Edition Digital Science – Research

RESEARCH

Stavros Georgiades

Organization Management – Dynamic Creative Team Coordination

UNIVERSITY OF DIGITAL SCIENCE

OPEN ACCESS

Springer Gabler

Edition Digital Science

Edition Digital Science – Research

Series Editor

Mike Friedrichsen, University of Digital Science, Potsdam, Germany

Die Reihe „Edition Digital Science“ dient zum interdisziplinären Transfer von Forschungs-, Lehr- und Praxiswissen zwischen Wissenschaft, Wirtschaft und Gesellschaft. Sie behandelt Themen aus den Gebieten Digital Economy & Transformation, Digital Learning & Competence, Data Engineering & Analytics, Artificial Intelligence & Robotics, Sustainable Digitality, Digital Leadership, Digital Change Management, Digital Law, Transformative Innovation, Digital Art & Architecture, Digital Media & Communication, Internet & Society und Digital Ethics.

More information about this subseries at
https://link.springer.com/bookseries/16869

Stavros Georgiades

Organization Management – Dynamic Creative Team Coordination

Springer Gabler

Stavros Georgiades
Frederick University
Limassol, Cyprus

ISSN 2731-0892 ISSN 2731-0906 (electronic)
Edition Digital Science
ISSN 2731-0914 ISSN 2731-0922 (electronic)
Edition Digital Science – Research
ISBN 978-3-658-37508-9 ISBN 978-3-658-37509-6 (eBook)
https://doi.org/10.1007/978-3-658-37509-6

© The Editor(s) (if applicable) and The Author(s) 2022. This book is an open access publication.
Open Access This book is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.
The images or other third party material in this book are included in the book's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the book's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.
The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.
The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Responsible Editor: Marija Kojic
This Springer Gabler imprint is published by the registered company Springer Fachmedien Wiesbaden GmbH part of Springer Nature.
The registered company address is: Abraham-Lincoln-Str. 46, 65189 Wiesbaden, Germany

Contents

About the Author

Stavros Georgiades is Professor W2 of Management at the Stuttgart Media University (Visiting Post), Assistant Professor of Management at Frederick University, a research collaborator of the University of Digital Science Berlin and the founder of the Anagnorisis Institute of Media Management (AIMM). He holds a PhD in Management from the Henley Business School, University of Reading, UK.

His research focuses on media employee engagement and creativity, team coordination and adaptation in media settings, and digital entrepreneurship. Stavros has carried out research work with European, US and Brazilian media organizations, including Globo (Brazil), Channel 4 (UK), and Sonicbids (USA). He has authored a monograph on Employee Engagement in Media Management—Creativeness and Organizational Development—Springer 2015 and has published several scientific papers in academic journals.

Stavros currently serves as an Associate Editor of the Journal of Media Management and Entrepreneurship, is an Editorial Board Member of the Journal of Business and Economics, and one of the Editors of the 2021 Special Issue for the Journal of Media Business Studies. He served as a Board member at the European Media Management Association and was the Chair of the 2019 European Media Management Association Conference. Since 2010 he has also served various roles at the European and World Media Management Conferences, Global Communication Association and the annual meeting of the Academy of Management.

He regularly engages in professional events like the Annual International Entrepreneurship Education Summit of the Centre for Entrepreneurship at the Stuttgart Media University where he evaluates ideas for start-up businesses in

the media sector, and is also a member of the CREAM Research Centre at the Stuttgart Media University.

In the past he served to the Board of Directors of the Cyprus Broadcasting Corporation, and the Centre for Media Pluralism and Media Freedom of the European University Institute. He also worked as a Business Consultant in London for several years, his clients including the BBC.

List of Figures

List of Table

Introduction

1

"I suppose a good director is like a teacher. I think that someone like David Cronenberg was very much like a teacher, because there's an openness, but a certain set of rules of behavior, and a certain conduct expected. But there's an atmosphere that's relaxed and conducive to exploration, and that is created by someone like Cronenberg". Viggo Mortensen (Danish-American producer, actor, author, musician, photographer, poet and painter

Coordination is the process of interaction that integrates a collective set of interdependent tasks through coordination mechanisms like plans and rules, objects and representations, roles, routines and proximity (Okhuysen & Bechky 2009). However, in my grounded theory inductive qualitative study of two film crews what I have found was different: my observations revealed that, contrary to what one would expect, during a cyclical team developmental process that starts with formal coordination methods in the form of formal structures that include formal roles and specific role assignments, a creative team subsequently turns into uncoordinated methods in the form of informal practices to achieve team coordination, before its members finally revert back to their original formal roles at the end of a repetitive cycle. It is thus the use of uncoordinated methods that helps the creative team coordinate.

This "mystery" (Alvesson & Karreman 2007) led to the following question: How can creative team coordination, in a temporary organization, be achieved through methods that go against current coordination beliefs?

© The Author(s) 2022

S. Georgiades, *Organization Management – Dynamic Creative Team Coordination*,
Edition Digital Science, https://doi.org/10.1007/978-3-658-37509-6_1

1.1 Coordination

The formal study of coordination began with formal mechanisms of coordination during the rationalization of manufacturing work through its design and the subsequent design of management systems, where planning formal elements of organizations featured prominently (Okhuysen & Bechky, 2009) with a focus on uncertainties such as production technology (Woodward, 1970), task complexity (Perroe, 1967), workflow integration (Hickson, Pugh & Pheysey, 1969) and task interdependence (Thompson, 1967). Coordination thus resulted from the specification of exchanges between areas of work through roles, rules and structures, where systems could be articulated with specificity and precision (Okhuysen & Bechky, 2009). In such formalisation, the rules governing behaviour are precisely and explicitly formulated and roles and role relations are prescribed independently of the personal attributes and relations of individuals (Scott & Davis, 2007).

1.2 Static View of Coordination

Consequently, studies on organizational design (Galbraith, 1973; Tushman & Nadler, 1978) and structural contingency theory (Burton & Obel, 2004; Donaldson, 2001; Thompson, 1967), propose formally designed team structures, prioritizing information-processing interactions (March & Simon, 1958; Puranam, Raveendran, & Knudsen, 2012), and promoting team members' ability to coordinate their activities (Bresman & Zellmer-Bruhn, 2013; Bunderson & Boumgarden, 2010).

However, despite these efforts, it has been recognized that there is no one best way to organize (Adler 1995; Malone & Crowston 1994; Thompson 1967) as coordination mechanisms need to have sufficient flexibility to cope with uncertainty (Argote, 1982; Thompson, 1967), novelty (Adler, 1995), and problem complexity (Adler 1995; Ching, Holsapple & Whinston, 1992; Crowston, 1997). This led to the observation that these coordination mechanisms need to adapt to the interdependent working of actors and as a result the importance of the way these standardised procedures are enacted. This suggests tension between the standardised nature of tasks with rules to govern each activity and the mutual adjustment, informal communication and improvisation that occurs between actors to achieve tasks (Adler, 1995; Malone & Crowston 1994; Orlikowski 1996; Thompson 1967).

This static view of coordinating mechanisms thus has a number of limitations (Adler, 1995; Bate, Khan & Pye, 2000, Okhuysen & Bechky 2009) as hierarchies and rule-based systems have been found less useful in uncertain conditions (Argote 1982; Ching et al 1992; Crowston 1997), the way a service or technology is delivered through task coordinating is uncertain and hard to define and formalize (Faraj & Xiao 2006) and the processual way that people perform activities on an on-going basis in order to cope with the challenges of coordinating tasks that may change over time (Adler, 1995; Bate et al, 2000; Thompson 1967) has been overlooked by the literature.

1.3 From Static to Dynamic Coordination

The dynamic nature of coordinating mechanisms was considered by a new perspective that became evident because the boundaries of the organizations have blurred (Scott, 2004, Hargadon, 2003), interdependencies between different pieces of work may be uncertain or challenging to identify (Okhuysen & Bechky, 2009), and the fact that the static view of coordinating mechanisms failed to account for unplanned contingencies. These issues were accounted for by literature looking into the dynamic nature of coordination and more specifically informal and emergent coordination practices. Examples of such practices include dialogic coordination (Faraj & Xiao, 2006) where coordination is accomplished on the ground as the work progresses (Okhuysen & Bechky, 2009), emergent group responses to coordinate disaster relief (Majchrzak, Javernpaa & Hollingshead, 2007), and different types of mechanisms encapsulating how emergent practices assist in coordination including plans and rules, objects and representations, role, routines and proximity (Okhuysen & Bechky, 2009).

This dynamic nature of coordination mechanisms has also appeared in the literature of multidisciplinary team coordination used for the management of interdependencies among specialists within a group (Bruns, 2013; Kotha, George, & Srikanth, 2013; Majchrzak, More, & Faraj, 2012; von Krogh, Nonaka, & Rechsteiner, 2012) due to the fact that these teams face unpredictable interdependencies due to high task uncertainty (Argote, Turner, & Fichman, 1989; Cardinal, Turner, Fern, & Burton, 2011; Gardner, Gino, & Staats, 2012). The literature considers the role of both formal and informal team coordination mechanisms.

1.4 Creative Team Coordination

The dynamic nature of coordination becomes even more evident in creative group coordination because creativity seems to require a sense of independence from rules, restrictions, and even close relationships (Perry-Smith & Shalley, 2003) as creative work seems to happen outside the "ordinary grooves of thought and action" (Jevons, 1877; cited by Becker, 1995). On the one hand coordination of creative groups requires that group members enable the "fitting together" of activities (Argote, 1982) and the "organizing of individuals so that their actions are aligned" (Heath & Staudenmayer, 2000) within an agreed upon "problem domain" (Bailetti, Caooahan, & DiPietro, 1994), the sum of these activities being labelled by Okhuysen and Bechky (2009) as "integration". On the other hand coordination also requires allowing for independent work, which potentially enables "mis-fitting" interactions that can "mis-align actions" or push the group into unfamiliar "problem domains", Harrison & Rouse (2014) labelling these countervailing interactions "de-integration". To date, most theories of group creativity do not address the tensions from simultaneously needing to balance integration and de-integration, thus the need for a richer conceptual understanding of coordinating mechanisms that have sufficient flexibility (Jarzabkowski, Lê, & Feldman, 2012) to adapt to situations that require novelty.

1.5 Practice-based Perspective of Coordination

As this study takes a practice-based perspective, it is interesting to note that similar studies (Orlikowski, 2000) focusing on the coordination of knowledge work in teams as informally emerging patterns of interactions enacted through specialists' everyday practices (Faraj & Xiao, 2006; Hargadon & Bechky, 2006; Kellogg, Orlikowski, & Yates, 2006) suggest that formally designed coordination structures may stifle knowledge creation (Okhuysen & Bechky, 2009).

This disconnect between formal structures and informal practices of coordination is fundamental (Gulati & Puranam, 2009; Soda & Zaheer, 2012) and limits our understanding of how organizations function (McEvily, Soda, & Tortoriello, 2014; Okhuysen & Bechky, 2009), as there is a lack of in-depth analysis of the process through which formal coordination structures and informal coordination practices interact in multidisciplinary teams, thus how teams coordinate remains incomplete. We thus need to explain how formal structures evolve when facing unpredictable and changing interdependencies, and how informal coordination practices are shaped by such evolving formal structures (McEvily et al., 2014).

1.6 Static and Dynamic Coordination Perspectives Combined

However, even considering how the two interconnect does not provide sufficient explanation of this study. Although the two are interconnected, and the evolvement of formal structures does lead to informal practices of coordination, this interconnection produced what is called "uncoordinated methods" which strangely enough generated group coordination.

In this research the author aims to explain what Alvesson & Karreman (2007) call a "mystery" aiming to advance our understanding on how, in a temporary organization, the interconnection of formal structures and informal practices during a team developmental process leads to team coordination via the emergence of "uncoordinated methods". More specifically, the author aims to show the conditions under which these methods are not harmful but in fact beneficial to coordination. Also, I aim to contemplate how this dynamic coordination process is not linear but repeats itself in perpetual cycles, where an initial formal team structure gives rise to formal coordination methods which then lead to uncoordinated methods, in the form of informal practices, that help achieve team coordination before the process unwinds and the team reverts to its initial formal structure.

More specifically, through an in-depth process study of two film production crew the author explores how a team developmental process in a temporary organization unfolds, starting with formal role structures acting as a formal coordinating mechanism which then transforms into informal practices, that although one would expect to be "uncoordinating" in actual fact help the team coordinate via "de-integration" and more specifically an extension of the formal role borders up to the point where team members temporarily change duties and responsibilities before reverting to their original formal roles, in a process that repeats itself in perpetual cycles. The author is explicitly interested in the importance of the cyclical team developmental process, the conditions under which it unfolds, how this group dynamic coordination develops, and why creative group members engage in specific coordinating behaviours.

Unlike (Grandori & Soda, 2006; Hulsheger, Anderson, & Salgado, 2009; Puranam & Raveendran, 2013; McEvily et al., 2014) who explored the processes through which formal structures evolve and how informal coordination practices are then shaped, establishing the grounds for informal practice-based coordination (Bruns, 2013), the author also contemplates the evolvement of "uncoordinated methods" that explain how they help the team coordinate. My focus on the team developmental process highlighting the emergence of what one would expected

to be "uncoordinated methods" is in line with calls for a need for a dynamic understanding of emergent, adaptive coordination in teams (Okhuysen & Bechky, 2009) and for a richer conceptual understanding of coordinating mechanisms that have sufficient flexibility to adapt to situations that require novelty (Jarzabkowski, Lê, & Feldman, 2012) in a way where the group needs to accommodate developing new ideas that threaten coordination and yet integrate these ideas and remain cohesive (George, 2007).

My analysis of the fieldwork reveals a team developmental process during which coordination is achieved through the emergence of practices that would appear to deviate from and challenge coordinating methods. Also, the findings reveal team coordination as an on-going cycle of activities.

In relation to the former, the fieldwork reveals that creative group coordination in a temporary organization can be achieved through methods that one would expect to challenge traditional methods of team coordination. More specifically, my model suggests that within formal role structures and the subsequent informal creation of a sub-team, team members enact practices where the sub-team de-integrates, allowing its members to initially pull role constraints further, then stretch and finally relax them, thus allowing for the emergence of ideas and alternatives not previously considered and enabling creative work via unpredictability and new understandings. For this to occur, team roles and structure flexibly adjust before the sub-team finally dismantles and its members revert back to their original formal roles. The unfolding of this process highlights how informal "uncoordinated methods" in actual fact support the team to coordinate. More specifically, I was struck by the fact that although these methods contributed to a state of "de-integration" in reality they gave the group the opportunity to temporarily search for and discover new puzzles, options, and directions on the way to the final creative solution, before integrating back to their initial formal roles.

What was also unexpected was that the existence of constraints, including role constraints as well as constraints imposed by both the script and the need for coherence, did not only contribute towards team member interaction that favoured team coordination, but at the same time assisted team members to continuously advance their thoughts and reach a satisfactory level of creativity.

In relation to the latter, the emergent theoretical model considers creative team coordination in a temporary organization as a perpetual cyclical team developmental process.

More specifically, this study highlights the key role of the emergence of a changing sub-team created to face job interdependencies and the discovery of new issues by paying particular attention to its initial formation, dynamic

re-structuring, revision, and final dismantling. This process is a necessary condition for creative group coordination because it allows for team members to integrate and de-integrate informally in such a way to be able to handle the interdependencies and new issues arising, while at the same time being creative.

As this process repeats itself with the shooting of a new scene, the model points to a cyclical team developmental process by explaining how, based on the scene's specific needs, an initial sub-team is formed to handle the preliminary phase of work, then depending on the initial output it is informally revised in terms of both its members and their respective duties and responsibilities in order to handle surfacing job interdependencies and emerging new issues, before finally dismantling and its members reverting to their formal roles.

The author's model also points to the dynamic interplay between formal coordination structures and informal coordination practices, suggesting that the latter are embedded within the former and that the two interact dynamically where informal practices arise as a function of expertise diversity, constituting second order practices. What is worth noting is that this dynamic interplay leads to a high level of flexibility as the sub-team adapts within changing formations, ensuring its members can interact in a way to achieve coordination while continuously advancing their thoughts toward reaching a satisfactory level of creativity. Formal structures are also present during the unfolding of the informal practices as the team leader relies on the formal role structures whenever it is considered necessary during the integration and de-integration process, in order to avoid the temporary de-integration getting out of control and leading toward a group structural breakdown. This supports the idea that the two elements are embedded within each other (Okhuysen and Bechky, 2009) and continuously, mutually, and dynamically interact.

The author offers three contributions based on the analysis.

First, this research contributes to the literature on creative group coordination by showing that it involves more than role structure, role enactment, and individual independent work within the group, that have been the primary theoretical focus. This study extends this theory to include a creative team developmental process and explain how it unfolds by contemplating the specific group coordination stages, therefore suggesting that team coordination in an on-going cycle of activities. The author proposes that theoretical accounts on how creative groups coordinate cannot be reduced in explaining how team members individually act or collectively interact, but also needs to consider the coordination process taking place, underlying the way the group flexibly adjusts during the dynamic interplay taking place between formal coordination structures and informal coordination practices.

Second, the analysis suggests several reasons why group members engage in specific coordination actions and behaviours. Therefore, in this study the author begins to theorise on the reasons why, highlighting three stages during this process that lead to this type of activity: the initial issues group members need to deal with, the identification and management of their jobs' interdependencies, and the evaluation of new options and alternatives based on the emergence of new issues.

Finally, this study shows the conditions under which methods expected to be "uncoordinated" and which seem to deviate and challenge traditional coordination methods can in fact contribute toward team coordination. This suggests that rather than being against creative team coordination, these emerging "uncoordinated methods" when operating in tandem with traditional coordinating methods can contribute positively. The study shows how these informal practices help the team de-integrate and also bolster creative work through sub-team members developing ideas, suggesting new directions, and synthesizing them into a final solution in a cyclical sub-team structural adaptation that is critical for creative team coordination. This flexible team restructuring develops informally, without the existence of a predetermined strategic process within the organization.

The author develops these contributions drawing from the literature on coordination, creative group coordination, formal and informal coordination mechanisms and their dynamic interaction including temporary organizations. The emergence of the importance of formal coordination structures and informal coordination practices led the author to incorporate literature on creative team coordination in order to develop an understanding on the dynamics of such a potential relationship. This review, served as a set of "orienting points" that anchored the research question, informed the methods, and provided direction for the analysis (Dutton, Worline, Frost & Lilius, 2006; Nag, Corley, & Gioia, 2007). The author's ideas and concepts emerged from the study itself through iterative cycles of thematic empirical analysis and consultations of the relevant literature (Strauss & Corbin, 1998).

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

Literature Review

2

2.1 Coordination and Creative Groups

Coordinating creative group work remains a major organizational challenge, especially in teams with specialists representing distinct knowledge domains. The author defines coordination as the process through which people arrange actions in ways that they believe will enable them to accomplish their goals (Quinn & Dutton, 2005). An increase of complex tasks (Spitz-Oener, 2006), specialization (Alvesson, 1993; Becker & Murphy, 1992) and interdependencies among specialists (Burton & Obel, 2004; Lawrence & Lorsch, 1967; Thompson, 1967) make the question of how coordination occurs in teams of diverse experts particularly relevant to the study of organizations. Coordination at its core is thus about the integration of organizational work under conditions of task interdependencies and uncertainty (Faraj & Xiao, 2006), where managing interdependencies among activities (Malone & Crowston, 1994) consists of making relevant domain-specific details transparent and arranging empirical manifestations of contributions according to a shared objective (Bruns, 2013).

Creativity is defined as the generation or production of ideas that are both novel and useful, and is typically viewed as a key precursor to innovation, that is the successful implementation of creative ideas (Scott & Bruce, 1994; Amabile, 1996; Oldham & Cummings, 1996). In creative group work group members coordinate via integration (Okhuysen & Bechky, 2009) where they generate ideas, share their ideas with one another, listen and focus on one another's ideas, and then generate new associations, building on one another's ideas to integrate them into a truly novel solution (Baer, Leenders, Oldham & Vadera, 2010; Brophy, 2006; van Knippenberg, de Dreu, & Homan, 2004; Taggar, 2002; Brown, Tumeo, Larey, & Paulus, 1998). Literature on creativity however, argues that creativity

© The Author(s) 2022

S. Georgiades, *Organization Management – Dynamic Creative Team Coordination*,
Edition Digital Science, https://doi.org/10.1007/978-3-658-37509-6_2

may also require deviance (Warren, 2003), divergence (George, 2007), and dissensus (Nemeth, Personnaz, Personnaz, & Goncalo, 2004). These dynamics have the potential to pull a group apart or cause the group to regress to earlier, more chaotic stages of group development (Tuckman, 1965). Thus, coordinating a creative group needs to enable integration while also allow for de-integration, or individually disrupting a sense of predictability and common understanding in the pursuit of a new idea (Harrison & Rouse, 2014) which helps explain why coordinations that generate group creativity are considered to be fragile (Ford, 1996).

Recent literature on multi-disciplinary team coordination suggests that the coordination of efforts from interdependent specialists relies on formal structures that shape the actions of organizational members and activities and thus constrain their actions (Davis, Eisenhardt, and Bingham, 2009), as well as on informal emergent aspects of coordination (McEvily et al., 2014; Okhuysen & Bechky, 2009) that can deal with unplanned contingencies and emergent interdependencies (Kellog et al., 2006). Practice theory treats informal aspects as a function of formal structures (Bruns, 2013) and suggests that the two elements, formal structure and informal practices, are embedded within each other (Okhuysen & Bechky, 2009) and continuously and mutually interact.

2.2 Temporary Organizations

While these theories are suggestive, there is little empirical evidence showing how coordination happens in temporary organizations, mostly because few organizational scholars have systematically examined the internal functioning of temporary organizational forms (Meyerson, Weick & Kramer, 1996; Powell 1990). Those who have studied these organizations focus on the flexibility for example to contend with environments that are complex and variable, where temporary organizations have been found to reduce costs and control risk through the fluid movement of specialized personnel (Christopherson and Storper 1989, Faulkner and Anderson 1987). Instead of training, supervision, and formal rules and hierarchy, they rely on short-term workers with the requisite ability and experience to perform the tasks assigned to them (DeFillippi and Arthur 1998, Faulkner and Anderson 1987). These analyses thus depict temporary organizations as having little structure. People change positions frequently across these fluid projects (Baker and Faulkner 1991), these organizations engender mobile and boundaryless careers (Jones and DeFillippi 1996) and are therefore ephemeral

and unstable (Kanter 1995), lacking formal or normative structure (Meyerson, Weick, & Kramer, 1996).

However, recent studies of team-based organizational structures indicate that organizational flexibility does not necessarily occasion unstructured work organization. Self-managed teams although lack the controls of bureaucracy and hierarchy, tend to develop alternative control mechanisms (Bechky, 2006), including normative control, that constrains and structures the behavior of team members (Smith 1997, Prechel 1994, Barker 1993), creating groups whose value-based work ethic turned gradually into a strong source of normative rules (Barker, 1993). Thus, temporary organizations have both industry structures and emerging practices that coordinate and control activity (Bechky, 2006)

Consequently, the author believes that in order to explain creative group coordination in a temporary organization, it is important to ask how formal structures and informal practices dynamically interact, that is the evolution of organizational interactions, and consider their formal and informal bases jointly, that is the extent to which informal interactions "follow" from the formally designed and imposed organizational elements. In other words there is a need to contemplate the mechanisms describing the interplay between formal and informal elements (McEvily et al., 2014), and aim to do so by building on the stream of practice-based coordination which recognizes practice as an observable phenomenon, an approach that enables closing a gap in research between theory and real world occurrence (Orlikowski, 2010).

To date, theory has not provided a clear answer to the question above that is considered important because it is in the interplay between formal and informal that several key issues in organizational theory are most effectively addressed (Barley, 1996, 1990, 1986; Salancik, 1995) and as organizations constitute patterns of interaction, formal and informal are inextricably intertwined elements that explain how actors coordinate efforts, exchange information, and access resources that affect a variety of outcomes and behaviors across different levels of analysis (Kilduff & Brass, 2010; Ibarra, Kilduff, & Tsai, 2005). Thus, to understand how patterns of interactions in temporary organizations emerge, evolve, and dissolve over time (Ahuja, Soda, & Zaheer, 2012) necessitates integrating theories of formal and informal elements to also articulate the logic by which formal and informal elements are co-organized and co-determinant of outcomes (Soda & Zaheer, 2012).

In this research the author develops three basic ideas as a theoretical entry point into the question of how creative groups in a temporary organization coordinate through a dynamic integration of formal structures and informal practices. First, what formal coordination structures exist and how they operate. Second,

what informal coordination practices can emerge from formal structures. Third, how the two dynamically interact leading toward team coordination, highlighting a team developmental process. In the remainder of this section I elaborate the theoretical foundations of these three key ideas, and do so through a parallelization of creative and normal groups.

2.3 Formal Structures of Coordination

Relevant theory on coordination starts with a deliberate attempt to plan systems to produce coordinated activity through the design of either work or relationships between positions in the organization (Taylor, 1916; Fayol, 1949). Such formalization continues to be seen as an essential feature of organizations, in which the "rules governing behavior are precisely and explicitly formulated", and "roles and role relations are prescribed independently of the personal attributes and relations of individuals" (Scott & Davis, 2007).

Scholars of organizational design thus argue that the coordination of efforts from interdependent specialists relies on formal structures that shape the actions of organizational members by shaping activities of their constituent elements and thus constrain more action (Davis, Eisenhardt & Bingham, 2009). These structures enable coordination by grouping and prioritizing interactions among organizational members with epistemic interdependence (Purana et al., 2012), thus allowing specialised team members to better integrate their individual efforts and prevent coordination failures.

A clear role structure falls within the category of formal coordination structures according to the structural role theory where a role is a bundle of tasks and norms, the behaviours that are expected of those who occupy a position in a social structure (Hughes 1958, Linton 1936, Biddle and Thomas 1966). This theory focuses on the ways in which role expectations, arising from norms and demands from other role occupants and audiences, constrain and circumscribe individuals' behaviour (Bechky, 2006) as it is illustrated in studies of high-reliability organizations that require careful coordination of complex, interdependent activity (Weick and Roberts 1993; Bigley and Roberts 2001) where members use the role structure to organize their behaviour in relation to one another.

Role theory can thus help explain how temporary groups coordinate as roles delineate expertise and responsibility so that anyone in a particular role will know her individual responsibilities and interdependencies with those in other roles, even in the absence of interpersonal familiarity (Bechky, 2006; Griffin, Neal & Parker, 2007). Roles allow coordination to be de-individualized: people do not

rely on knowing others' unique skills, weaknesses, or preferences to figure out how to work together; instead they rely on knowing one another's position in the role structure (Klein, Ziegert, Knight & Xiao, 2006).

In order for role structures to support effective coordination the literature suggests that certain conditions need to exist. First, effective coordination in temporary role-based groups depends on whether and how the group is bounded, which by definition makes it clear whom to work with, on what, and possibly where (Hackman, 2002; Wageman, Hackman & Lehman, 2005). A second condition is stability of membership which means that the same group of individuals compose the team over time. Finally, interdependence, meaning that the people on the team have to "work together for some common purpose for which they bear collective responsibility rather than having their own jobs to do with little need to work together" (Wageman, et al., 2005). These conditions allow group members to coordinate effectively because they get to know each other well and are able to anticipate each other's moves and adjust to each other's strengths and weaknesses (Valentine & Edmondson, 2015). Under these conditions group members engage in constructive coordination team processes like active communication, knowledge sharing and problem solving (Hoegl & Gemuenden, 2001; Wageman, et al., 2005; Wageman & Fisher, 2014).

Formal structures in the form of constraints can also provide the formalization relating to rules governing behaviour (Scott & Davies, 2007) that enables the coordination of creative group work. Constraints, defined by Stokes (1999) as boundaries that "promote or preclude a certain kind of response", can reinforce temporary group coordination by either supporting integration (Harrison & Rouse, 2014) or providing boundaries that preclude the sort of group chaos or dissensus that emerges when individuals disrupt group coordination patterns (Barker, 1993; Van Dyne & Saavedra, 1996). In relation to the former, constraints help group members come together, focus on a common problem domain, and exchange information, whereas in relation to the latter, although constraints can serve a destabilizing function they can simultaneously prevent disruption of group coordination (Harrison & Rouse, 2014).

2.4 Informal Practices of Coordination—Emerging Patterns

A different perspective in practice-based coordination emphasizes the importance of the informal emergent aspects of coordination (McEvily et al., 2014; Valentine & Edmondson, 2015; Bruns, 2014; Okhuysen & Bechky 2009; Bechky,

2006). This perspective is less concerned with optimizing structures for a given environment, and instead considers coordination as it happens, thus under conditions of task interdependence and uncertainties (Faraj & Xiao, 2006), assuming that people in organizations must coordinate to work regardless of the organizational design (Okhuysen & Bechky, 2009). It highlights a dynamic nature of coordination thus focusing on dynamic issues like communication (Ballard & Seibold, 2003), dialogic coordination (Faraj & Xiao, 2006), cooperation (Pinto, Pinto, & Prescott, 1993), knowledge sharing (Bechky, 2003; Charlile, 2002) and interaction (Heath, Hindmarsh, & Luff, 1999), noting that formal structures and planned responses are inadequate for the task and that emergent group responses are necessary to achieve group coordination (Majchrzak et al., 2007).

Informal emergent aspects of coordination are important to consider as they help deal with unplanned contingencies and emergent interdependencies (Kellogg et al., 2006), focusing on the need for a dynamic understanding of emergent, adaptive coordination in teams (Okhuysen & Bechky, 2009). By exploring coordination practices in the context of high task uncertainty, widely distributed expertise, and fluid interdependencies, practice studies adopting a dynamic view of coordination add important insights into how creative temporary teams integrate specialist knowledge (Bruns, 2013; Majchrzak et al., 2012).

For example, in a study of expertise coordination in medical trauma teams facing high uncertainty, Faraj and Xiao (2006) show that complex and highly interdependent medical work relied on emergent, partially improvised coordination practices, while Bechky and Okhuysen (2011) demonstrated that for unexpected events, police SWAT teams and film production crews coordinated expertise by flexibly shifting roles, reorganizing routines, and reassembling their work.

This perspective also associates with formal role coordination where several authors argue that roles might coordinate activity not only through formal role structure but also through action (Barley and Kunda 2001). This interactionist approach to roles focuses on the way individuals can construct and reconstruct social arrangements through role-taking: role structures are a general framework, but individuals enact their own roles in relation to particular tasks (Turner, 1986). It suggests that to understand how roles might function as coordinating practices, role structures cannot be taken as given, but must be viewed in light of the actions taken by people who occupy them. Sociological literature on role theory explains that there is a interplay between role structure and role enactment where roles represent expectations associated with social positions, and therefore can facilitate continuity of behaviour over time while at the same time, roles can be

loosely and dynamically structured, as expectations are negotiated in interaction (Bechky, 2006).

Therefore, many studies show and many operating environments rely on, the efficacy of roles in facilitating temporary non-programmed coordination in creative dynamic settings like fire-fighting, trauma departments, or film crews (Bechky 2006; Bigley and Roberts 2001; Klein et al. 2006) suggesting that even when roles encode responsibility, some unscripted interaction is required to execute shared work often referred to as "constrained improvisation" (Bigley and Roberts 2001). People must flexibly react to changing environments or changing task demands within the scope of their highly specified roles (Valentine & Edmondson, 2014).

Coordination mechanisms therefore need to have sufficient flexibility to cope with the uncertainty (Argote 1982, Thompson 1967), novelty (Adler 1995), and problem complexity (Adler 1995, Ching et al. 1992, Crowston 1997) of the organizational activities and the outputs that they are intended to organize, something that recognizes their dynamic nature.

2.5 Dynamic Interaction Between Formal and Informal—Team Developmental Process

As the dynamic coordination mechanisms described above need to adapt to the interdependent working of actors, there is a tension in the coordination literature between their reification as standardized procedures and the way that they are enacted in practice, identifying both structural and enacted dimensions of coordinating mechanisms (Jarzabkowski, Lê, & Feldman, 2012). Consequently, the rather static view of coordinating mechanisms based on standardized rules and procedures (Ching et al., 1992) adopted in much research has a number of limitations (Okhuysen and Bechky 2009; Bate et al. 2000; Adler 1995) including that it tends to overlook the processual way that people perform activities on an ongoing basis in order to cope with the challenges of coordinating tasks that may change over time (Adler 1995, Bate et al., 2000). Research based on a static view of coordination has focused on those activities that can be measured and formalized at a point in time, rather than examining how such activities emerge as actors attempt to perform coordinated organizational outputs over time (Okhuysen and Bechky 2009).

Following a structurationist perspective, recent analyses of organizational routines in temporary organizations therefore describe routines not as fixed programs or rules, but as patterns of action that emerge in the context of organizational

structures (Pentland and Rueter 1994, Feldman and Pentland 2003). These and other practice-oriented examinations of organizations (Orlikowski 2002, Carlile 2002) thus implicate an approach to coordination that analyzes how structure and action interrelate in accomplishing the work (Bechky, 2006), giving support to the view that it is in the interplay between formal organization and informal structures that several key issues in organization theory are most effectively addressed (Barley, 1996, 1990, 1986; Salancik, 1995).

According to McEvily et al., (2014), an organization is an elaborate architecture of multiplex ties, both formally designed and informally emergent, that channels information, knowledge, and resources to actors, therefore the complex chemistry between formal and informal elements, and their joint impact on outcomes and performance, calls for an integrated approach.

Along this line, in creative temporary groups, recent work on coordination hints at how formal and informal mechanisms can be integrated in such a way to infuse flexibility into their coordination patterns. For example, research focusing on how organizations or groups respond to disasters, crises, or surprises emphasizes how collectives prepare or repurpose existing resources to coordinate for the unexpected, drawing from work on improvisation (Harrison & Rouse, 2014), where the more simultaneous planning and action allows groups to manage unexpected challenges (Moorman & Miner, 1998). Harrison & Rouse (2014) suggest that this literature hints at the need for autonomy and constraints in the same way jazz musicians coordinate during a jam through improvisation, and more specifically by using autonomy to riff or diverge from the group while working within the constraints imposed by the song's structure and a shared vocabulary of licks (Barrett, 1998). Similarly, SWAT teams are afforded the freedom to elaborate on tasks, but they also draft plans that constrain their actions (Bechky & Okhuysen, 2011).

Research focusing on the dynamic interaction between formal and informal coordination mechanisms in a temporary organization also suggests a set of structuring mechanisms that can be used to rapidly alter formal organizational structure through the enhancement of organizational flexibility and reliability (Bigley & Roberts, 2001), including role switching, where personnel are either moved into newly created roles or discharged whenever the appropriate role structure for an emergency situation changes, and authority migrating which relates to the distribution of critical expertise for solving problems associated with a particular situation. Through these mechanisms supervisors provide subordinates with a degree of latitude to improvise, that is, to activate and coordinate their own routines and to apply novel tactics to unexpected problems. As a result the detailed pattern of behaviors occurring at any point in time is a consequence

of the interplay between relatively centralized and explicit structuring and more diffuse local accommodation and improvisation (Bigley & Roberts, 2001).

The different perspectives described offer key insights into the coordination of creative groups in temporary organizations operating in uncertain conditions and environments which lead to conclude that an integrated approach should go beyond simply considering the independent effects of formal and informal elements on organizational functioning and patterns of interaction (McEvily, et al., 2014) to also articulating the logic by which formal and informal elements are co-organized and co-determinant of outcomes (Soda & Zaheer, 2012). This way we can also comprehend how patterns of interactions in organizations emerge, evolve, and dissolve over time (Ahuja, Soda, & Zaheer, 2012; Zenger, Lazzarini, & Poppo, 2002).

In this line, McEvily et al (2014) suggest that due to the fact that "the mechanisms describing the interplay between formal and informal elements are less well-understood" we first need to clarify the conditions under which formal and informal elements interact, and second, study the origins and evolution of organizational interactions by jointly considering their formal and informal bases, that is understand the extent to which informal interactions "follow" from the formally designed and imposed organizational elements.

More specifically, in the case of multidisciplinary teams, the literature on formal structural designs has largely overlooked the process whereby coordination unfolds when interdependencies among specialists are partly unknown and change unpredictably (Grandori & Soda, 2006; Puranam & Raveendran, 2013; Sherman & Keller, 2011), even though formal structural designs appear critical for coordinating the integration of specialists (Puranam et al., 2012). But even practice based literature on how coordination unfolds on the ground that offers important insights on how emerging interdependencies are informally managed under uncertainty (Bechky & Okhuysen, 2011; Faraj & Xiao, 2006) has paid little attention to the structural context in which coordination practices unfold, and thus overlooks the possibility that existing formal structures may not only inhibit but also support the integration of specialists' efforts under a variety of unpredictable circumstances (Brass, Galaskiewicz, Greve, & Tsai, 2004; Hollenbeck, Ellis, Humphrey, Garza, & Ilgen, 2011; Jelinek & Schoonhoven, 1990; Pennings, 1992).

In line with McEvily et al.'s (2014) more general observation that "it is essential to clarify the conditions under which formal and informal elements interact

and study the origins and evolutions of these interactions by jointly considering their formal and informal bases", this study draws on qualitative fieldwork in temporary organizations to illuminate how formal coordination structures and informal coordination practices not only co-evolve (Ben-Menahem, von Krogh, Erden, & Shneider, 2016) but can also lead toward creative group coordination via methods that go against current coordination beliefs.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

Methodology

3

3.1 Cases Selection and Overview

Being interested in elaborating theory on coordination in creative group work, the author conducted an inductive qualitative study using grounded theory approaches (Charmaz, 2006; Strauss & Corbin, 1998). Inductive qualitative research is appropriate when the research question focuses on developing theory, especially theory about process (Cresswell, 1998; Strauss & Corbin, 1998). The author thus conducted two case studies, allowing for an in-depth qualitative investigation of the coordination process.

The two studies related to one telenovela and one series. The choice of studies was based on the author's concern to ensure they consider creativity important, enabled transparent observations of group interactions and communications and was guided by the author's interest in learning how creative groups coordinate in a temporary organization where work is interdependent, and has to be completed under immense time pressure. These teams have members who do not know each other really well, as they only work together during the temporary project, but need to ensure they coordinate in a creative manner and under unpredicted circumstances. They place a premium on creativity, hierarchy exists but in a way that differs from that of a more traditional organization as it relates to a more flat group structure, and collective work is important for the final product.

In accordance with Bamberger & Pratt (2010) those being studied welcomed this "unconventional research" and as a result gave me access over a long period of time, were motivated to participate as they found being the focus of this study "an honor", and were very interested in the progress of my research and

© The Author(s) 2022

S. Georgiades, *Organization Management – Dynamic Creative Team Coordination*,
Edition Digital Science, https://doi.org/10.1007/978-3-658-37509-6_3

my discoveries improving the possibility of a strong practical impact. Conducting research on such unconventional setting ensured fewer strings attached and therefore no need to filter the findings before reporting the results.

Finally, the temporary organization created during the shooting period has nothing to do with a typical organization, as there are no organizational structures, control systems, inner-groups, evaluations, organizational politics, thus creating an extreme setting where the phenomenon of interest would be "transparently observable" (Pettigrew, 1990).

For these reasons, the author expected that this peculiar setting would enable him to elaborate theory (Lee, Mitchell, & Sablynski, 1999) on the mechanisms where coordination across interdependent specialized knowledge domains unfolds in a multidisciplinary, creative, temporary team.

The key issue was that although the production manager and director had an idea of how to shoot a particular scene, several decisions on how it could be materialized were determined through group interactions during rehearsals, where all crew collectively developed the script.

3.2 Data Collection—Access and Sample

The author gained access to the two settings by contacting two film production companies that shoot films, telenovelas, commercials and video clips. More specifically I got in touch with the production manager of each setting to consider if they would be willing to participate in my study. This would allow me to capture nearly the entire creative process and the emergent moments thought to be critical in collective creative work (Hargadon & Bechky, 2006).

The two projects studied were of different duration and focus. The first was a daily telenovela, shot both indoors and outdoors in different locations, filmed in three years out of which the author was present almost on a daily basis during the whole of the first year's shooting that is a period of ten months. Crew was twenty five people and the yearly budget approximately one million euro. The second was a TV series, also filmed both indoors and outdoors, total duration was two years and the author was present almost on a daily basis during three months of the first year. Crew was twenty people and the yearly budget eight hundred thousand euro.

3.3 Analytical Process

Figure 3.1 outlines the research process, illustrating how the author iteratively moved between data collection, analysis and theory throughout the study.

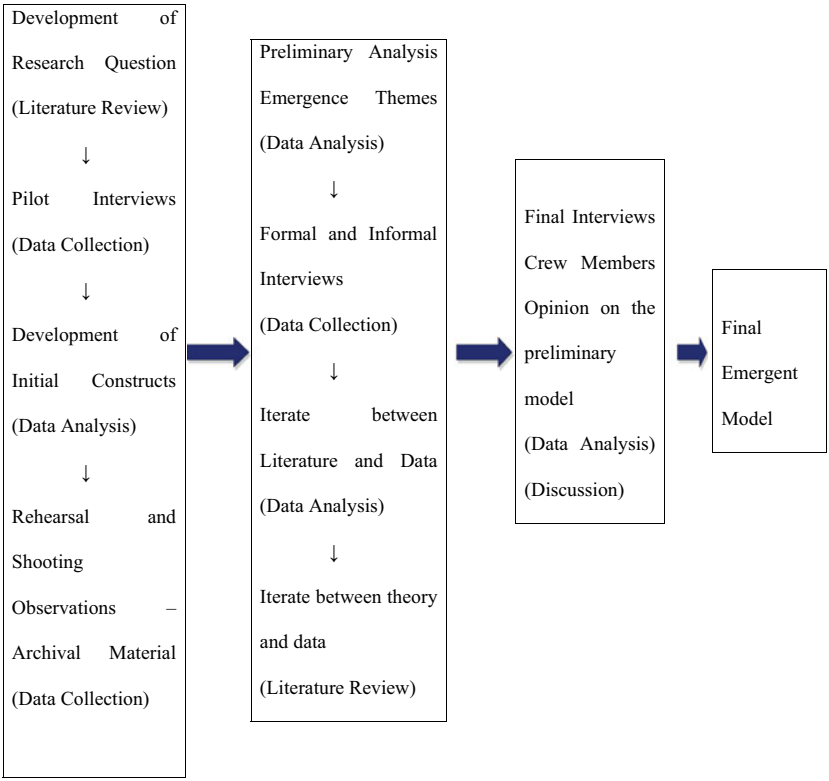

Figure 3.1 Research Process

Development of research question: Initially the author was interested in how groups coordinate creative work in temporary projects. The literature suggested that there is a need to consider how formal coordination structures can be combined with informal coordination practices in order to provide sufficient flexibility necessary to adapt to situations that require novelty (Ben-Menahem, von Krogh, Erden, & Shneider, 2016, Okhyesen & Bechky, 2009). Thus the need to examine

the dynamic nature of coordination (McEvily, et al., 2014) focusing on the way formal structures and informal practices interact and coevolve.

Pilot Interviews: To better understand the dynamics in film crew groups the author conducted exploratory pilot interviews with two production managers and two film directors in order to ask them about the shooting process of a film they experienced in their career. I did not want to focus on specific issues, but to let those issues arise during the interview.

During those interviews one of the production managers highlighted the idea that she did not want to be involved with all shooting details and that as a result she would just stay back and get involved only when she would realize that the director and the other crew members were not in agreement about how to shoot a specific scene, stating that "in fact each one have their specific roles, thus they should know how to handle it". The two film directors expressed the importance of allowing flexibility during the group coordination process because "there are cases where people need to pass the boundaries of their roles and expected responsibilities in order to handle the issues arising during the shooting of a scene". While reviewing the four interviews the author realized the need to understand the dynamics between formal team roles and the informal interactions actually taking place during the shooting.

Rehearsal and Shooting Observations: According to Bechky (2006) two important elements of coordination in temporary projects are role structure and role enactment. To consider these in depth I decided to participate in both the rehearsals and the actual shootings of two film settings. These observations formed the primary sources of data. The researcher was almost daily participant and observer in all departments (direction, production, camera and lighting, production sound, art). This gave him the opportunity to make notes which he would extend by adding additional details every night after the end of the shooting.

Archival Material: The author also gathered archival material such as weekly schedules, scripts of scenes, number of actors/actresses in each scene, locations and time tables during the weekly shootings for both film projects. Moreover, he collected archival data to contextualize the interviews. Data also included documents from the production manager's management platform, and related publications from the local film industry including a local film on directions about the way a film is shot.

Formal and Informal Interviews: In order to enrich my understanding of the groups' coordination and emergent constructs I conducted formal and informal interviews with film crew members in both settings. Those were outside the rehearsals, on a one to one basis, and aimed to help me understand the coordination process taking place during the shootings of scenes I observed and noted

myself. I also informally interviewed crew members during the rehearsals break or during lunch time break and those were shorter interviews that were mainly to help me with the notes I was taking during my daily observations.

3.4 Research Setting

A film production crew consists of several specialized members who need to work together, as their jobs are interdependent, in a creative manner. It is important to note that although they are aware of the script, there is still room for creativeness as there is always room for discussion about issues arising during the shooting of a scene. A major issue they face is time pressure as crew members need to follow strict timetables, otherwise they will surpass both the time and budget limits. There are two issues that are major when considering time pressure. Firstly, actors may be working on more than one project during the same period and thus may not be available to work overtime, secondly, all scenes scheduled to be shot in a specific location had to be completed before moving to a new location thus any delays would mess up the time schedule significantly.

3.5 Data Analysis

The author started the data analysis by going through his field notes and coming up with some initial thoughts on crew coordination. Data analysis was then conducted in three stages.

3.5.1 First Order Concepts

First, to reconstruct the crew's workflow of activities and break down the way coordination is achieved across different jobs, and thus duties and responsibilities, the author initially engaged in open coding of raw interview data (Strauss & Corbin, 1998) and more specifically in breaking down the data to understand the underlying dynamics. To contextualize the interview data, the author used field notes from observations and secondary data. During open coding, I stayed very close to the data to identify the different kinds of statements, questions, and actors that emerged in a given interaction and as a result develop first-order concepts. This was done until the analysis stopped yielding sufficiently distinct first-order categories. Each first-order concept was labeled consistently with informants'

terminology (e.g. first order concept "clear role assignment formally done by the Production Manager" corresponds to interview excerpt "before the start of the new project I was approached by the Production Manager in order to discuss what was expected of myself." (Gioia, Corley & Hamilton, 2012). If coding labels conflicted, I crosschecked emerging codes to ensure that the data were particular to a given code.

3.5.2 Second Order Themes

Second, the author used axial coding (Strauss & Corbin, 1998) to identify similarities and differences in the first-order categories, and aggregated corresponding categories into second-order themes giving them higher order theoretical labels (e.g. handling job interdependencies). I solidified my understanding of each interaction pattern by comparing the interactions to one another. Particularly with observational data, comparing interaction to interaction can allow a deeper understanding of the phenomenon than the coding of small units of analysis such as words or lines (Charmaz, 2006). Counterexamples, where the interactions broke down, were used to round my understandings. Through these comparisons, a structure for my second-order themes emerged around triggers, emergent states and corresponding actions. For example, I noticed that while discussing the initial issues they needed to face during the shooting process, sub-team members flexibly changed their original ideas and as a result handled emergent job interdependencies.

Aggregate Dimensions: As the research design is aimed at elaborating theory, I repeatedly consulted the coordination literature to help me interpret the findings in the light of prior work. In doing so, I aggregated second-order themes into higher-order theoretical dimensions (Gioia et al 2012). This second stage produced a data structure with three aggregate theoretical dimensions. Figure 3.2 summarizes the data structure.

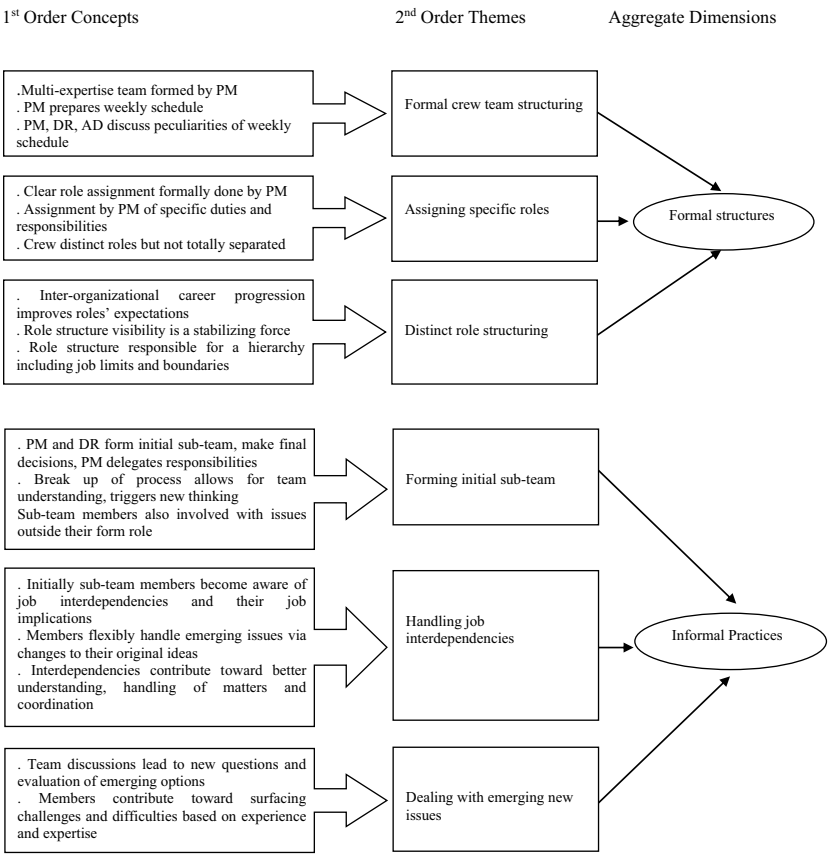

Figure 3.2 Data Structure

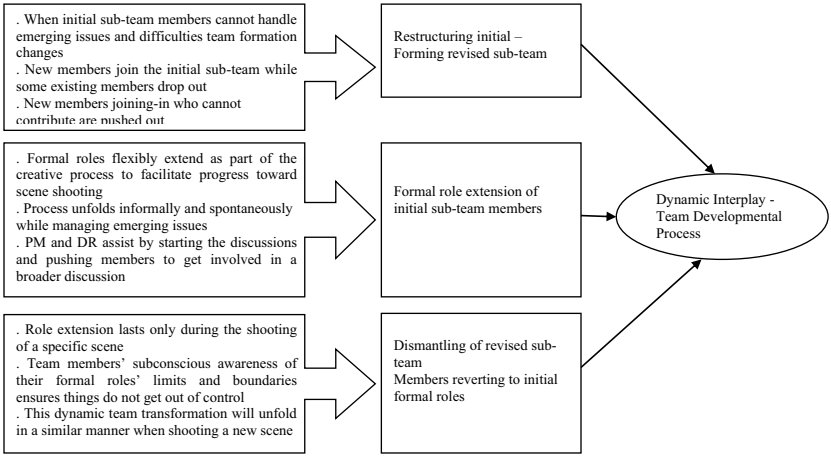

Figure 3.2 (continued)

3.5.3 Preliminary Model

Third, the author revisited the full data set in search of emerging patterns and relationships between the themes and theoretical dimensions. As I progressed toward a deeper understanding of these patterns and relationships, I developed a preliminary model of how formal coordination structures and informal coordination practices interact dynamically to achieve creative group coordination in a temporary organization.

3.5.4 Final Emergent Model

Finally, to lend increased credibility to my interpretations, I discussed the emerging model with several key crew members (Miles & Huberman, 1994; Nag, Corley & Gioia, 2007) before its final development.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

Findings

4

The shooting of a film involves coordination of crew members within emerging sub-teams. The author will first describe the scene shooting process, including the rehearsal process taking place just before the actual shooting, highlighting the way crew members coordinate through formal structures. The author will next discuss how a creative team subsequently turns into uncoordinated methods—in the form of informal practices—and more specifically the way an initial sub-team is formed and then develops into a revised sub-team with a different member formation and new roles and responsibilities for existing members, in order to manage job interdependencies and emerging issues, explaining how the dynamic interplay between formal coordination structures and informal coordination practices evolves and the team developmental process unfolds, before finally describing how the revised sub-team dismantles in order for the same process to develop during the shooting of the scenes to follow, emphasizing a cyclical team coordination process. Table 4.1 provides detailed information on aggregate dimensions, second-order (emergent) themes and their definitions, and additional examples of first-order data.

© The Author(s) 2022

S. Georgiades, *Organization Management – Dynamic Creative Team Coordination*,
Edition Digital Science, https://doi.org/10.1007/978-3-658-37509-6_4

Table 4.1 Aggregate Dimensions, Second-Order Themes, Definitions, First-Order Concepts

Aggregate Dimension	Second-Order Theme	Definition	First-Order Concepts with Examples of Interview Excerpts
Formal Structures	Formal crew team structuring	The team of different expertise fields and level of experience is formed by the PM and its membership depends on the size and budget of the film	"The shooting of a scene develops into a complex creative team project that will be delivered by a team comprised of different areas' experts whose expertise is complementary, and who at some point will contribute toward the materialization of the director's vision" Telenovela Director
	Assigning specific roles	The PM assigns all roles at the start of the project clearly designating responding duties and responsibilities	"Before the start of the new project I was approached by the production manager in order to discuss what was expected of myself. This was helpful as I had already worked with him in the past and thus I knew the way he expects people to operate" DOP TV Series
	Distinct role structuring	Crew members have distinct roles, know what is expected of them, the function of each position and how roles relate to each other, and this clear role structure is responsible for a team hierarchy	"I started my career as a wardrobe supervisor (WS) which is what I studied at the university, but then in my second job assignment I was requested to work as a make-up artist (MA). In my third job assignment the PM suggested I take the role of AD as I was considered to have the potential to fulfill the role. Consequently, I know all three jobs, as well as what is expected of each one, really well. The team may operate in a way that makes an outsider think that no specific job limits and boundaries exit, however In reality, we all know that there are limits to what we can and cannot do, and I guess subconsciously, of the team hierarchy that exists" AD Telenovela

(continued)

Table 4.1 (continued)

Aggregate Dimension	Second-Order Theme	Definition	First-Order Concepts with Examples of Interview Excerpts
Informal practices	Forming initial sub-team	Based on the scene's creative and technical matters the PM and DR form an initial sub-team of only some crew members and delegate responsibilities aiming for an all-around team understanding	"When you arrive at the shooting location you realize that you need to cope with things you never thought of in advance, and this is the point when you need to create an initial sub-team in order to handle these issues in the most creative way bearing in mind the immense time pressure you are under" PM Telenovela
	Handling job interdepen-dencies	Crew members depend on each other while performing their duties and responsibilities, for example a creative idea can not materialize without the necessary technical support	"During the preparation of a night scene I had to discuss a part of a scene with the SM as I was worried about the sound effects and more specifically how different sounds could be separated clearly. After the SM explained I flexibly adjusted the actors' movements to account for the SM's suggestions and as a result coordinate team efforts" PM Telenovela
	Dealing with emerging new issues	This process unfolds informally, where sub-team members discuss an issue, try to understand its different aspects, ask questions, suggest and consider different alternatives, confront limits and so always referring to the script	"While considering the shooting of a night scene the DR told me there was no water running through the tap. The GG suggested that we first had to find out the starting point of the water pipe and then connect it to a hose which would be extended all the way to the tap. I then realized that we had to ensure this is not shown in the scene and that the sound was that of water falling down from a tap and not a hose. The DOP then explained how it could be shot in order to "disappear" from the scene and the SM how to capture the sound" PM Telenovela

(continued)

Table 4.1 (continued)

Aggregate Dimension	Second-Order Theme	Definition	First-Order Concepts with Examples of Interview Excerpts
Dynamic interplay—Team developmental process	Restructuring initial sub-team—Forming revised sub-team	The emergence of new issues and resulting challenges point to the need for new members who possess the knowledge and expertise necessary for the shooting process to advance. New members join in while others drop out, leading to a dynamic transformation of the initial toward a revised sub-team	While discussing an outdoor scene involving the death of the main actress sub-team members consider several issues. "We need to ensure that the actress is positioned at the correct height, DR. The key issue is to capture the change in height as the actress falls, DOP. Should we zoom in the feet of the actress and not the whole body? PM. We need to talk to the MA artist as the make-up will have an effect on the actress positioning, DR. We also need to know how long the SM would like the run of the actress to be before falling off the cliff in order to be able to record all related sounds, PM. The blood on the actress's body will need to be analogous to the run and the fall. Also, if you want to shoot stones falling off the cliff this will also have an impact on the actress's make-up, MA"
	Formal role extension of initial sub-team members	Formal roles flexibly and informally extend as team members get involved with duties and responsibilities that fall outside the boundaries of their formal roles	"Crew members discuss the shooting of a night scene of a wedding fight inside a church where the GG informally extends his role. We need to decide how to shoot the scene unraveling in three different locations, PM. We also need to make sure we shoot in a way not to reveal the faces of the people involved in the fight, DR. I suggest we break up the scene into different parts, DOP. As we must not show their faces we could ask the actors to stand behind the bride and the groom or we could decide for the fight to take place outside the church and we only play the sound without showing what is actually happening, GG"

(continued)

Table 4.1 (continued)

Aggregate Dimension	Second-Order Theme	Definition	First-Order Concepts with Examples of Interview Excerpts
	Dismantling of revised sub-team—Members reverting to initial formal roles	Once the PM and DR make a decision on the best possible course of action and the scene is shot, the revised sub-team members revert to their initial formal roles	"Subconsciously and at all stages of the shooting process, sub-team members have in mind their roles' boundaries as they are aware that after they reach an agreement on how to shoot a specific scene they will all revert to their initial formal roles and respective duties and responsibilities" DR Telenovela

4.1 Inception and Shooting of a Scene

A movie project is broken down into several scenes that have to be shot individually but then need to have the necessary sequence in order to become part of the complete project. What is important to note is that the shooting of a scene is not a rigid, straight forward assignment. While discussing with the director of the telenovela I got the following description:

"Based on the script you need to envision the scene and then try to materialize your vision. In practical terms however, it is a complicated process because of its creative nature. Working with a group of people aiming to turn a written text into a real life scene entails a high level of complexity for two reasons. First, because there is no clear final point at which you can stop, as you continually consider improvements, taking into account the opinion of other crew members as well as that of the actors. Second, because you have to be flexible while at the same time work under immense time pressure".

This excerpt clearly shows that although the director may have an initial thought on how to go on about the shooting of a scene that may seem to be clear, "it then develops into a complex creative team project that will be delivered by a team comprised of different areas' experts whose expertise is complementary, and who at some point will contribute toward the materialization of the director's vision". The director's initial thoughts thus develop into discussions, questions and proposals that highlight the issues that have to be considered, including both the physical creation and sequence of the scenes as well as the synchronization of all crew members during the shooting process. They all form part of a continuous creative build-up process aiming to reach the point which both the director and the production manager consider satisfactory.

This developmental creative process sheds light on the importance of the independent specialists contributing based on their knowledge, expertise and experience, and for those contributions to then be integrated into a final coherent whole via the necessary team coordination.

4.2 Formal Structures

A film crew consists of several members of different expertise fields and levels of experience assigned clear roles. The team is formed by the production manager (PM) and its membership depends on the size and budget of the film. Team members work on the media project on a daily basis, following a weekly time schedule prepared by the PM that contains detailed description of the scenes to be

shot, the actors involved, time schedules, locations, and maps. This information is disseminated to all group members well in advance so that each one knows what is expected of them.

In some cases the film director (DR) may be part of a team responsible for the writing of the script and becomes the link between the script writing team and the crew responsible to materialize the envisioned theme. The director-writer then meets up with the assistant director (AD) to discuss the peculiarities of the weekly program and consider well in advance several issues including what needs to be highlighted to actors in relation to their roles and the way they are expected to act on a specific scene. Also, the script goes to the PM who is responsible not only to prepare the weekly program, but also to consider several script-related issues, including whether a scene should be shot either during the day or night as well as the number of different shooting locations.

The reason the PM needs to make a decision on the different locations is that all scenes scheduled to be shot in one location will have to be shot when the crew visit the specific location irrespective of the scene sequence. This means that if scenes numbers five, ten and fifteen are scheduled to be shot at the same location then the weekly program has to take this into consideration and thus the PM needs to plan for the availability of actors, scripts and crew necessary. Consequently, related decisions made by the PM, DR and AD have to be coordinated well in advance to ensure this peculiarity does not affect the scenes' sequential chain. This creates a major complication due to the fact that the PM needs to ensure that the end of scene number four has to be connected to the start of scene number five amongst other things in terms of day and night shooting as well as actors' clothing and psychology, even though the two scenes may probably not be shot one after another.

Once this is done the DR together with the PM join the rest of the crew to start the shooting process. Crew members have clear distinct roles within the team, each one knowing what is expected of them. It is worth noting that because many start their careers at the position of crew assistant (CA) and gradually progress to all different roles, they are well aware of all different jobs (Bechky, 2006). Also, although roles are distinct, they are not totally and completely separated (Bechky & Okhuysen, 2011) which can sometimes be an advantage during the actual shooting. Consequently, the role structure becomes more visible to all members as they have already crossed roles by assisting in a variety of functions, and learned not only the expectations of that role but also how the roles relate to each other. Thus, crew members become aware of the expectations of different roles by interacting with each other and watching others perform their roles. This inter-organizational career progression therefore creates a generalized role

structure that provides crew members with an understanding of the function of each position that generalizes across projects (Bechky, 2006). According to the AD of the Telenovela "I started my career as a wardrobe supervisor (WS) which is what I studied at the university, but then in my second job assignment I was requested to work as a make-up artist (MA). In my third job assignment the PM suggested I take the role of AD as I was considered to have the potential to fulfill the role. Consequently, I know all three jobs, as well as what is expected of each one, really well. This thorough understanding helps me deal with the issues arising during the shooting".

This in-depth understanding is vital as crew members need to deal with new issues arising fast due to the fact that they are always under immense time pressure to keep up with the time schedule. According to the director of photography (DOP) of the TV series, "on top of the fact that our job is very demanding due to the need to create, we also have to deal with immense time pressure. Creativity requires time which we do not have as the PM is always under pressure to keep up with the weekly time schedule".

What is also important to note is that this clear role structure is responsible for a team hierarchy according to the description of a cameraman (CM) of the telenovela "the team may operate in a way that makes an outsider think that no specific job limits and boundaries exist, however in reality we all know that there are limits to what we can and cannot do, and I guess subconsciously, of the team hierarchy that exists. We all know for example that when necessary, the PM will get involved and give solutions to any outstanding issues".

A key issue regarding role structure is that all roles are assigned and specified by the PM in a formal manner. More specifically, the PM assigns all roles to crew members at the start of the project, clearly designating responding duties and responsibilities. As the DOP of the TV series explains "Before the start of the new project I was approached by the production manager in order to discuss what was expected of my-self. This was helpful as I had already worked with him in the past and thus I knew the way he expects people to operate. This is not always the case as in previous job assignments, working with different production managers, my duties and responsibilities were never made clear to me and as a result did not have a clear understanding of my job tasks".

4.3 Informal Practices

During the shooting of a film project several issues arise that need to be handled by the crew within the expected time limits. As the DR of the TV series explains

"the DR together with the AD initially meet up and discuss about the scenes to follow in order to identify the issues they need to highlight to both the actors and the crew. This way all people involved are clear about what is expected of them during the shooting. However, these issues relate to specific details in relation to the script and not the artistic vision necessary for the actual materialization of a scene, which is something you cannot plan in advance. When you go to the specific shooting location several issues will arise which have to be handled on the spot".

During the data analysis the author came up with three stages that make up the coordination process taking place namely the initial sub-team formation, handling of job interdependencies, and dealing with emerging new issues.

4.3.1 Forming Initial Sub-team

Once the shooting of a specific scene commences, the PM together with the DR need to consider the scene's initial creative and technical issues arising. In order to do so, they form an initial sub-team consisting of only some of the film production crew members. The PM then breaks down the shooting process by delegating responsibilities, and subsequently the sub-team members start discussing the way to handle the initial emerging issues in an informal flexible manner, allowing for the process to unfold and collapse into smaller parts. This way the process becomes simpler and clearer to all sub-team members, contributing toward an all-round team understanding. A key feature of this process is that sub-team members can get involved with issues relating to duties and responsibilities of their teammates, express their opinion and thus contribute, always bearing in mind that most of the times this process will end up with the PM together with the DR making final decisions based on team discussions. It is also worth noting that this process helps improve team understanding by triggering new thinking, which at first leads to the discovery of job interdependencies.

According to the PM of the Telenovela "when you arrive at the shooting location and try to follow the script you have in your hands, it soon becomes clear that aiming to create reality out of a written story is not easy as you need to cope with things you never thought of in advance, and thus never considered the way they can be managed. This is the point when you need to create an initial sub-team in order to handle these issues in the most creative way bearing in mind the immense time pressure you are under, otherwise the sun will go down and you will not be able to shoot all day scenes!".

The following excerpt exemplifies the PM's comments and the process described above. The PM discusses with the DR during the shooting of a scene where they need to "create" rain on what turned out, contrary to the weather forecast, to be a sunny day.

PM: How will the cameras film sun light during a rainy day?
DR: As usual, the weather people got it wrong because they forecasted rain so this is the reason why we had planned to shoot this scene today.
PM: First, we need to consider how to get actors wet, always making sure they do not take any risk of catching a cold!
DR: This is not a problem as we have brought the machinery we usually use to "create" rain.
PM: What about the buildings around? Do they not need to be wet? How are we going to do this?
DR: We will ask the gaffer/grip (GG) to wet these buildings then. This has to be done for all buildings that will "play" within the scene.
PM: What about the sun that will "show" in the cameras? Let's talk to the cameramen (CM) to see how this can be handled. They will probably either need to cover up the cameras or use rain lenses. We may need to change location for this scene in order to be shot in a shaded place, which will make it easier for the cameras to roll without any sign of sun.

The above example illustrates the way the PM together with the DR start to form an initial sub-team that can deal with issues arising during the beginning of the specific scene shooting. What becomes apparent is that only some crew members need to join this emerging sub-team because at this initial stage they need to deal with the scene's initial creative and technical issues. Consequently, only members who have the necessary knowledge and expertise join in. This initial discussion leads to the discovery of job interdependencies, which forms the second part of the analysis.

4.3.2 Handling Job Interdependencies

While discussing the initial matters that need to be handled at the beginning of the shooting process, sub-team members start to realize the existence of job interdependencies. According to the AD, "crew members depend on each other while performing their duties and responsibilities. This becomes obvious for example during the materialization of a creative idea where crew members in charge of

the creative part need the technical support of crew members in charge of the technical part of the shooting. The DR may have the most creative idea but it cannot materialize if for example it may not be possible to provide the necessary light and camera support".

Initially sub-team members become aware of job interdependencies, and then understand their job implications. Each member needs to comprehend the necessity to work with each other in order to reach the best possible outcome during the shooting, and more specifically comprehend how job interdependencies affect the group creative process. The PM of the telenovela described several job interdependencies that became obvious during the shooting of a night scene between himself, the GG and the DOP.

PM: We will need to make sure that water flows through the main village tap located at the fountain of the village square where we will shoot the night scene.
GG: I need to check if the tap functions properly as it is very old.
PM: What do we do if there is no water flow through the tap?
GG: We will have to check if there is any chance to connect the tap to a nearby building.
PM: What if this is not possible?
GG: We will probably need to consider changing location.
PM: Ok, I understand, however I would prefer to find a solution as this location is perfect. We also need to consider the lights of the scene as this is a night scene, which according to the script dates back to 1945 when there was no electricity supply in the village.
GG: We thus have to consider carefully not only where to place our lights but also the type of light covers we have to use. If the village square is very small we may be in trouble as we may not have enough space to position all necessary night lights.
PM: What do we do in such case?
GG: We will probably need to place all our cameras close to each other and in the same location within the village square.
DOP: This will not be good enough but if this has to be the case I will need to know in advance in order to make all necessary planning for the cameras necessary for the shooting.

The above excerpt demonstrates how different jobs are interdependent, and that these interdependencies need to be clarified, understood, and their implications be taken into consideration leading to compromises between sub-team members.

More specifically, the above dialogue shows that job interdependencies lead to sub-team members flexibly adjusting their original ideas. The PM is prepared to change location based on the GG's opinion that this might be necessary for technical reasons, thus resolving the issue arising through an open discussion with the member of staff dealing with the technical part of the shooting. Although this is a compromise, the PM is willing to be flexible as long as this will not lead the creativity level to fall below the acceptable level.

In addition, job interdependences can contribute toward a better understanding and thus handling of the matters involved, something that became obvious during a discussion between the PM and the production sound mixer (SM) in the scene described above. The PM explained that "during the preparation of the night scene I had to discuss with the SM the part of the scene where the actors would first have to fill in their water jars from the village tap and then throw good luck coins to the fountain just before exiting the scene. I told the SM that I was worried about the sound effects as I would like the sound of the water running, the voice of the actors, and the noise of the coins falling in the fountain to have "separation" and be heard clearly. At that stage I was worried about the way this would be done. However, the SM explained how he would manage this, indicating the actors' positions and the timing of the movements for this to materialize successfully". Once the PM understood how this would be done he flexibly adjusted the actors' movements to account for the SM's suggestions and as a result coordinate team efforts.

4.3.3 Dealing With Emerging New Issues

The discussion described above led not only to the discovery of job interdependencies but also to emerging new issues that had to be dealt with by the sub-team members. While discussing the materialization of the scene several questions and subsequent new issues came up as sub-team members kept questioning things and evaluating different options, always bearing in mind both job interdependencies and the script's creating vision. The following excerpt from the scene described above taken from a discussion between the PM, the DR, the GG and the DOP demonstrates the way sub-team discussions led to the development of new questions and the management of emerging new issues during the unfolding of the specific scene.

PM: It seems that there is no water running through the tap.
DR: I was told that there would be water running through the tap when I spoke to the village council members some time ago. As usual you cannot trust them!
PM: What do we do now? How can water be supplied and run through the tap?
GG: We may need to find out the starting point of the water pipe and see if we could connect it to a hose which we can then extend all the way to the tap.
PM: But then, how do we cover it up to make it "disappear" from the scene?
GG: Shall we use clothes of the same color as that of the building?
DOP: The cameras should only focus on the tap and not the water running otherwise the hose might "play" in the scene!
PM: And what about the sound? How do we make sure the sound is that of water falling down from a tap and not a hose?
DOP: There is a way around it. The cameras will "zoom" on the actors' faces so that the GG can insert the hose in the tap and the SM can approach as close as possible to the fountain and capture the sound.
PM: I do not mind as long as the scene is according to the script and the shooting is not affected negatively in any way. We have to make sure that the audience can understand the plot and we can therefore communicate the messages included in the script successfully.

This discussion shows how the sub team is initially formed, its members begin to realize the existence of job interdependencies and the way they affect them, and then how new issues keep emerging that need be resolved, always within the boundaries set by both the script and the creative level considered satisfactory by both the PM and the DR.

As new issues arise, and different difficulties and challenges surface, sub team members position themselves in order to contribute on the best possible way to manage emerging issues based on their experience and expertise. This process seems to unfold informally, where sub team members discuss an issue, try to understand its different aspects, ask questions, suggest and consider different alternatives, confront limits set by the job tasks of other team members, and do so by always referring to the script. The same process repeats itself during the emergence of a new issue. The peculiarity is that, unlike in many other organizations, sub-team members can follow several different routes to reach the same final point (shooting of a scene), but what is important is to discover the route

that will lead to the creation of the scene that will become very popular with the audience and as a result achieve high ratings.

During the shooting of the same night scene (described above) for example, the following discussion took place between the DOP, the PM, the GG, and the DR.

DOP: We need to consider the shadows appearing because of the crew working on the scene, as the only light in the scene must be that of the moon.
PM: We thus have to place the lights in such a way to ensure we eliminate all shadows.
DR: This is very important as the audience may mistake them for ghosts and get confused!
PM: What about the shadows of the actors? They need to "follow" the moon light.
DR: Also, we need to consider the street light, surely in the 40's there were no street lights!
GG: We may either need to cover the street light up or keep in the scene and make it look like the moon light.
DR: Guys, the script expects the audience to get stressed and worried in a night scene showing terrified actors, we therefore must ensure this is the "feeling" captured.
DOP: In this case we need to have our lights "move together" with the actors to make sure the same moon light appears during the complete shooting.
GG: This probably means that we will have to place our lights in all four sides of the scene's location and at the same time follow the actors with some extra moveable light.
DR: We are not supposed to make a horror movie, just need to focus on the terrified faces of actors without making the audience feel horrified.

According to the excerpt above, sub-team member discussions lead first to the discovery of job interdependencies and then the emergence of new issues that have to be handled by the sub-team while always aiming to uncover the way that can lead toward the shooting of a scene that can capture the audience. What is important to note is that the uncertainty on the best way forward leads to complications that will probably require flexibility in order to be handled appropriately. More specifically, changes within the initial sub-team may become necessary in order to answer the questions raised and face the difficulties arising. This can be achieved through a sub-team restructuring and a subsequent enrichment of the

team with the needed expertise and experience which is the theme of the section to follow.

4.4 Team Developmental Process

4.4.1 Restructuring Initial Sub-team—forming Revised Sub-team

Both the PM and DR are in charge of forming the initial sub-team responsible for the shooting of a specific scene, based on the crew members' expertise and in accordance with the script break down. Initial discussions between sub-team members lead to the discovery of job interdependencies, and subsequently the emergence of new issues and resulting challenges, questions and difficulties, pointing to the need for new members who possess the knowledge and expertise necessary for the shooting process to advance. New members may need to join the initial sub-team while some of the existing members may need to drop out, leading to a dynamic transformation of the initial sub-team toward the formation of a revised sub-team will aiming to manage emerging issues.

In the following excerpts taken from the shooting of an outdoor scene that includes the killing of the main actress, the initial sub-team is faced with questions and difficulties that existing members cannot deal with, and thus dynamically alters its formation in order to handle emerging complications.

DR: We need to ensure that the main actress is positioned at the correct height before running toward the edge of the hill and committing suicide.
DOP: The key issue is to capture the change in height as the actress falls.
PM: Would it be a good idea to zoom in the feet of the actress and not the whole body?
DR: We also need to decide about the use of either a stunt man or a puppet.
DOP: guess that while the actress plunges to death it is important we also decide on the position of the sound mixer to ensure we record the actress's feelings.
DR: I believe we also need to talk to the MA as we need to know how she intends to make the actress up while lying dead on the ground as this will have an effect on her "positioning".
PM: We also need to know how long the SM would like the run of the actress to be before falling off the cliff in order to be able to record all related sounds.

MA: The blood on the actress's body will need to be analogous to the run and the fall so both the distance of the run and the height of the fall need to be taken into consideration. Also, if you shoot stones falling off the cliff this will also have an impact on the actress's make-up.

SM: Ok, but in this case I would prefer to break-up the scene into three parts, the run toward the cliff, the fall, and the actress lying on the ground.

DOP: If we decide to go down this way we will need to place our cameras in such a way to ensure they can follow the actress in all different actions and capture all three different parts as a result.

PM: This seems to be the best way of shooting this scene, let's go for it guys.

This excerpt demonstrates how the sub-team discussion on the specific scene revealed job interdependencies leading to the emergence of new issues, and then a dynamic change in formation and the creation of a revised sub-team. This was triggered by existing members realizing that the initial sub-team formed could not handle all emerging issues, hence the need for an initial team restructuring.

Another issue that arose during team member discussions was the way things unfold when crew members join in group discussions and try to contribute on issues that are not within their area of expertise. While discussing the moves of the actress before committing suicide, the GG got involved in a discussion of issues outside the boundaries of his technical expertise, according to the excerpt below:

GG: Would it not be better to zoom in the actress's face during her running toward the cliff and then in her body while lying on the ground? This would add drama and increase the build-up of tension.

DR: I do not think that this would be in accordance to the script. In any case, this could be a good idea from a technical but not a creative point of view because breaking-up this scene would affect continuity negatively.

GG: I guess you are right! In any case, I cannot really evaluate the creative side of things, it is not even my job to do so, I should not be getting involved I guess.

DR: No, you can express your thoughts as this could trigger new ideas, but then my job is to evaluate all ideas from both a creative and technical point of view.

The above discussion demonstrates a very interesting point regarding the structuring of the revised sub-team. New members make a case for joining the team only to be pushed aside when their involvement is not considered to add value. It seems

that during the dynamic transformation of the initial sub-team, changes in team formation can only occur when new members can make a positive contribution.

4.4.2 Formal Role Extension of Initial Sub-Team members

Another interesting point coming out of this dynamic transformation of the initial sub-team relates to temporary changes to the members' duties and responsibilities, where roles flexibly extend in order to facilitate a smooth team functioning. More specifically, formal role boundaries are relaxed and initial sub-team members cross over each other's formal duties and responsibilities. This is possible because, according to the data collected, crew members are assigned different roles in different media projects during the progression of their career which helps them broaden their experience and expertise. What seems critical is that team members recognize that this formal role extension is necessary for the successful shooting of the scene under immense time pressure. Team members are therefore willing to cross over role boundaries as part of a creative process where their involvement in duties and responsibilities that fall outside the boundaries of their formal roles enables discussions of different options, working solutions, and as a result a refinement toward the final decision on the shooting of the specific scene.

What is interesting is that the relaxation of formal role boundaries is done informally, not organized in any formal manner, and this process seems to be spontaneous and unfold on the spot while the team aims to manage emerging issues. Whenever team members were not willing to make the cross over both the PM and the DR would assist by triggering the discussion, expressing ideas and asking questions, thus pushing sub-team members into a dialogue that would lead to a broader discussion of different possibilities that expanded beyond their formal roles and responsibilities.

The following excerpt highlights the extension of formal role boundaries described above during the shooting of a wedding night scene and more specifically a fight taking place inside a church.

PM: We need to decide how to shoot the scene unraveling in three different locations: the bus carrying the wedding guests, the steps just outside the church, and the inside of the church during the wedding ceremony.

DR: We also need to make sure that we shoot in such a way that, according to the script, we do not reveal the faces of the people involved in the fight.

PM: We thus need camera crew in all three locations I guess.
DOP: I suggest we break-up the scene into different parts.
DR: This could lead toward a sequence break-down so I am not sure that this is the best way forward.
GG: What about night lights? Also, as we must not show the faces of the actors involved in the fight we need to consider their positioning inside the church. We could ask them to stand behind the bride and the groom or we can decide for the fight to take place outside the church and we only "play" the sound without showing what is actually happening.
DR: The second option could be a good idea as it would create extra suspense, in accordance with the script.
PM: If the script is not very specific and as a result we have flexibility on how to materialize this part of the scene, we can give it a try.

As this excerpt shows, the GG's suggestion falls outside his formal role, as it relates to the creative and not technical part of the scene, however it is considered positively by both the PM and the DR. This illustrates that formal role boundaries are informally relaxed on the spot, while different ideas and options are expressed, and that sub-team members temporarily cross over to different roles in order to handle emerging issues arising during the shooting.

To sum-up, the initial sub-team is thus transformed in two ways. Firstly, some of the initial sub-team members expand their formal duties and responsibilities by temporarily crossing over to different roles while some others drop out when they cannot make a positive contribution. Secondly, new members join-in when their experience and expertise is deemed to be necessary. The end result is the formation of a revised sub-team.

4.4.3 Dismantling of Revised Sub-team—members Reverting to Initial Formal Roles

Once the PM and the DR make a decision on the best possible course of action and the scene is shot, the revised sub-team members revert to their initial formal roles. The informal coordination practices leading to a revised sub-team formation are temporary as they only last during the shooting of a specific scene. Therefore, the creative group coordination process in the temporary organization of this study highlights a dynamic interplay between formal coordination structures and informal practices (McEvily et al., 2014).

What is worth noting is that although this coordination process is not formally organized, each scene that is shot represents a small creative project where at all stages everybody seems to subconsciously have at the back of their mind their initial formal roles' limits and boundaries, as well as the team hierarchy.

Asked to summarize the unfolding of the whole coordination process in order to elaborate on the importance of formal role limits and boundaries during the dynamic interplay of formal structures and informal practices, the DR of the TV series explained: "Once we receive the detailed script and timetable produced by the PM, the AD, according to her formal role, is responsible to talk to the actors about the key issues of consideration relating to the scene to be shot. At the start of the shooting myself together with the PM form an initial sub-team and during the shooting encourage both the crew members dealing with the creative and the technical part to get involved and express opinions, make suggestions and contribute. Initial group discussions lead to changes in the team's formation based on job interdependencies and the emergence of new issues, while some members temporarily cross over their formal roles' boundaries. What is important to note however is that subconsciously, and at all stages, sub-team members have in mind their roles' boundaries as they are aware that after they reach an agreement on how to shoot the specific scene they will all revert to their initial formal roles and respective duties and responsibilities. In fact, I believe that it is vital formal role limits and boundaries exist otherwise the team work chain could break at some stage and I may lose control of the shooting process. The formal job roles are like my safety net. When I feel that I lose control of what is happening I know I can always fall back on my safety net. I obviously understand that role boundaries need to be relaxed as we aim for creativity and that all members should be encouraged to cross over these boundaries, but at the same time I am aware that at the end of the shooting this process will come to an end, the revised sub-team formed will dismantle, and all sub-team members will revert to their initial formal roles. When contemplating the shooting of a new scene this dynamic process will unfold once again in a similar manner, starting with the formation of a new initial sub-team".

4.5 Emerging Theoretical Model

Based on the findings, the author proposes a model of how formal coordination structures and informal coordination practices dynamically interplay in creative group work via a perpetual team developmental process (see Figure 4.1).

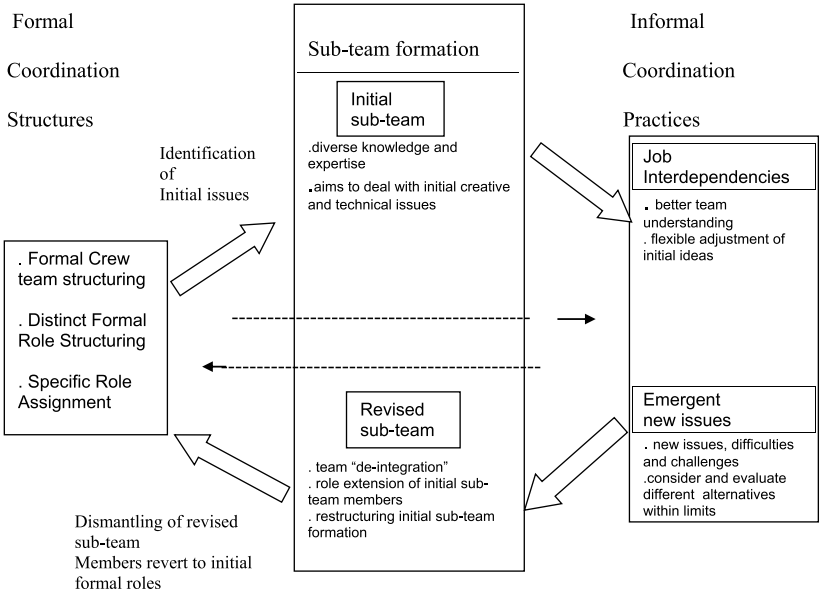

Figure 4.1 Emergent Model of Dynamic Creative Group Coordination in a Temporary Organization through a Cyclical Team Developmental Process

First, the emergent model explains how a distinct formal role structure together with a specific role assignment establish formal coordination structures for specialized contributions leading toward the emergence of informal coordination practices, one would expect to be un-coordinating, that enable specialist team integration of efforts. Second, the model explains how informal coordination practices unfold through a cyclical team developmental process.

This model captures the key role of the emergence of a dynamic team transformation, and more specifically the way it is initially formed, then restructured and revised, and finally dismantled, its members reverting to their initial formal roles, capturing the dynamic interplay between formal coordination structures

and informal coordination practices within a creative group of a temporary organization.

4.6 Dynamic Interplay Between Formal Structures and Informal Practices

4.6.1 Trajectory from Formal Team Coordination Structures to Informal Sub-team Coordination Practices

The formal crew team structuring is based on a distinct formal role structure and a specific role assignment. Initially, a team of crew members is formed, where its members operate within a distinct role and each one is assigned specific tasks related to their role.

While observing the initial trajectory, two mechanisms lead to the observation (future emergence) of uncoordinated methods in the form of informal practices. 1. The initial trigger consisting of the initial issues arising during the shooting process and 2. The formation of an initial sub-team to deal with the issues, using informal coordination practices.

First, the inter-organizational career progression creates a generalized role structure that provides team members with an understanding of the function of each position that helps them understand and generalize the role structure of the group (Bechky, 2006). Consequently, the distinct formal role structuring of crew members helps ensure each member is aware of their role within the group. This becomes clearer and more explicit through the specific role assigned to each team member relating to specific tasks expected to perform, including specific duties and responsibilities. These formal coordination structures help team members identify the issues they need to deal with during the shooting of a scene as they are all aware of their responsibilities and therefore the way they are expected to contribute. In addition, the awareness of each other's role allows for a break-down of the shooting process into separate tasks and as a result a clear distinction of responsibilities. This helps members identify the different tasks, relates each member with each specific task, and leads toward an associated mode of contribution that is supported by a hierarchy that exists and which subconsciously prompts boundaries and limits to the contributions of each member.

Across the two media projects investigated when crew members would start the shooting process of a scene, they had a subconscious understanding of their roles, corresponding duties and responsibilities, and a clear expectation of each other's contribution.

Second, the discussion about the shooting of a specific scene helped define the domains necessary and thus shaped the formation of the initial sub-team that would aim to deal with the initial issues. This disaggregation of the shooting process via responsibility delegation to an informally structured sub-team consisting of specific specialists also provides a clear distinction between the creative and the technical issues that have to be considered, which minimizes at this initial stage the possibility of specialists getting involved with issues outside their domain. Such categorization prompts specialists to enact a corresponding mode of contribution that involves either the creative process of the script or the way it can materialize in a technical manner.

Through this categorization specialists also develop a social awareness of how their contributions are related to those of other members as each member selected to become part of the initial sub-team subconsciously becomes aware of the limits and boundaries of their own contributions within the sub-team formed. Bearing in mind the fact that sub-team members are aware of each other's role due to their inter-organizational career progress, a lack of clarity with respect to each member's contribution can be a common problem in such multitask team that can hamper the contribution of its members.

Given these two mechanisms, the relationship between the formal coordination structures and the emergent informal practices can be understood in terms of specialists efforts to first identity and then manage within a sub-team the initial issues arising in such a way to fulfill their responsibility of creative materialization, and more specifically for creatively turning an imaginary scene into reality. Crew members are responsible for turning an imaginary story into a scene, that is creating reality out of a vision, and have to do so knowing that the construction of such a scene will keep evolving up to the point where it is considered to be as close to the written script (writer's vision) as possible while always being aware that there is no clear end point to be reached. Crew members are thus faced with task uncertainty and know that they need to work together in order to develop a deep understanding of how each one needs to contribute within a sub-team, while their contributions dynamically progress during the development of a scene.

Specialists therefore intensify their engagement together with other sub-team members to identify, comprehend, and integrate all initial issues that need to be considered during the shooting of a specific scene, and do so in a dynamic manner due to the fact that these initial issues will gradually develop as the shooting process progresses. The analysis shows that to this end, sub-team members informally coordinate based on job interdependencies and the discovery of new issues. What is important to note is that although these practices lead the team

to de-integrate, and thus would be considered "un-coordinating", in actual fact contribute toward team coordination.

4.6.2 Trajectory from Informal Sub-team Coordination Practices to the Formal Team Coordination Structures

Two features of informal coordination practices stand out.

First, the sub-team members' work seems to be shaped by their job's interdependencies and the discovery of new issues. These two informal coordination practices seem to enable sub-team members manage the dynamic changes taking place as a result of the unpredictable nature of their work by flexibly adjusting through a team "de-integration" that leads to team coordination, even though it would appear to deviate and challenge traditional coordination methods.

Specifically, identifying and managing job interdependencies involves clarifying, understanding, and handling interdependent knowledge of specific issues, thus enabling sub-team members to understand resulting implications and flexibly look for compromises. Specialists at first conceptualize the web of interdependencies in which their specific job is embedded, thus developing an awareness of how their contributions affect and are affected by those of other specialists while aiming to create. In addition, this allows them to comprehend priorities and consider their efforts at a team level, thus achieving a more complete consideration of the way their efforts can be integrated to the efforts of the group as a whole. This means that members become aware of how their work impacts the work of others, forcing specialists to discover shared tasks and direct their efforts in shaping the dynamic changes taking place within the creative process in such a way that all sub-team members can contribute toward a team objective. Job interdependencies therefore help sub-team members integrate their efforts toward a common aim.

Managing job interdependencies leads also to the identification of new issues resulting from questions, difficulties and challenges that need to be managed. More specifically, the mutual comprehension of job interdependencies assists sub-team members to be creative by flexibly readjusting team work thus allowing for new issues to arise. This enables them to always question their contribution and evaluate it in terms of how it can integrate to that of others, always confronting the limits subconsciously set by other sub-team members' contributions. In addition, this allows sub-team members to evaluate different options by posing questions to each other and coming up with suggestions while trying to balance between the creative and the technical part on the one hand, and the envisioned story of the

script they have to materialize on the other. What the group does is thus stretch the initial cognitive limits by suggesting new ideas and previously unconsidered alternatives, allowing for an initial problem to multiply into a broader discussion of an array of options that move beyond the initial mode of conceptualization. What is interesting is the negotiated order during this process between the sub-team members that centers around the need for compromise and coherence while aiming to arrive at an aggregated creative idea.

Second, informal coordination practices while handling job interdependencies and emergent issues lead to the use of what one would expect to be "un-coordinated methods", in the form of team "de-integration", which in actual fact contribute toward team coordination.

More specifically, the informal practices first lead to the formation of a revised sub-team that includes both different members and extended duties and responsibilities for existing ones, and then finally to the dismantling of the sub-team where all sub-team members revert to their initial formal roles within the work group. The need for the initial sub-team restructuring arises from the realization of job interdependencies and the subsequent discovery of new issues resulting from emerging questions, difficulties and challenges that cannot be managed by the members forming the initial sub-team. The need to change the sub-team's formation may also arise due to the inability of the initial sub-team members in producing such creative ground breaking discussion that can stretch the initial cognitive limits of its members into materializing the envisioned script. In such case, sub-team members may be unable to comprehend the needs of other members and thus build up on their initial thoughts, attempting to contribute on knowledge domains they do not possess as a result.

Consequently, sub-team members are encouraged to collectively reconsider their duties and responsibilities beyond those assumed when the initial sub-team was formed. The inter-organizational career progress provides sub-team members with the opportunity to temporarily cross over their role boundaries and get involved in duties and responsibilities that fall outside their formal roles. This team evolution seems also to relate to the need for sub-team members to both be creative, which can be hampered by the lack of knowledge within the initial sub-team formation, and to complete the specific scene working under an immense time pressure that does not allow for any kind of delay. Moreover, lack of understanding of job interdependencies could hamper the sub-team's ability to explore outside the standard norms of their roles and build up a creative pattern. This is vital because the compilation of creative ideas is what leads toward the materialization of the final creative product.

In the two research projects the author observed a dynamic transformation of the initial sub-team into a revised one that was triggered by an informal questioning of both the PM and the DR on how the scene could be shot, encouraging team members into a discussion of different options expanding beyond their formal roles. What the author discovered was that constructive comments and questions revealing job interdependencies would spam the sub-team's boundaries while the team dynamically and flexibly had to adjust into handling job interdependencies at first and then collectively break ground. Questioning, consideration, and then evaluation of different options led to progress toward the final creative product. This structural adaptation seems to be critical for creative sub-team coordination when job interdependencies exist, teams members work under immense time pressure, and the final creative product cannot be clearly evaluated as it does not have a finite, agreed upon form.

What is also interesting is that the initial formal job roles act as a safety net for both the PM and the DM on which they can rely on whenever they believe that the chain of work is in danger of breaking and they are losing control of the sub-team members. This safety net can be used to resolve a possible team lack of coherence caused by the dynamic changes to the formal role structure that leads sub-team members to cross-over their role boundaries and extend their formal duties and responsibilities as a result.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

Discussion

5

By considering the interactions of two creative groups in temporary organizations during two media projects the author proposes a model illustrating how they repeatedly change formation so that individuals can manage job interdependencies and new issues arising while developing, building up, and synthesizing new ideas into a final creative solution. This theory on creative group dynamic coordination builds theory on how and why creative groups coordinate, challenges assumptions about the role of formal structures and informal practices by demonstrating how the two dynamically interact and complement each other to facilitate coordination via the emergence of what one would expect to be "un-coordinated methods", and provides an alternative perspective to the stages the groups have to go through by emphasizing a cyclical and not a linear team developmental process.

This study contributes to theories of creative group coordination. Recent research explains that creative groups coordinate via role structure and role enactment, where team members enter into a role and find expectations and resources to negotiate it via role enactment (Bechky, 2006), the crew rarely breaks out of their role or act contrary to role expectations (Okhuysen & Bechky, 2009), and to deal with surprises they coordinate via a larger understanding of a task, entailing a detailed knowledge of the work of others and knowledge of how the collective task advances (Becky & Okhuysen, 2011). Others suggest that coordination in the case of creative group work requires integration, but also de-integration, allowing for independent work, where group members can act individually, introduce ideas, and push the group into unfamiliar problem domains that disrupt a sense of predictability and common understanding (Harrison & Rouse, 2014).

The research mentioned above highlights the interactions taking place within a creative group leading to team coordination, explaining how team members act and interact either individually or collectively in order to coordinate, but

© The Author(s) 2022

S. Georgiades, *Organization Management – Dynamic Creative Team Coordination*,
Edition Digital Science, https://doi.org/10.1007/978-3-658-37509-6_5

omits the existence of a coordination process and thus an explanation of how it unfolds, including specific group coordination stages. Contrary to this, this study extends theorizing on the importance of cyclical group interactions that over time can produce a creative composition (Harrison & Rouse, 2014) by suggesting a cyclical coordination process, highlighting the key role of the emergence of a changing sub-team created initially to deal with the basic creative and technical issues and then to face job interdependencies and the discovery of new issues, and more specifically its initial formation, dynamic restructuring, revision and final dismantling, thus highlighting a move from a linear toward a cyclical team coordination process. This study thus suggests that theoretical accounts on how creative groups coordinate cannot be reduced in explaining how team members individually act or collectively interact, but also needs to consider the coordination process taking place, through a team developmental process, underlying the way the group flexibly adjusts during the dynamic interplay taking place between formal coordination structures and informal coordination practices.

5.1 How Group Dynamic Coordination Develops

This study contributes to our understanding of how formal coordination structures and informal coordination practices in a temporary organization dynamically interact, and how this process unfolds, leading toward creative group coordination via the use of methods one would expect to be "un-coordinating". The emergent model proposes that within formal structures that include role constraints and the subsequent informal creation of a sub-team, team members enact informal coordination practices that do not only help them handle job interdependencies but also collectively search for and deal with emerging new issues and resulting puzzles, thus breaking ground by considering different options and suggesting new directions. This way the sub-team coordinates via de-integration, and more specifically by encouraging its members to informally pull role constraints further, stretch them and then relax them, allowing for the emergence of surfacing ideas and alternatives not previously considered, thus enabling creative work by infusing unpredictability and new understandings. To accommodate for all these, team roles and composition flexibly and informally adjust before the sub-team finally dismantles and reverts to its initial formal structure.

5.2 Why Creative Group Coordination Occurs?

Several studies mainly explain how while ignoring why people engage in certain coordinating activities (Okhuysen & Bechky, 2009). The author thus aims to make a contribution by considering the reasons why creative group members in a temporary organization engage in such coordinating actions, highlighting three stages during the process that lead toward this type of behavior: the initial issues group members need to deal with, the identification and management of their jobs' interdependences, and the subsequent emergence and handling of new issues.

This brings together the literature on formal role structure (Bechky, 2006) and proactive creativity (Harrison & Rouse, 2014).

In line with Edmondson (1999) this study's findings on formal crew team structuring consisting of a distinct formal role structure and a specific role assignment show that these formal coordination structures promote group learning and experimentation as they provide an appreciation of existing group norms. This initial stage then establishes a sense of psychological safety that makes members at a later stage feel safe to take creative risks within these bounds, and thus acts as a foundation that establishes a climate for the states to follow, that is the emergence and management of job interdependencies and the discovery of new issues. Furthermore, the author showed that team members draw on this formal coordination structures to develop a vital awareness of the level of interdependence within which their efforts have a collective bearing (Ben-Menahem, von Krogh, Erden, & Shneider, 2016), establishing the grounds for informal coordination practices.

This study also shed some light to the idea of proactive creativity (Harrison & Rouse, 2014) by showing how informal coordination practices contribute toward team coordination via the use of what one would expect to be "un-coordinating methods" in the form of team "de-integration". More specifically, this study contemplates how the members of the group push against the boundaries of their idea space, becoming aware of one another's experimentation, thus reaping the benefits of divergent thinking and individual exploration that results in the emergence of an array of ideas and options. The author has thus explained that to achieve team integration while generating something truly creative is often the result of a logic that points to tendencies rather than fixed norms (Adorno, 1999), where choosing a solution in relation to an issue regarding a job interdependency for example, creates a sense of finality for the current problem in hand, but also generates a tendency for future solutions (Harrison & Rouse 2014) necessary to seek as a result of emerging new issues. This is considered major due to the fact

that the solutions given will eventually have to fit together while aiming to reach a satisfactory level of group creativity leading to the final creative product.

The findings also enrich the literature on the creation and changing formation of sub-teams, in a cyclical team developmental process.

Structural contingency theory does not explain how structural designs adopt over time as task conditions change (Cronin, Weingart, & Todorova, 2011; Hollenbeck et al., 2011). Previous research identified extensive bureaucratic mechanisms that can increase organizational flexibility by transforming more traditional bureaucratic structures (Adler, Goldoftas, and Levine, 1999) explaining that they can serve as important sources of flexibility when they are combined with structuring processes (Ciborra, 1996), thus emphasizing that bureaucracy can help produce rapid structural variation in response to situational contingencies (Bigley & Roberts, 2001). This study's emerging model adds to this as it explains how the process unfolds starting with formal role structures acting as a formal coordinating mechanism which then transforms into informal practices, highlighting the way a sub-team in a temporary organization is initially formed, then dynamically restructures and finally dismantles while aiming to handle uncertain and continuously changing task conditions.

Furthermore, several studies that focus on structural adaptation note the importance of coordination and communication behaviors necessary for teams to adopt (Hollenbeck et al., 2011; Moon, Hollenbeck, Humphrey, Ilgen, West, Ellis & Porter, 2004) and support that partial structure can be conducive to and required for improvisation (Brown & Eisenhardt, 1997; Moorman & Miner, 1998; Weick, Sutcliffe, & Obstfeld, 1999). Building up on these ideas, Bigley & Roberts (2001) considered the effects of variable structuring on improvisation and developed a model on the basic processes for rapidly altering formal organizational structures that are deliberately and purposefully developed and codified in a set of formal procedures, thus their development and retention is strategic. The emergent model of this study adds to this by highlighting the fact that this flexible team restructuring can also develop informally, without the existence of a pre-determined strategic process in place within the organization, thus no need for either an omniscient designer responsible to structure the specific team (Puranam & Raveendran, 2013; Orlikowski, 2008) or for team members to possess a representation of the optimal interdependencies that connect them (Puranam & Swamy, 2011). The findings showed that based on the specific needs of a scene a creative sub-team in a temporary organization is initially formed on the spot and then is informally re-structured to manage job interdependencies and the discovery of new issues via "de-integration", that is a temporary relaxation of formal role boundaries where sub-team members develop ideas, suggest new directions and synthesize them

into a final solution in a cyclical sub-team structural adaptation that although one would expect to be "un-coordinating" in fact it is critical for creative team coordination. What evolves is a dynamic interplay of formal coordination structures and informal practices of coordination through a cyclical team developmental process that suggests an evolutionary relationship and thus a dynamic endogenous nature, where designs can evolve toward better fit (Cardinal at al., 2011)

5.3 Linear Process to Cycle

The emergent model underlines the importance of a cyclical team developmental process leading toward a creative composition, in line with Marks, Mathieu, & Zaccaro (2001) observation that outputs of previous group interactions become the input for the next phase of work, the next set of interactions, thus adding to the importance of momentary interactions in collective creativity suggested by Hargadon & Bechky (2006).

The findings affirm and extend this work by highlighting the way an initial sub-team is formed to handle the preliminary phase of work, then it is revised in terms of both its members and respective duties and responsibilities in order to handle surfacing job interdependencies and emergent new issues, before finally dismantling and its members reverting to their formal roles, in what appears to be a cyclical team developmental process. The emergent model is thus not only about understanding the way sub-team members interact and build up creative ideas within the team but also about how the sub-team restructures to enable progression to what is considered a satisfactory point of group creativity.

The emergent model also adds to the theory of developmental process leading to organizational fit (Siggelkow, 2002) where initially ill-fitting designs can evolve toward better fit (Cardinal et al. 2011) in that it focuses on the interactions taking place at each stage, thus explaining not only how but also the reasons why, something the author considers important for the management of such a developmental process. The emergent model thus contributes toward the understanding of the complexity of doing creative work (Howard, Culley, & Dekoninck, 2008).

The findings on a cyclical creative process are also in line with Harrison & Rouse (2014) in terms of suggesting the importance of viewing creativity as compositional rather than a unitary idea, where a group works together to integrate their ideas into a coherent whole. The model proposes that based on initial formal role structures, team members enact informal coordination practices that assist them handle job interdependencies, as well as search for and discover new options, puzzles, and suggest new directions in a state of de-integration. Role

constraints are initially pulled further, then stretched and finally relaxed, allowing for the emergence and evaluation of new ideas and alternatives on the way to the final creative solution, before team members finally integrating back to their original formal roles. This is in line with past work considering creativity as a process of idea integration and selective retention in group work (Im & Workman, 2004; Simonton 2010). This work extends this theory by adding that during this developmental process of ideas integration team roles (duties and responsibilities) and structure flexibly adjust, and that the same process starts all over again with the shooting of a new scene in the same team developmental cyclical path.

5.4 Implications for Practice-Based Research on Coordination

The present study builds on the stream of practice-based coordination aiming to contribute toward closing a gap in research between theory and real world occurrence (Orlikowski, 2010), while responding to the calls of an in-depth explanation of how coordination works (Okhuysen & Bechky, 2009) as well as a clarification of both the conditions under which formal and informal elements interact and the extent to which informal interactions "follow" from the formally designed and imposed organizational elements (McEvily et al., 2014).

Recent work on coordination focuses on the way groups flexibly adjust to coordinate while responding to crises (Faraj & Xiao, 2006) and disasters (Majchrzak et al., 2007; Weick & Roberts, 1993) where coordination includes integrating interdependent tasks, drawing from work on improvisation where simultaneous planning and action allow groups to manage unexpected challenges (Moorman & Miner, 1998). This study's emergent model is in line with this research, as it highlights the transformation of formal coordinating mechanisms into informal practices, including the identification and management of job interdependencies and emergent issues, that help a creative group flexibly adjust and coordinate via the evolution of "un-coordinated" methods, and do so through a cyclical team developmental process considered critical for creative team coordination.

Informal coordination practices have been the focus of another line of practice-based research that shows the efficacy of roles in facilitating non-programmed coordination in dynamic settings like fire-fighting, trauma departments or film crews (Bechky, 2006; Bigley & Roberts, 2001; Klein et al., 2006) emphasizing that even with role encoding responsibility, some informal practices in the form of "constrained improvisation" are required to execute shared work (Bigley &

Roberts, 2001) and that people flexibly react to changing environments or changing task demands within the scope of their highly specified roles. Taking this idea further, Valentine & Edmondson, (2015) explain that in some situations a role structure with de-individualized roles can be organized in a rather stable structure that enables personnel act like a team, suggesting that informal practices can be developed from a formal role structure and that the two interact in a dynamic way. This research also supports the idea of a dynamic interaction between formal coordination structures and informal coordination practices (Okhuysen & Bechky, 2009) and by illuminating this relationship, the emergent model supports the integration of practice-based research with the literature on the integrating conditions for coordination that can be accomplished not only through formal means but also through informal and emergent interactions in an organization (Bruns, 2013; Okhuysen & Bechky, 2009). More specifically, the author proposes that formal coordination structures and informal coordination practices in a temporary organization interact in a cyclical dynamic way where informal practices arise as a function of expertise diversity, constituting second-order practices that pull the diverse expert practices together, and that this is appropriate when coordinating work requires customized adjustments rather than routine interactions (Bruns, 2013). The emergent model suggests that in creative group work, including team members with different roles based on their expertise diversity, coordination is a function of a flexible team adjustment relying on initial formal team structures—that include both distinct role structuring and the assignment of specific roles—and the subsequent development of informal coordination practices. The formal role structures do not necessarily provide sufficient structure for effective coordination. The evolution of informal practices, one would expect to be "un-coordinating," that enable individuals to cohere into a temporary interdependent performing unit via an understanding of job interdependencies and emergent issues, is what facilitates coordination in a creative team. This team developmental process is a necessary condition for creative group coordination, because it allows for the team to flexibly integrate and de-integrate in terms of both team roles (duties and responsibilities) and structure, and at the same time be creative.

The emergent model based on research conducted in temporary organizations shows that the initial team structure including role constraints is important in enabling team members achieve a satisfactory level of understanding of the task and lays the groundwork for the emergence of informal coordination practices that can assist with the management of emerging job interdependencies and new issues. What the author uncovered is that this initial role constraint is relaxed as informal coordination practices evolve and the initial sub-team formed is revised

into a new team where roles and composition flexibly and informally adjust. This team developmental process allows its members to focus on a narrower scope while at the same time bound into a meaningful grouping that can interact fluidly and continuously build up on initial ideas in a creative process aiming to materialize the director's idea. The informal coordination practices that the author came across were based on intense communication, continuous adjustments, team member collaboration, and exchange of details about domain-specific specializations. What is worth noting is that they require a high level of flexibility if the subteam is to continuously adapt within changing formations and ensure its members can interact in a way to achieve coordination while continuously advancing their thoughts toward reaching a satisfactory level of creativity.

Several practice scholars consider that to achieve a thorough understanding of the way group coordination unfolds we need to consider the recursive effects between the team's formal structure and the emergence of informal coordination practices (Ben-Menahem, von Krogh, Erden, & Shneider, 2016). In a similar note, the emergent model shows how informal practices dynamically interact with formal role structures, but the author also argues that formal structures are present even during the unfolding of the informal practices because they act as a safety net on which team leaders can fall back on, whenever they consider it necessary during the integration and de-integration process, in order to avoid de-integration leading toward a group structural breakdown. The initial role constraints might provide boundaries that preclude the sort of group chaos or dissensus that generally emerges when individuals disrupt group coordination patterns (Barker, 1993; Van Dyne & Saavedra, 1996). This supports the idea that informal practices arise as a function of formal structures (Bruns, 2013) and that the two elements are embedded within each other (Okhuysen & Bechky, 2009) and continuously and mutually interact.

5.5 Broader Implications, Boundary Conditions and Limitations, Directions for Future Research

Film production bares several of the "unusual" context characteristics and thus trying to understand creative group coordination in that context can fall within what Bamberger and Pratt (2010) label as "unconventional" organizational research, that is research where either or both the sample and the context are unusual by today's norms.

More specifically, film projects are of limited duration, require diverse skills to complete a complex task, the crew form an organization only for the duration of

the shoot and then disband, film sets are both physically and temporally isolated from the outside world, film production is characterized by strongly enforced interdependent activity and lacks the permanent structures such as stable rules and hierarchies (Bechky, 2006).

This "unconventional" management research can lead to what Bamberger and Pratt, (2010) identify as an "extremism" which allows the capture of constructs and relationships that may be too weak to notice or capture in traditional settings, thus facilitating the development of richer theory, and as in the case of this research, such "extremism" can provide the rapid cycles lacking in more traditional contexts thus helping to explore emergent patterns in a much shorter period of time by shortening cycle time.

In addition, the context chosen gave the author the opportunity to view the way a creative group coordinates in a transparent manner as he was physically part of the shooting process. This gave him the opportunity to capture people's thoughts, ideas, and discussions, thus follow closely the team developmental process.

Another major advantage was that the author had the opportunity to view the complete sequence of production, from the very start to the very end of each scene's shooting, that is a full repetitive cycle, and to investigate this process for a period of ten months in the first and three months in the second case. Also, the fact that the film achieved high ratings and got very positive critics boosted the author's belief on the group's creativeness.

5.5.1 Boundary Conditions / Limitations

Despite the strengths described above, it is important to consider the findings and theorizing in terms of the study's boundary conditions and limitations.

In this research setting, creative group coordination requires a continuous and developmental integration of contributions between team members through a subteam change of team roles and structure leading toward the final creative solution. Consequently, the findings cannot be generalized to cases where collective work requires loose coupling of contributions that need to remain distinct and only nominally respond to changes in other contributions (Orton & Weick, 1990) and where for example coordination does not require deep dialogue (Majchrzak et al., 2012) or changes to practice (Burns, 2013).

In addition, the teams observed lacked the conventional bureaucratic hierarchical structure as they had a relatively flat group structure, team members worked together for a temporary period, and the group could flexibly change its structure. In a similar line, previous studies have suggested that the impact of changing

team structures depends on employee involvement with their formation (Langfred, 2007) and that this partial or underspecified structure is conducive and required for improvisation (Brown & Eisenhardt, 1997; Moorman & Miner, 1998; Weick, Sutcliffe, & Obstfeld, 1999) which is vital for organizational effectiveness especially when an organization faces an unpredictable environment and consists of skilled, knowledgeable and resourceful people.

Consequently, this study's findings are likely more useful in temporary groups with a similar flat and flexible team structure, and this should be taken into consideration when aiming to apply the emergent model of dynamic creative group coordination to different contexts.

Moreover, team members work under both immense time pressure and uncertain conditions while aiming to materialize a written script, never being sure either when they have reached the optimal level of creativeness or what the best of many different routes to follow would be in order to achieve the necessary coherence of group members' contributions that will assist them reach this level. Previous researchers have also considered the effects of constraints suggesting that they can act as a useful device to facilitate the generation of ideas and coordinate the group (Harrison & Rouse, 2014) and also achieve a group flow that enhances creative performance (Sawyer, 2007). The need for coherence while aiming to generate something truly creative has also featured in previous work emphasizing that all individual decisions made need to coalesce into a coherent, intelligible whole (Ford & Sullivan, 2004) following a logic that points to tendencies rather than fixed norms governing what should be done or not done (Adorno, 1999). These specific conditions, the constraints imposed by the written script and the need for coherence in order to find the best possible option, may lead toward specific members' behaviors and attitudes not likely to apply in other work contexts, something one would need to bear in mind when making use of the emergent model.

5.5.2 Future Research

The author observed the first season of two film projects, ten and three continuous months respectively, that was not the complete duration of the projects as their filming lasted for more than one season. Future research could consider how this dynamic group coordination evolves, and more specifically how the structural adaptations described in this study's emergent model may have an impact over the performance of the group members as the project progressively develops. It might be that the cycle the author observed might alter in the final stages of

the project or that the interactions observed may prove to be either more or less significant in the latter project stages. Future research could apply the emergent model to longer projects to observe any possible differences.

Scholars of organizational theory need also to pay attention to the group characteristics to better understand creative group coordination. Previous studies showed that employee knowledge (Reagans, Argote, & Brooks, 2005; Feldman, 2000; Klein et al., 2006), reliability (Bechky, 2003) and differences in the status of group members (Metiu, 2006; Edmondson, Bohmer & Pisano, 2001; Lee, 2002) impact team coordination. Insights into how coordination relates to the group's experience and gender composition, as well as the members' degree of expertise and individual creativity level could provide a more nuanced understanding of coordination in creative groups.

More specifically, experienced team members could find it easier to handle job interdependencies and changing team formations. Team member expertise also seems to play a major role because according to this study's emergent model the fact that team members rotate between different roles in their careers and are thus aware of what is expected seems to help them manage the complexities in the coordination of diverse knowledge domains. This raises the question about the role of team expertise in making contributions compatible so that they can then be integrated in a coherent manner during the team developmental process. The group's gender composition also opens up possibilities for future research as previous research showed that it would affect team communication (Woolley, Chabris, Pentland, Hashmi, & Malone, 2010). How could team coordination differ in predominately male to female group? Finally, team member coordination could relate to differences in the members individual creativity level as it could correlate with the introduction of new ideas and the subsequent discovery and development of new issues during the team developmental process. Do the changes in team formation relate to the individual creativity level of team members?

Future research can extend this study's findings by paying more attention to the individual differences in group membership described above. This seems vital in a creative team context because it could shed light on what individual characteristics are important when forming such a team.

The distinctive characteristics of this research's context mean that further empirical research is necessary to consider how the emergent model can apply to different settings in the same industry or similar settings in different industries, where interdependent creative work may be organized in a temporary manner. More specifically, project-based environments requiring creative group work, including advertising, consulting, and high tech firms, that have become very important recently (Shenhar 2001; Grabher 2002). How can team coordination be

achieved in a context where team members do not possess the expertise film crew possess in several different positions? How do teams develop and change their formation in these settings? How do team members handle job interdependencies in a way to remain creative?

This study's emergent model shows a team developmental process that coheres and integrates into a final creative "solution". This process leads to several questions that could be further examined in future work. Are team-members open to the team roles and formation changes occurring during the unfolding of the coordination process emphasized in the emergent model? This seems vital for settings where team members are under immense time pressure to create. How can group members' interactions be managed in such a way so that all creative ideas emerging during this developmental process can first cohere and then integrate into a synthetic final creative "solution"?

Lastly, the role of leadership forms an important opportunity for future work. Some authors suggest that leadership relates to group coordination through three integrating conditions: accountability as a way to enact formal authority and organizational standards (Gittell, 2000), predictability by defining the tasks that must be accomplished as well as the timing or order in which they must happen (Faraj & Xiao, 2006), and common understanding in terms of knowledge of the different parties in an interdependent situation (Reagans, Argote, & Brooks, 2005). This raises questions as leadership may also need to be considered in relation to the team developmental process described in this study's model where it has been found not to be very actively involved. Should leadership play a more active role during the team roles and formation changes described in the emergent model? Should leadership adjust, and if yes how, during the different team developmental phases?

5.5.3 Practical Implications

This study offers in-depth insights into a cyclical team developmental process leading toward creative group coordination through a dynamic interplay of formal coordination structures and informal coordination practices, and more specifically a role and structural adaptation of an emerging multidisciplinary creative subteam working toward the final creative product.

Firstly, management concerned with improving this process should pay particular attention to employee recruitment and more specifically consider not only the individual abilities necessary for each position but also specific employee characteristics that are also important like the need for individuals to be curious, ready

to explore and be able to flexibly cohere and integrate their contributions with those of other team members. Management should then provide the necessary autonomy as well as the appropriate supportive training.

Second, the model indicates to changes occurring during the team developmental process and more specifically to temporary changes in the members' roles, duties and responsibilities in order to handle job interdependencies and emerging issues. Consequently, it is important that team members are exposed to the work in other domains in order to familiarize themselves with different perspectives and resulting diverse contributions. Management could thus support shared practice by both organizing in-house workshops, where different job descriptions can be formally communicated and presented, and encouraging employees to take an interest in different domains via fostering dialogue between peers.

Third, the emergent model indicates that integration of contributions between both team members responsible for the creative and members responsible for the technical part of the project is a vital prerequisite to achieve team coordination. Consequently, employee appraisal should also include traits like the ability of team members to comprehend both the creative and technical part of the project during its execution, and to understand how the contribution of a technical team member for example relates to and can be used to build upon that of a creative team member. Management could provide employees with related workshops and courses as well as foster discussions and social events to enhance employee understanding of both the technical and creative part of the project and the way they merge during the project.

Finally, this study highlighted the importance of employees being encouraged to develop ideas during the team developmental process, and that constraints can be useful as they help in both generating new ideas and integrating them into a final creative solution. A valuable starting point in addressing this is for management to first highlight to employees the importance of generating new ideas while at the same time acknowledge that at some point, and as a result of constraints that limit possible options, they need to work more interdependently toward the option that works best. Through the use of informal demonstrations during the unfolding of this process management can explain to employees the need to express their ideas, challenge other peoples' ideas, and then negotiate within the boundaries set by constraints, fostering a dialogue conducive to a group decision making process under the guidance of the team's leader.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

Appendix

Interview Guide

1. Formal team roles and responsibilities—start of the shooting process?
2. Creation of a sub-team—who makes the decision? Do the sub-team members have clear roles and responsibilities based on their job title?
3. What happens when the sub-team members start discussing issues they need to deal with? Any issue of job interdependencies? What about the discovery of new issues? Does this all lead towards better understanding?
4. Is this part of informal practices?
5. Do formal roles and responsibilities change at some point? Why?
6. How do roles and responsibilities change?
7. Does the team formation also change? How and why?
8. How does this process lead towards team coordination?
9. Is there any interplay between formal and informal practices during this process?
10. Is there any type of hierarchy? Does this hierarchy fade away when aiming to face an issue via informal practices of coordination?
11. Does this process lead to the assumption of new roles and responsibilities while dealing with emerging issues during the shooting?
12. What happens after a scene is shot and the team dismantles? Does everybody go back to their original formal roles preparing for the shooting of the scene to follow?

© The Editor(s) (if applicable) and The Author(s) 2022

S. Georgiades, *Organization Management – Dynamic Creative Team Coordination*,
Edition Digital Science, https://doi.org/10.1007/978-3-658-37509-6

References

Adler, P. S. 1995. Interdepartmental interdependence and coordination: The case of the design/manufacturing interface. **Organization Science,** 6: 147–167.

Adler, P. S., Goldoftas, B., & Levine, D. I. 1999. Flexibility versus efficiency? A case study of model changeovers in the Toyota production system. **Organization Science,** 10: 43–68.

Adorno, T. 1999. **Sound figures** (R. Livingstone, Trans.). Stanford, CA: Stanford University Press.

Ahuja, G., Soda, G., & Zaheer, A. 2012. The genesis and dynamics of organizational networks. **Organization Science,** 23: 434–448.

Alvesson, M. 1993. Organizations as rhetoric: Knowledge-intensive firms and the struggle with ambiguity. **Journal of Management Studies,** 30: 997–1015.

Alvesson, M., & Karreman, D. 2007. Constructing mystery: Empirical matters in theory development. **Academy of Management Review,** 32: 1265–1281.

Amabile, T. M. 1996. **Creativity in context**. Boulder, GO: Westview Press.

Argote, L. 1982. Input uncertainty and organizational coordination in hospital emergency units. **Administrative Science Quarterly,** 27: 420–434.

Argote, L., Turner, M. E., & Fichman, M. 1989. To centralize or not to centralize: The effects of uncertainty and threat on group structure and performance. **Organizational Behavior and Human Decision Processes,** 43: 58–74.

Baer, M., Leenders, R. T. A. J., Oldham, G. R., & Vadera, A. K. 2010. Win or lose the battle for creativity: The power and perils of intergroup competition. **Academy of Management Journal,** 53: 827–845.

Bailetti, A. J., Callahan, J. R., & DiPietro, P. 1994. A coordination structure approach to the management of projects. **IEEE Transactions on Engineering Management,** 41: 394–403.

Ballard, D.I., & Seibold, D.R. 2003. Communicating and organizing in time: A meso-level model of organizational temporality. **Management Communication Quarterly,** 16: 380–415.

Baker, Wayne E., Robert R. Faulkner. 1991. Role as resource in the Hollywood film industry. **American Journal of Sociology,** 97: 279–309.

Bamberger, P. A., & Pratt, M. G. 2010. From the editors—Moving forward by looking back: Reclaiming unconventional research contexts and samples in organizational scholarship. **Academy of Management Journal,** 53: 665–671.

© The Editor(s) (if applicable) and The Author(s) 2022

S. Georgiades, *Organization Management – Dynamic Creative Team Coordination*,
Edition Digital Science, https://doi.org/10.1007/978-3-658-37509-6

Barker, James R. 1993. Tightening the iron cage: Concertive control in self-managing teams. **Administrative Science Quarterly,** 38: 408–437.

Barley, S. R. 1986. Technology as an occasion for structuring: Evidence from observations of CT scanners and the social order of radiology departments. **Administrative Science Quarterly,** 31: 78–108.

Barley, S. R. 1990. The alignment of technology and structure through roles and networks. **Administrative Science Quarterly,** 35: 61–103.

Barley, S. R. 1996. Technicians in the workplace: Ethnographic evidence for bringing work into organizational studies. **Administrative Science Quarterly,** 41: 404–441.

Barley, S.R., & Kunda, G. 2001. Bringing work back in. **Organization Science,** 12: 76–95.

Barrett, F. J. 1998. Coda—Creativity and improvisation in jazz and organizations: Implications for organizational learning. **Organization Science,** 9: 605–622.

Bate, P., R. Khan, A. Pye. 2000. Towards a culturally sensitive approach to organization structuring: Where organization design meets organization development. **Organization Science,** 11: 197–211.

Bechky, B.A. 2003. Sharing meaning across occupational communities: The transformation of understanding on a production floor. **Organization Science,** 14: 312–330.

Bechky, B.A. 2006. Gaffers, gofers, and grips: Role-based coordination in temporary organizations. **Organization Science,** 17: 3–21.

Bechky, B. A., & Okhuysen, G. A. 2011. Expecting the unexpected? How SWAT officers and film crews handle surprises. **Academy of Management Journal,** 54: 239–261.

Becker, M. 1995. Nineteenth-century foundations of creativity research. **Creativity Research Journal,** 8: 219–229.

Becker, G. S., & Murphy, K. M. 1992. The division of labor, coordination costs and knowledge. **Quarterly Journal of Economics,** 107: 1137–1160.

Ben-Menahem, S. M., von Krogh, G., Erden, Z., & Schneider, A. 2017. Coordinating Knowledge Creation in Multidisciplinary Teams: Evidence from Early-Stage Drug Discovery. **Academy of Management Journal,** 59: 1308–1338.

Biddle, B. J., E. J. Thomas, eds. 1966. **Role Theory: Concepts and Research**. John Wiley & Sons, Inc., New York.

Bigley, G. A., K. H. Roberts. 2001. The incident command system: High reliability organizing for complex and volatile task environments. **Academy of Management Journal,** 44: 1281–1299.

Brass, D. J., Galaskiewicz, J., Greve, H. R., & Tsai, W. 2004. Taking stock of networks and organizations: A multilevel perspective. **Academy of Management Journal,** 47: 795–817.

Bresman, H. & Zellmer-Bruhn, M. 2013. The structural context of team learning: Effects of organizational and team structure on internal and external learning. **Organization Science,** 24: 1120–1139.

Brophy, D. R. 2006. A comparison of individual and group efforts to creatively solve contrasting types of problems. **Creativity Research Journal,** 18: 293–315.

Brown, S. L., & Eisenhardt, K. 1997. The art of continuous change: Linking complexity theory and time- paced evolution in relentlessly shifting organizations. **Administrative Science Quarterly,** 42: 1–34.

Brown, V., Tumeo, M., Larey, T. S., & Paulus, P. B. 1998. Modeling cognitive interactions during group brainstorming. **Small Group Research,** 29: 495–526.

Bruns, H. C. 2013. Working alone together: Coordination in collaboration across domains of expertise. **Academy of Management Journal,** 56: 62–83.

Bunderson, J. S. & Boumgarden, P. 2010. Structure and learning in self-managed teams: Why "bureaucratic" teams can be better learners. **Organization Science,** 21: 609–624.

Burton, R. M., & Obel. B. 2004. **Strategic Organizational Diagnosis and Design: The Dynamics of Fit.** New York, NY: Springer

Cardinal, L. B., Turner, S. F., Fern, M. J., & Burton, R. M. 2011. Organizing for product development across technological environments: Performance trade-offs and priorities. **Organization Science,** 22: 1000–1025.

Charlile, P.R. 2002. A pragmatic view of knowledge and boundaries: Boundary objects in new product development. **Organization Science,** 13: 442–455.

Charmaz, K. 2006. **Constructing grounded theory: A practical guide to qualitative analysis.** Thousand Oaks, CA: Sage.

Ching, C., C., Holsapple, W & Whinston, A. B. 1992. Reputation, learning and coordination in distributed decision-making contexts. **Organization Science,** 3: 275–297.

Christopherson, S., & Storper, M. 1989. The effects of flexible specialization on industrial politics and the labor market: The motion picture industry. **Industrial and Labor Relations Review,** 42 331–347.

Ciborra, C. U. 1996. The platform organization: Recombining strategies, structures, and surprises. **Organization Science,** 7: 103–118.

Creswell, J. 1998. **Qualitative inquiry and research design: Choosing among five traditions.** Thousand Oaks, CA: Sage.

Cronin, M. A., Weingart, L. R., & Todorova, G. 2011. Dynamics in groups: Are we there yet? **Academy of Management Annals,** 5: 571–612.

Crowston, K. 1997. A coordination theory approach to organizational process design. **Organization Science,** 8: 157–175.

Davis, J. P., Eisenhardt, K. M., & Bingham, C. B. 2009. Optimal structure, market dynamism, and the strategy of simple rules. **Administrative Science Quarterly,** 54: 413–452.

DeFillippi, R. J., & Arthur, M. B. 1998. Paradox in project based enterprise: The case of film making. **California Management Review,** 40: 125–139.

Donaldson, L. 2001. **The contingency theory of organizations.** Thousand Oaks, CA: Sage.

Dutton, J. E., Worline, M. C., Frost, P. J., & Lilius, J. 2006. Explaining compassion organizing. **Administrative Science Quarterly,** 51: 59–96.

Edmondson, A. C. 1999. Psychological safety and learning behavior in work teams. **Administrative Science Quarterly,** 44: 350–383.

Edmondson, A.C., Bohmer, R.M., & Pisano, G.P. 2001. Disrupted routines: Team learning and new technology implementation in hospitals. **Administrative Science Quarterly,** 46: 685–716.

Faraj, S., & Xiao, Y. 2006. Coordination in fast-response organizations. **Management Science,** 52: 1155–1189.

Faulkner, R. R., & Anderson, A. B. 1987. Short-term projects and emergent careers: Evidence from Hollywood. **American Journal of Sociology,** 92: 879–909.

Fayol, H. 1949. **General and industrial management.** London: Pitman Publishing Company.

Feldman, M. S. 2000. Organizational routines as a source of continuous change. **Organization Science,** 11: 611–629.

Feldman, M., & Pentland, B.T. 2003. Reconceptualizing organizational routines as a source of flexibility and change. **Administrative Science Quarterly,** 48: 98–118.

Ford, C. M. 1996. A theory of individual creative action in multiple social domains. **Academy of Management Journal,** 21: 1112–1142.

Ford, C., & Sullivan, D. M. 2004. A time for everything: How the timing of novel contributions influences project team outcomes. **Journal of Organizational Behavior,** 25: 279–292.

Galbraith, J. R. 1973. **Designing complex organizations.** Reading, MA: Addison-Wesley.

Gardner, H. K., Gino, F., & Staats, B. R. 2012. Dynamically integrating knowledge in teams: Transforming resources into performance. **Academy of Management Journal,** 55: 998-1022.

George, J. M. 2007. Creativity in organizations. **Academy of Management Annals,** 1: 439–477.

Gioia, D. A., Corley, K. G., & Hamilton, A. L. 2012. Seeking qualitative rigor ininductive research: Notes on the Gioia methodology. **Organizational Research Methods,** 16: 15–31.

Gittell, J. H. 2000. Paradox of coordination and control. **California Management Review,** 42: 177–183.

Grabher, G. 2002. The project ecology of advertising: Tasks, talents and teams. **Regional Studies,** 36: 245–263.

Grandori, A. & Soda, G. 2006. A relational approach to organisation design. **Industry and Innovation,** 13: 151–172.

Griffin, M. A., Neal A, & Parker, S. K. 2007. A new model of work role performance: Positive behavior in uncertain and interdependent contexts. **Academy of Management Journal,** 50:327–347.

Gulati, R. & Puranam, P. 2009. Renewal through reorganization: The value of inconsistencies between formal and informal organization. **Organization Science,** 20: 422–440.

Hackman, J. R. 2002. **Leading teams: Setting the stage for great performances**. Boston: Harvard Business School Press.

Hargadon, A. B., 2003. Book review symposium for organizations in action: Social science bases of administrative theory by James D. Thompson. **Administrative Science Quarterly,** 48: 498–509.

Hargadon, A. B., & Bechky, B. A. 2006. When collections of creatives become creative collectives: A field study of problem solving at work. **Organization Science,** 17: 484–500.

Harrison, S. H., & Rouse, E. D. 2014. Let's dance! Elastic coordination in creative group work: A qualitative study of modern dancers. **Academy of Management Journal,** 57: 1256–1283.

Heath, C., Hindmarsh, J., & Luff, P. 1999. Interaction in isolation: The dislocated world of the London Underground train driver. **Sociology,** 33: 555–575.

Heath, C., & Staudenmayer, N. 2000. Coordination neglect: How lay theories of organizing complicate coordination in organizations. In B. M. Staw & R. L. Sutton (Eds.), **Research in organizational behavior,** 22: 153–191. Stanford, CA: JAI Press.

Hickson, D.J., Pugh, D.S., & Pheysey, D.C. 1969. Operations technology and organization structure: An empirical reappraisal. **Administrative Science Quarterly,** 14: 378–397.

Hoegl M, Gemuenden HG 2001 Teamwork quality and the success of innovative projects: A theoretical concept and empirical evidence. **Organization Science,** 12: 435–449.

Hollenbeck, J. R., Ellis, A. P. J., Humphrey, S. E., Garza, A., & Ilgen, D. R. 2011. Asymmetry in structural adaptation: The differential impact of centralizing versus decentralizing team decision-making structures. **Organizational Behavior and Human Decision Processes,** 114: 64–74.

Howard, T. J., Culley, S. J., & Dekoninck, E. 2008. Describing the creative design process by the integration of engineering design and cognitive psychology literature. **Design Studies,** 29: 160–180.

Hughes, E. 1958. **Men and their work.** Glenwood Press Reprint (1981).

Hülsheger, U. R., Anderson, N., & Salgado, J. F. 2009. Team-level predictors of innovation at work: A comprehensive meta-analysis spanning three decades of research. **Journal of Applied Psychology,** 94: 1128–1145.

Ibarra, H., Kilduff, M., & Tsai, W. 2005. Zooming in and out: Connecting individuals and collectivities at the frontiers of organizational network research. **Organization Science,** 16: 359–371.

Im, S., & Workman, J. P. 2004. Market orientation, creativity, and new product performance in high-technology firms. **Journal of Marketing,** 68: 114–132.

Jarzabkowski, P.A., Lê, J. K., & Feldman, M. S 2012. Toward a theory of coordinating: Creating coordinating mechanisms in practice. **Organization Science,** 23: 907–927.

Jelinek, M. & Schoonhoven, C. B. 1990. **The innovation marathon: Lessons from high technology firms.** Oxford: Wiley-Blackwell.

Candace, J., & DeFillippi, R. G. 1996. Back to the future in film: Combining industry and self-knowledge to meet career challenges of the 21st century. **Academy of Management Executive,** 10: 89–104.

Kanter, R M. 1995. **World Class: Thriving Locally in the Global Economy**. Simon and Schuster, New York.

Kellogg, K.C., Orlikowski, W.J., & Yates, J. 2006. Life in the trading zone: Structuring coordination across boundaries in postbureaucratic organizations. **Organization Science,** 17: 22–44.

Kilduff, M., & Brass, D. J. 2010. Organizational social network research: Core ideas and key debates. **Academy of Management Annals,** 4: 317–357.

Klein, K.J., Ziegert, J.C., Knight, A.P., & Xiao, Y. 2006. Dynamic delegation: Shared, hierarchical, and de-individualized leadership in extreme action teams. **Administrative Science Quarterly,** 51: 590–621.

Kotha, R., George, G., & Srikanth, K. 2013. Bridging the mutual knowledge gap: Coordination and the commerzialization of university science. **Academy of Management Journal,** 56: 498–524.

Langfred, C. W. 2007. The downside of self-management: A longitudinal study of the effects of conflict on trust, autonomy, and task interdependence in self-managing teams. **Academy of Management Journal,** 50: 885–900.

Lawrence, P.R., & Lorsch, J.W. 1967. **Organization and environment: Managing differentiation and integration.** Unpublished manuscript, Harvard University.

Lee, F. 2002. The social costs of seeking help. **Journal of Applied Behavioral Science,** 38: 17–35.

Lee, T. W., Mitchell, T. R., & Sablynski, C. J. 1999. Qualitative research in organizational and vocational psychology, 1979–1999. **Journal of Vocational Behavior,** 55: 161–187.

Linton, R. 1936. **The Study of Man.** Appleton-Century, New York.

Majchrzak, A., Jarvenpaa, S.L., & Hollingshead, A.B. 2007. Coordinating expertise among emergent groups responding to disasters. **Organization Science,** 18: 147–161.

Majchrzak, A., More, P. H. B., & Faraj, S. 2012. Transcending knowledge differences in crossfunctional teams. **Organization Science,** 23: 951–970.

Malone, T.W., & Crowston, K. 1994. The interdisciplinary study of coordination. **ACM Computing Surveys (CSUR),** 26: 87–119.

March, J.G., & Simon, H.A. 1958. **Organizations.** New York: John Wiley.

Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. 2001. A temporally based framework and taxonomy of team processes. **Academy of Management Review,** 26: 356–376.

McEvily, B., Soda, G., & Tortoriello, M. 2014. More formally: Rediscovering the missing link between formal organization and informal social structure. **Academy of Management Annals,** 299–345.

Metiu, A. 2006. Owning the code: Status closure in distributed groups. **Organization Science,** 17: 418–435.

Meyerson, D., Weick, K. E., & Kramer, R. 1996. Swift trust and temporary groups. In R. M. Kramer & T. R. Tyler (Eds.), **Trust in organizations: Frontiers of theory and research** 166–195. Thousand Oaks, CA: Sage.

Miles, M. B., & Huberman, A. M. 1994. **Qualitative data analysis: An expanded sourcebook** (2nd ed.). Thousand Oaks, CA: Sage.

Moon, H., Hollenbeck, J. R., Humphrey, S. E., Ilgen, D. R., West, B., Ellis, A. P. J., & Porter, C. O. L. H. 2004. Asymmetric adaptability: Dynamic team structures as one-way streets. **Academy of Management Journal,** 47: 681–695.

Moorman, C., & Miner, A. S. 1998. Organizational improvisation and organizational memory. **Academy of Management Review,** 23: 698–723.

Nag, R., Corley, K. G., & Gioia, D. A. 2007. The intersection of organizational identity, knowledge, and practice: Attempting strategic change via knowledge grafting. **Academy of Management Journal,** 50: 821–847.

Nemeth, C. J., Personnaz, B., Personnaz, M., & Goncalo, J. A. 2004. The liberating role of conflict in group creativity: A study in two countries. **European Journal of Social Psychology,** 34: 365–374.

Okhuysen, G. A. & Bechky, B. A. 2009. Coordination in organizations: An integrative perspective. **Academy of Management Annals,** 3: 463–502.

Oldham, G. R., & Cummings, A. 1996. Employee creativity: Personal and contextual factors at work. **Academy of Management Journal,** 39: 607–634.

Orlikowski, W. J. 1996. Improvising organizational transformation over time: A situated change perspective. **Information Systems Research**, 7: 63–92.

Orlikowski, W. J. 2000. Using technology and constituting structures: A practice lens for studying technology in organizations. **Organization Science,** 11: 404–428.

Orlikowski, W. 2002. Knowing in practice: Enacting a collective capability in distributed organizing**. Organization Science,** 13: 249–273.

Orlikowski, W. J. 2008. **Using technology and constituting structures: A practice lens for studying technology in organizations.** In M. S. Ackerman, C. A. Halverson, T. Erickson, & W. A. Kellogg (Eds.), Resources, coevolution and artifacts: 255–305. London, UK: Springer

Orlikowski, W. J. 2010. **Engaging practice in research: Phenomenon, perspective, and philosophy.** In D. Golsorkhi, L. Rouleau, D. Seidl, & E. Vaara (Eds.), The Cambridge handbook on strategy as practice: 23–33. Gambridge, U.K.: Gambridge University Press.

Orton, J. D., & Weick, K. E. 1990. Loosely coupled systems—A reconceptualization. **Academy of Management Review,** 15: 203–223.

Pennings, J. M. 1992. **Structural contingency theory: A reappraisal.** In B. M. Staw & L. L. Cummings (Eds.), Research in organization behavior, vol. 14: 267–309. Greenwich, CT: JAI Press.

Pentland, B. T., & Rueter, H. H. 1994. Organizational routines as grammars of action. **Administrative Science Quarterly,** 39: 484–510.

Perrow, C. 1967. A framework for the comparative analysis of organizations. **American Sociological Review,** 32:194–208.

Perry-Smith, J. E., & Shalley, C. E. 2003. The social side of creativity: A static and dynamic social network perspective. **Academy of Management Review,** 28: 89–106.

Pettigrew, A. M. 1990. Longitudinal field research on change: Theory and practice. **Organization Science,** 1: 267–292.

Pinto, M. B., Pinto, J. K., & Prescott, J. E. 1993. Antecedents and consequences of project team cross-functional cooperation. **Management Science,** 39: 1281–1297.

Powell, W. W. 1990. Neither market nor hierarchy: Network forms of organization. **Research in Organizational Behavior,** 12: 295–336.

Prechel, H. 1994. Economic crisis and the centralization of control over the managerial process: Corporate restructuring and neo-Fordist decision-making. **American Sociological Review,** 59: 723–745.

Puranam, P. & Raveendran, M. 2013. **Interdependence and organization design.** In Grandori, A. (Ed.), Handbook of Economic Organization: 193-209. Northampton, MA: Edward Elgar.

Puranam, P., Raveendran, M., & Knudsen, T. 2012. Organization design: The epistemic interdependence perspective. **Academy of Management Review,** 37: 419–440.

Puranam, P., & Swamy, M. 2011. **Expedition without maps: Why faulty initial representations may be useful in joint discovery problems.** Working Paper, London Business School, London.

Quinn, R.W., & Dutton, J. E. 2005. Coordination as energy-in-conversation. **Academy of Management Review,** 30: 36–57.

Reagans, R., Argote, L., & Brooks, D. 2005. Individual experience and experience working together: Predicting learning rates from knowing who knows what and knowing how to work together. **Management Science,** 51: 869–881.

Salancik, G. R. 1995. Wanted: A good network theory of organization. **Administrative Science Quarterly,** 40: 345–349.

Sawyer, K. 2007. **Group genius: The creative power of collaboration.** New York, NY: Basic Books.

Scott, S. G., & Bruce, R. A. 1994. Determinants of innovative behavior: A path model of individual innovation in the workplace. **Academy of Management Journal,** 37: 580–607.

Scott, W.R. 2004. Reflections on a half-century of organizational sociology. **Annual Review of Sociology,** 30: 1–21.

Scott, W. R., & Davis, G. F. 2007. **Organizations and organizing: Rational, natural, and open systems perspectives.** Upper Saddle River, NJ: Pearson Prentice Hall.

Shenhar, A. J. 2001. One size does not fit all projects: Exploring classical contingency domains. **Management Science,** 47: 394–414.

Sherman, J. D. & Keller, R. T. 2011. Suboptimal assessment of interunit task interdependence: Modes of integration and information processing for coordination performance. **Organization Science,** 22: 245–261.

Siggelkow, N. 2002. Evolution towards fit. **Administrative Science Quarterly,** 47: 125–159.

Simonton, D. K. 2010. Creative thought as blind-variation and selective-retention: Combinatorial models of exceptional creativity. **Physics of Life Reviews,** 7: 156–179.

Smith, V. 1997. New forms of work organization. **Annual Review of Sociology,** 23: 315–319.

Soda, G. & Zaheer, A. 2012. A network perspective on organizational architecture: Performance effects of the interplay of formal and informal organization. **Strategic Management Journal,** 33: 751–771.

Spitz-Oener, A. 2006. Technical change, job tasks, and rising educational demands: Looking outside the wage structure. **Journal of Labor Economics,** 24: 235–270.

Stokes, P. 1999. Novelty. In M. Runco & S. Pritzker (Eds.), **Encyclopedia of creativity,** 2: 297–304. London, U.K.: Academic Press.

Strauss, A. L. & Corbin, J. M. 1998. **Basics of qualitative research: Techniques and procedures for developing grounded theory** (2nd ed.). Thousand Oaks, CA: Sage Publications.

Taggar, S. 2002. Individual creativity and group ability to utilize individual creative resources: A multilevel model. **Academy of Management Journal,** 45: 315–330.

Taylor, F.W. 1916. **The principles of scientific management.** Bulletin of the Taylor Society, December. Reprinted in Shafritz, J.M., & Ott, J.S. (Eds), Classic Organization Theory (pp. 66–79). Belmont, CA: Wadsworth Publishing Company.

Thompson J.D. 1967. **Organizations in action: Social science bases of administrative theory.** New York: McGraw-Hill.

Tuckman, B. W. 1965. Developmental sequences in small groups. **Psychological Bulletin,** 63: 348–399.

Turner, J. H. 1986. **The structure of sociological theory.** Chicago, IL: University of Chicago Press.

Tushman, M. L., & Nadler, D. A. 1978. Information processing as an integrating concept in organizational design. **Academy of Management Review**, 3: 613–624.

Valentine, M. A., & Edmondson, A. C. 2015. Team Scaffolds: How Mesolevel Structures Enable Role-Based Coordination in Temporary Groups. **Organization Science,** 26: 405–422

Van Dyne, L., & Saavedra, R. 1996. A naturalistic minority influence experiment: Effects on divergent thinking, conflict and originality in work-groups. **British Journal of Social Psychology,** 35: 151–167.

van Knippenberg, D., de Dreu, C. K. W., & Homan, A. C. 2004. Work group diversity and group performance: An integrative model and research agenda. **Journal of Applied Psychology,** 89: 1008–1022.

von Krogh, G., Nonaka, I., & Rechsteiner, L. 2012. Leadership in organizational knowledge creation: A review and framework. **Journal of Management Studies,** 49: 240–277.

Wageman R, Fisher C 2014 **Who's in charge here? The team leadership implications of authority structure.** Day DV, ed. The Oxford Handbook of Leadership and Organizations (Oxford University Press, New York), 455–481.

Wageman, R., Hackman, J. R., Lehman E. 2005. Team Diagnostic Survey: Development of an Instrument. **Journal of Applied Behavioral Science,** 41: 373–398.

Warren, D. E. 2003. Constructive and destructive deviance in organizations. **Academy of Management Review,** 28: 622–632.

Weick, K. E. & Roberts, K. H. 1993. Collective mind in organizations: Heedful interrelating on flight decks. **Administrative Science Quarterly,** 38: 357–381.

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. 1999. **Organizing for high reliability: Processes of collective mindfulness.** In B. M. Staw & R. Sutton (Eds.), Research in organizational behavior, 23: 81–123. Greenwich, CT: JAI Press.

Woodward, J. 1970. **Industrial organization: Behaviour and control.** Oxford: Oxford University Press.

Woolley, A. W., Chabris, C. F., Pentland, A., Hashmi, N., & Malone, T. W. 2010. **Evidence for a collective intelligence factor in the performance of human groups.** Science (New York, N.Y.), 330: 686–688.

Zenger, T. R., Lazzarini, S. G., & Poppo, L. 2002. Informal and formal organization in new institutional economics. **Advances in Strategic Management,** 19: 277–305.