

ROLE CONFLICT AND ROLE AMBIGUITY IN CONSTRUCTION PROJECTS

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Role conflict happens when a person faces different and incompatible expectations regarding a particular social status which they occupy. The literature on role conflict is reviewed for a better understanding of project dynamics in construction teams. The discussion focuses on issues surrounding the miscommunication of role expectations and tensions owing to differences in expectations of the same role. This ongoing doctoral study involves a qualitative research design, based on interviews with practicing professionals. Analysis will focus on the relation between formal expectations, as evidenced in contracts and other types of written communication, and informal expectations as observed from the interviews. Insights from the literature review suggest: 1. that the differences between formal and informal expectations is a major sources of role conflict in construction teams and 2. that this effect is exacerbated by the failure of team members to recognise it and take it into account.

Keywords: contract, organizational behaviour, project dynamics, role conflict.

INTRODUCTION

Teams in construction projects are dynamic in different aspects. Phenomena like team motivation, integration, coordination and individuals' happiness and satisfaction at work have been the object of much research, in construction and beyond. However, some issues have not yet been studied closely, particularly in construction projects. One of these is incompatible role expectations. These may arise from differences in formal and informal sources. They are seen to cause strain and dissatisfaction for participants (Kahn *et al.* 1964). In some cases the pressure is so high that a participant may resign and leave the team (Jackson and Schuler 1985), which, in turn, may jeopardize a whole project (Chapman 2002).

The aim of this study is to investigate the effects of incompatible and/or unclear role expectations (role conflict and role ambiguity) in construction design teams. In construction, even on relatively small projects, hundreds people may be involved in decisions before the project reaches construction stage (Hughes 1989). However, a core group of organizational members, such as the architect, engineer and client, are

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present for significant portions of the process. This study focuses on these core members.

The causes of role conflict and role ambiguity may be formal or informal. While research attests to contradictions from formal sources, such as contracts and codes of practice (Hughes and Murdoch 2001), little is known about the consequences of these tensions. As for informal sources, research highlights ambiguities associated with the introduction of new roles which clash with customary project practice (Georg and Tryggestad 2009, Gluch 2009). However, researchers have yet to examine more established roles. As Wells (2007) argues, more theory-based research in emerging informality is needed.

This investigation explores the extent to which role conflict and role ambiguity exist among the major roles in construction design teams, the situations that are characterized by a high degree of role conflict and role ambiguity and the consequences that these phenomena have on the individual and the team. In order to do that, formal and informal sources of role expectations and their contradictions will be studied using a “role theory” lens. A secondary aim is to develop role theory further as it does not yet deal with evolving changes to roles during a project, with the dynamic interaction between roles or with the effect of role conflict and role ambiguity on project team dynamics.

LITERATURE REVIEW

The procurement of construction projects is a prime example of complex inter-organizational workplace situations. A central characteristic of workplace roles is their dual specification by formal and informal sources. In studying the misalignment of role expectations it is important to consider both types.

Formal and informal sources of role expectations in construction projects

The expectations for different roles in construction teams and the notion of “who does what” have been discussed in the academic literature and government reports for many years. For example, some textbooks provide general descriptions of roles in the construction industry (Murdoch and Hughes 2008, Ndekugri and Rycroft 2000) but they do not discuss how roles relate to each other. Research in this area mainly concentrates on one specific role. For example, Kagan and Leary (1986) investigated the potential conflict and risks arising from the difference between the “perceived responsibilities” and the “actual responsibilities” of the design engineer. They identified a potential role for a specialist in quality control. In a more recent work, Georg and Tryggestad (2009) studied the role of project manager and how it changes during a project. They criticized the commonly held view that: “*Roles are presumed to be relatively stable and dictated by contracts and/or cultural relations*” (p 969).

Their case was a skyscraper project studied through interviews, observations and document-based studies. They concluded that the role of project manager involves not only managing the project, but also negotiating roles in construction. In some cases he/she may act as a mediator for the project and have a qualitative effect on it, whereas in some other cases a PM merely transfers different points of view. Georg and Tryggestad (2009) highlighted that roles are not necessarily stable during a project and they considered both the formal documents and informal relationships in the project. However, they did not explore differences in contractual and cultural definitions of task specific roles.

A related line of inquiry examines roles within contracts and plans of work. For example, Hughes and Murdoch (2001) analysed responsibilities in construction sector plans of work. They found extensive variation in terms, not only between published works but also, in some cases, within the work. The term “client” is not used in contracts, even though it is used in different plans of work. There are differences in the titles used for some roles as well as some stages of the work. This research builds on their work by examining the consequences of these contradictions. It extends it by examining the interaction between formal and informal role expectations.

A related point concerns project team members’ ignorance as to the formal specifications of their role. Gray and Flanagan (1989) showed that the pressure on sub-contractors to estimate and price does not leave them enough time to read the whole contract. So, although the contracts are assumed to clarify the rights and expectations, many participants do not read them properly. These issues have also been central in many government actions and reports. The Association of Consulting Engineers, the Institution of Civil Engineers as well as the Office of Government Commerce have expended significant resources to develop standardized contracts and guidelines, partly in order to clarify legal expectations and to provide guidelines for construction participants to work more coherently (Latham 1994, Egan 1988, Office of Government Commerce 2007, Institution of Civil Engineers 2009). These documents are usually intended to cover all project participants, across all phases of a project. This proliferation of reports has not yet displaced the widespread characterization of problems in the industry. Moreover, none of it deals with the problems stemming from the misalignment of role expectations. One reason why the issue of incompatible role expectations has not been resolved is that expectations do not originate solely from formal documents. Informal communications also have a big impact on role expectations.

Over the last decade, the importance of informal practices has become highlighted in construction management research (e.g. Chan and Räsänen 2009). Informality is an issue that is best viewed in relation to formality, and not as a problem that could be made to disappear by more systemized and formal approaches.

Gluch (2009) examined how environmental professionals form their roles and identities in relation to project practice. The research considered both formal and informal aspects of the work. The research showed how different communication cultures and different world-views, along with the perception that environmental management is “bureaucratic nit-picking”, created tensions between environmental work and project practice. In order to deal with this tension environmental engineers adopted a formal role in line with their job description and an informal role which is more suitable for that special project. This need to conform to the formal and informal expectations separately and in different ways puts extra pressure and stress on environmental professionals. Gluch concluded that “contradictory practices prevent environmental professionals from fulfilling their expected role and function.” (p. 959). Gluch’s work raises the question of whether this problem exists only among newly created roles such as environmental professional or whether it is more widespread.

Other studies of informal roles highlight the importance of group interaction and stereotypes in creating role expectations. Nicolini (2002: 167) used the term “project chemistry” to “embrace how and how well people interact, perceive each other and work together in the project”. In his investigations, practitioners highlighted their training as one of the most important reasons for resisting calls to work as a team.

Loosemore and Tan (2000) studied occupational stereotyping within the construction industry by interviewing various construction professionals. They showed that stereotyping is stronger in some groups than in others. However, neither the origin of this stereotyping, nor its consequences on the individuals, the team and the project were studied. Feeling constrained by professional and organizational expectations was also highlighted by some participants in projects led by award-winning construction managers (Baiden *et al.* 2006).

This literature draws attention to variations in the origins of expectations which one team member may have of another. It does not, however, systematically examine variations in the source of expectations or their effect. Of all of the above mentioned studies, Gluch's work comes closest to examining the effect of contradictory expectations on team members. This research draws on role theory to examine role expectations in more established roles.

Role theory

Role theory concerns one of the most important characteristics of social behaviour—*the idea that human beings behave in ways that are different and predictable depends on their respective social identities and the particulars of the specific situation* (Biddle, 1986: 68). Biddle (1986) categorizes different perspectives on role theory into five major groups: functional, symbolic interactionist, structural, organizational and cognitive role theory. Organizational role theory is the one that will be used in this research. This focuses on roles in formal organizations. In this perspective, roles are associated with identified social positions; normative expectations generate roles but norms may vary among individuals and can reflect the official demands of the organization or the influence and force of the informal groups.

Kahn *et al.* (1964) analysed organizations as an open and dynamic system that delineates a continuing process of input, transformation and output. This model can be used to study construction work. Construction projects bring together different disciplines working on different parts of the project at different times in different places for a limited period of time. This “temporary multi-organization” (Cherns and Bryant 1984) is the kind of organization at the focus of this study.

There are a number of confusions and disagreements in role theory, some of which stem from differences in definition of role (Biddle, 1986). Turner (1956) defined ‘role’ as “*a collection of patterns of behaviour which are thought to constitute a meaningful unit and deemed appropriate to a person occupying a particular status in society (e.g. doctor or father), occupying an informally-defined position in interpersonal relations (e.g. leader or compromiser), or identified with a particular value in society (e.g. honest man or patriot).*” In Turner's view, one may enact a role but cannot occupy a role. This definition is useful as it draws attention to the potential tension between formal and informal expectations.

A number of core concepts from role theory help to define ‘role conflict’ and ‘role ambiguity’. ‘Role set’ refers to the set of (role) expectations which a person is subject to by virtue of occupying a particular social status (Merton, 1957, p.110). That person is referred to as the ‘focal person’. ‘Role senders’ refers to the members of the focal person's role set. For the purposes of this study, it will include formal sources like contracts and plans of work, as well as other team members. ‘Received roles’ are the focal person's perceptions and cognitions of what was sent, while what was sent is called a ‘sent role’ (Katz and Kahn, 1978). Finally, ‘role behaviour’ refers to

behaviour performed by the focal person in the enactment of their role. It may or may not conform to role expectations (Katz and Kahn, 1978).

Role conflict and role ambiguity

The concept of social role draws attention to the fact that different members of the role set may not hold compatible expectations for the focal person and this may lead to role conflict. Role conflict can happen when one member of the role set requests the focal person to behave in two incompatible ways. It can also happen when pressure sent by one of the role senders to the focal person opposes the pressure sent by another role sender (Katz and Kahn 1978).

Role ambiguity simply means the focal person doesn't know what he/she is supposed to do. A certain amount of information is required for adequate role performance. First, the focal person needs to know his/her role set and their different expectations; his/her rights, duties and responsibilities. Second, he/she should know what kinds of activities would fulfil those responsibilities. Third the focal person should know the possible consequences of role performance or non-performance for himself/herself as well as for his/her role set. On top of that the person needs to know the kind of behaviours which are satisfying or frustrating for his/her personal needs and values.

The concepts of role conflict and role ambiguity were introduced by Kahn *et al.* (1964) to investigate the mental health of individuals in organizations due to rapid changes in technology and the slow process of users' adaptability. In a nationwide study of male wage and salary workers, they discovered that almost half of them were facing noticeable role conflict. Since then, research on role conflict and role ambiguity tends to be on roles for which some polarizations of differences among role senders seemed likely. Roles like the role of industrial foreman, salesperson, teacher and manager have been studied and role conflicts have been found to contribute to distress. These effects were associated with lower levels of job satisfaction, decreased commitment as well as increased tension and a higher likelihood of leaving the organization (Jackson and Schuler, 1985). In a more recent study, Floyd and Lane (2000) investigated the inconsistent expectations that managers face in the renewal process of their organizations, based on the need to deploy the existing competences and to create new ones. In another study, Tang and Chang (2010) studied the effects of role conflict and role ambiguity on employee creativity. With survey data from 202 employees of Taiwanese companies, they concluded that role conflict has a negative effect while role ambiguity can have a positive effect on creativity. As this description suggests, research tends to focus on the effect of role conflict and ambiguity on the focal person, rather than on members of the role set, or in this case, of the team. This is particularly relevant for construction projects where each team member has a very specific skill that is not easily replaced, should they decide to leave.

Another issue with the literature is that professional roles are usually considered as fixed and permanent. According to Lynch (2007), role theory is not very concerned with the process of how each individual "*learns, adapts to, and affects a role performance over time*". Its basic concept is more in the direction of behaviour. The result of the ongoing investigation will be used to develop role theory further in this direction.

As mentioned earlier, Gluch (2009) highlighted the issue of the mismatches between formality and informality for environmental engineers and how that led to role conflict. This research uses role theory to extend her approach to other roles in the construction design team. Furthermore, most studies, especially in psychology and

organizational behaviour, examine role sets from the perspective of a single focal person, without considering the dynamic interaction between focal persons with overlapping role sets. The originality of this research lies in the application of these constructs to construction projects as a particular type of organization and in the development of role theory by studying the way that individuals learn and sharpen professional roles over time. The research is organized around a model which Katz and Kahn (1978: 196) developed to study role conflict and role ambiguity.

MODEL OF FACTORS INVOLVED IN ROLE CONFLICT AND ROLE AMBIGUITY

Figure 1 shows the model that Katz and Kahn (1978) developed to study role conflict and role ambiguity elements. While not all the elements in their model are the main concern of this study, they help to explain the approach.

In the model, the “role senders’ box” involves motivations, cognitions and behaviour of the members of the role set. The “focal person’s box” reflects motivations, cognitions and behaviour of the focal person. Arrow 1 represents a causality direction which is the effect of role expectations on role behaviour. Arrow 2 is about the feedback loop. It shows the degree to which the focal person conforms to the expectations of the role set at one point in time and it will influence the expectations at the next moment. If the focal person conforms to expectations then she will have a different reaction compared to the situation in which the focal person’s response is a counterattack. In sum, this process of role sending and feedback is a cyclic and ongoing process. This cyclic process, however, cannot be studied in isolation. Organizational factors, attributes of the person and the interpersonal factors between the focal person and her role set also influence this process.

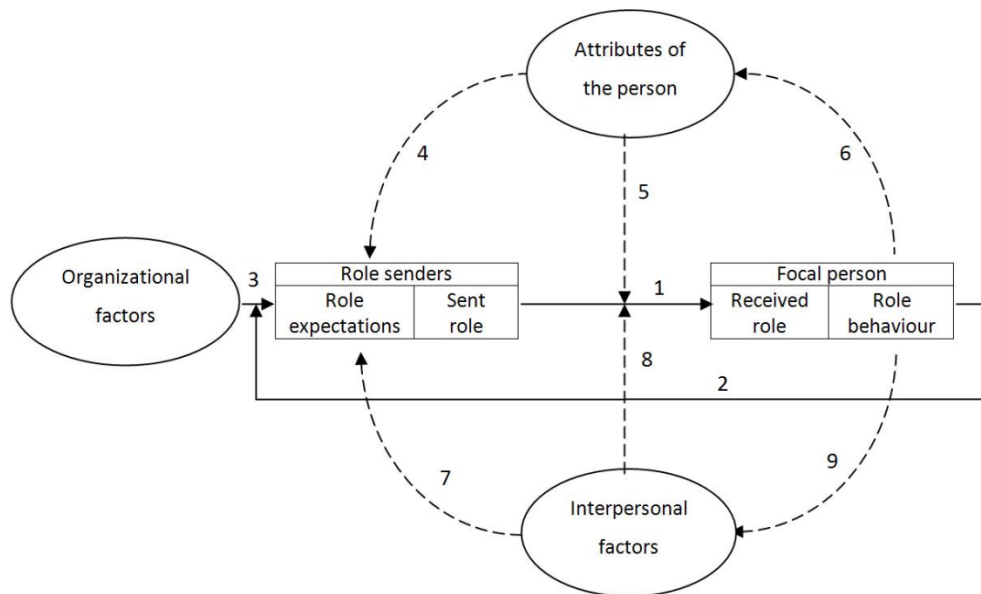


Figure 1: Model of factors in role conflict and role ambiguity (Katz and Kahn, 1978)

Katz and Kahn consider the technology of the organization, the structure of its subsystems, its formal policies and its rewards and penalties as organizational factors that are sent to the focal person through her role senders. Attributes of a person involve her motives, values, sensitivities, defence preferences and fears and will affect the sent roles (Arrow 5), the response to the sent role (arrow 4), and can be affected by the focal person’s role behaviour (Arrow 6). In addition, interpersonal factors also

play a similar role. The way that the sent role is received by the focal person depends on her interpersonal relationships with her role set (Arrow 8); these relationships can also influence the person's role set (Arrow 7) and will be changed by the role behaviour of the focal person (Arrow 9).

This model also shows that the focal person's role behaviour will change from one point in time to the next as a result of role sending and feedback process. In the long run, this phenomenon will influence and even alter the focal person's perception of himself or his role senders. It is in this type of process that people learn and adapt to changes. However, as mentioned earlier, these changes have been studied in relation to behaviour rather than to role definitions.

Based on Katz and Kahn's model, a model was developed to study role conflict and role ambiguity in construction projects (Figure 2). Studying these two constructs can best be done by studying formal and informal role senders; these sources, even within themselves, might communicate incompatible role expectations to the focal person to the extent that compliance with one would exclude the other one.

In this model the elements of organizational factors, interpersonal factors, attributes of the person, and box of role senders were substituted by the two new terms of "formal role senders" and "informal role senders". As indicated above, formal role senders within the project include contracts, plans of work and the like for each focal role. Informal role senders include all the interpersonal factors as long as they are involved in the role sending and feedback process for each focal person.

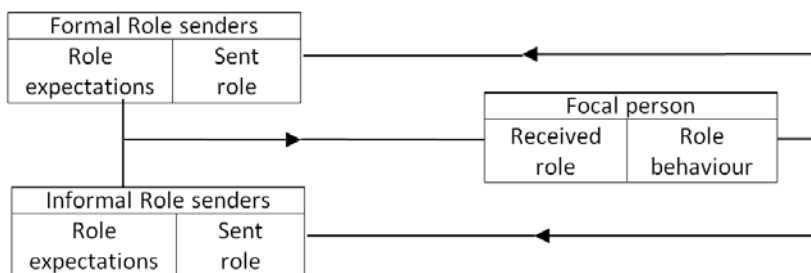


Figure 2: Model of factors involved in role conflict and role ambiguity introducing formal and informal role senders (based on Katz and Kahn, 1978)

The crucial message of this model is that the role expectations of role senders should be studied separately from the role behaviour of the focal person. In this study the focal roles are assumed to be the architect, client, structural engineer and the quantity surveyor (the selection of the focal roles will be discussed further below). The discussion so far helps to construct the following research questions:

1. Who/what are the formal and informal role senders for the architect, structural engineer, client and quantity surveyor in the design phase of construction projects?
2. How familiar are the architect, structural engineer, client and quantity surveyor with their contracts?
3. For each focal role examined, what are their expectations? Does the person in the focal role experience role conflict or ambiguity? If so, around what issues?
4. What types of role conflict and role ambiguity appear to have the most serious effects on the individual, the team and the project as a whole?
5. Does the process of role sending and feedback affect the performance of the role over time? If yes, how does it take place?
6. How can role conflict and role ambiguity be managed, negotiated, or resolved for the individual and within the team?

Thus, the research will enhance awareness of academic researchers as well as practitioners about role conflict and role ambiguity in construction design teams. In addition to that, analysis of changes of role performances will contribute to role theory as this is something that role theory has not dealt with in the past.

RESEARCH METHOD

This study will investigate the effects of role conflict and role ambiguity on some of the more established roles in the construction design team. Most research into role conflict and role ambiguity relies on survey data. However, this is a qualitative study, oriented around providing an understanding of human behaviour. In other words, the subjective meaning of social action will be grasped by the researcher, in line with an interpretivist approach (Bryman, 2004). The research adopts a case study method as best suited to explore the interaction between focal persons within a single team and the impact of role conflict on team dynamics. Research will be carried out for two cases during the design phase. The cases will be similar in terms of size but different in terms of the people involved so that the results can be compared. The following three options within the design phase will be left open: the outline design, detail design and client's signoff points before tendering.

Selection of the focal roles: Research focuses on a number of roles in project teams, including: the client, architect, structural engineer, and quantity surveyor. The reason for choosing these roles is that they are fundamental and well-established. This focus on well established roles contrasts with Gluch's work (2009). She discussed the challenges of environmental professionals, whose role, in her point of view, "*has meaning but has yet to develop a professional identity, visibility and an authoritative position in project based organizations* (p 967)". In contrast, roles discussed in this research are well established. As such, one would expect roles and role expectations to be well understood/highly consensual and problems stemming from role ambiguity and role conflict go unexamined. The quantity surveyor may not be quite as traditional as the other three roles, but it is still well-established; the cost advisor is an essential part of each project and the issue of cost is extremely important for the design. Thus, the total number of focal roles in this study is four.

Selection of role senders: The selection of the role senders is limited to those members of the team with the most impact on the focal person. Given this study's interest in the interaction between role sets, special attention will be paid to the sent roles coming from the three other roles as well as from the supervisor/boss of the specialist firm. While the above participants are assumed to be the core role set of the focal person, within the interview, the focal person will be asked about the major roles affecting his/her tasks. To the extent that other roles are identified as important, these role senders will also be interviewed. As for formal role senders, contracts and codes of practice are considered to be the most important ones. They will be read and analysed carefully and the level of the focal person's awareness about them will be examined in the interview

Data collection: Data collection will be carried out in two ways of document review and semi-structured interviews. The aim of the research design is to explore the impact of role conflict and role ambiguity on the team. In doing so, a focus for the analysis of the focal person's role behaviour is required. This study sets tasks as this dimension; the tasks that the focal role has to accomplish in order to meet the expectations of his/her role senders. Contracts and codes of practice for every focal role will be reviewed to obtain his/her list of tasks. By doing so, formal role senders

will be studied. In addition to formal role senders, informal role senders may also influence the tasks that each person does and they will be obtained from interviewing each role as well as their core role set. Interviews are the best method to explore the focal roles' perceptions and understandings of their own role as well as other focal roles (as role senders). The focal person will be interviewed to obtain information regarding their perception of their own tasks, their major role senders and their relationship to each of them. In order to investigate any adaption and changes in the roles, the first interview will be followed by another two interviews over a period of four months. Role senders will be interviewed so that the intensity and the direction of the pressure that they pose to the focal role can be measured, and the effects of any role conflict and role ambiguity of the focal role on them can be investigated. The list of tasks that was produced based on the focal roles' contract and the interview with the focal person will be discussed with them. The role senders' interview will also be followed by another two interviews in the course of four months.

CONCLUSIONS

Provisional findings suggest that differences in formal and informal sources of expectations lead to some degree of role conflict in construction design teams. Research also suggests that most participants are unaware of role conflict and its effects on themselves or their fellow team members. When it comes to contracts, most team members do not read their contracts carefully, while ambiguity in the contract documents gets in the way of the clear identification of tasks. In other words, contracts do not play an effective role in clarifying tasks for design team participants.

RECOMMENDATIONS

Research in role ambiguity may have some other interesting implications like management of risk or role ambiguity due to the emergence of new technologies such as BIM. These implications could also produce very interesting research works.

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