rispen 2006, p. 27) that constitute or maintain a shared frame of reference of task processes. When two or more people work together, mutual knowledge and shared information becomes essential in coordinating their conversation topics and flow. In short, a high level of cognitive interdependence among individual group members resembles a situation of shared cognition (Rispen 2006).

4.3 Affective Interdependence

Affective interdependence refers to the extent to which one's emotional and attitudinal state affects, and is affected by, the emotional and attitudinal states of another *interactant* (Harms & Biocca, 2004). It has always been important to have a workplace where workers can feel positively about the people and the groups in which they are working with together. Employees as social beings seek belonging and acceptance (Baumeister & Leary 1995).

In this paper, affective interdependence is defined as those friendship relationships from which the individual workgroup members get a sense of belonging and feelings of well being and social acceptance among their fellow group members (Rispen 2006, p. 28). Friendship among group members may enhance interdependence with respect to feelings of social wellbeing, social acceptance, and positive effect (Baumeister & Leary 1995).

5.0 EFFECTIVENESS

Effectiveness has been studied from a multi-dimensional perspective (Connolly *et al.* 1980, Cameron 1986, Chang & Bordia 2001). It seems that there is not much consensus as to what constitutes a valid set of effectiveness (performance) criteria (Katz & Kahn 1978, Cameron 1986). Ostroff (1993, p.105) stated that it has been argued that organisations must identify multiple domains of effectiveness and that a multitude of effectiveness criteria measures are needed for a more comprehensive evaluation of organisations (Cameron 1981, 1986, Kanter & Brinkeroff 1981, Hitt 1988). Therefore, in this paper, a variety of organisational effectiveness measures is also necessary. According to the effectiveness performance literature, there are many different definitions of performance that were being used. For example, Campion *et al.* (1996) regarded performance as the *effectiveness* of a group and of the individuals, whereas Gooding and Wagner (1985) saw performance as *efficiency*, and in Gittel (2002a, 2002b), performance is defined as *effectiveness and efficiency*. Therefore, in this paper, performance is viewed as an individual's effectiveness, and the three aspects of an individual's effectiveness are: identification/in-role (role-prescribed) behaviour, extra-role (pro-social) behaviour, and satisfaction (job satisfaction and commitment).

6.0 THE RELATIONSHIPS BETWEEN COORDINATION, INTERDEPENDENCE AND INDIVIDUAL EFFECTIVENESS

Research suggests that task interdependence can foster satisfaction and commitment. However, before such satisfaction and commitments can be fostered, other forms of interdependencies do exist. For example, a mental state characterised by a pluralistic,

collective representation of self-in-relationship associated with commitment to a close relationship is called *cognitive interdependence*. In general, cognitive interdependence refers to the interdependency one experience through creating a shared understanding of a situation one is facing. Cognitive interdependence refers to the relationships among individual workgroup members through which task-related knowledge and information concerning their work processes are disseminated.

Correspondingly, another form of interdependency seems to connect - i.e. *affective interdependence*, - where there is a sense of belonging and/or feelings of happiness when employees feel positively about their group or organisation in which they work. People seek belonging and acceptance (Baumeister & Leary 1995) irrespective of whether they are colleagues or school mates (Rispen 2006). In general, individuals strive and quest for a feeling of social well being, social acceptance, and connectedness (Baumeister & Leary 1995). This is often reflected in the existence of friendships among colleagues. Researchers often described that the factors that influence effectiveness includes individual affective reactions. Hackman (1987), for example, explicitly regards satisfaction of the needs of individual work group members as one indicator of effectiveness. An organisation consisting of dissatisfied members can destroy itself as a result of unresolved conflicts and divisive interactions (Sundstrom *et al.* 1990). Although the affective reactions of individual work group members may sometimes reflect such group-level phenomena as general 'morale' or 'cohesiveness' (George 1991), the degree to which group members feel satisfied with or committed to their job and team typically varies from person to person.

7.0 CONCLUSION

In addition to theoretical understanding of the importance of the informal aspects of coordination and interdependency in an organisation (if can continue to be supported by more study), this theoretical understanding has important practical applications for management in enhancing their employees' effectiveness, in any industry. This paper aims to provide a clear picture of how much interdependency, (especially the affective interdependence which deals with the feelings of employees), made up the positive results that can be cultivated among employees in any organisation. Individual workgroup members are more likely to show extra-role behaviour naturally when they experience affective interdependence in their department or organisations. Also, individual workgroup members are likely to show more effectiveness when all the interdependencies are found among their workplace. In short, this theoretical understanding is important to managers in that they may learn how to take charge or monitor their employees' effectiveness by observing their level of interdependence during working time. Managers can introduce job rotations, and/or feedback programmes, as these would enhance sharing task-related knowledge and/or information among the workers (Rispen 2006, p. 125). Managers can also practice stressing the importance of sharing positive team values on group processes in the workplace.

This paper also has the managerial applications for constructing the conditions that lead workers not only to care for the goals of their own departments but also for the overall organisation, and how to coordinate with each other effectively through having a sense of

belonging and organisational commitment and through sharing their knowledge and/or task information among the workers.

Despite the contributions of this paper, the present author acknowledges that survey and analyses are needed to develop and substantiate this theoretical understanding. Nevertheless, this study does add, in its own way, some amount of contribution to the existing knowledge.

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