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Network ties of ambidextrous project managers

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1. Introduction

The digital transformation is forcing organizations, for example companies in the automotive industry, to build additional competencies (Townsend & Calantone, 2014). These competencies often cannot be developed by a single organization. Thus, the relevance of network ties across organizations as well as the relevance of individuals to innovation processes increase in the age of digital transformation (Cano-Kollmann, Hannigan, & Mudambi, 2018; Lyytinen, Yoo, & Boland, 2016). In this paper, we show with a quantitative survey, how social networks of R&D project managers and R&D middle managers who are responsible for several projects help organizations to facilitate ambidexterity.

Ambidexterity is the ability to explore and exploit simultaneously (Duncan, 1976; March, 1991; Charles A O'Reilly & Tushman, 2013) and is a big challenge for organizations (Birkinshaw & Gupta, 2013). This is partly because organizations typically separate the divergent processes of exploitation and exploration among individuals, teams, and/or structural units within and across organizations. However, ambidexterity requires the reintegration of exploration and exploitation. Besides the top management team's role (TMT) (Charles A. O'Reilly & Tushman, 2008; Rogan & Mors, 2014), middle and project management play a crucial role in integrating exploitation and exploration activities (Birkinshaw & Gupta, 2013; Güttel & Konlechner, 2009). It is the project and middle managers who are making the decisions about, for example, trade-offs among competing objectives (Mom, van den Bosch, & Volberda, 2009). R&D project and middle managers are frequently involved in exploitation and exploration projects (Birkinshaw & Gupta, 2013) and are able to integrate the knowledge involved in exploitation and exploration (Gibson & Birkinshaw, 2004).

Although it remains unclear how and to what extent individuals can contribute simultaneously to exploitation and exploration activities (Mom, Van Den Bosch, & Volberda, 2007), the social networking perspective does provide a valuable explanation (Rogan & Mors, 2014). Rogan and Mors (2014) show in their empirical study how various types of networks (e.g., internal or external) help top managers contribute to exploitation or exploration activities. The present study transfers the findings of Rogan and Mors (2014) to project and middle management and specifies them for this

group. Based on the results of Rogan and Mors (2014) and interviews with project and middle managers in a preliminary study, several questions arise: (1) We want to know whether and how networks of R&D project and middle managers influence ambidextrous behaviour. (2) Do project and middle managers get different benefits from network contacts, which in turn have an effect on ambidextrous behaviour?

This developmental paper is organised as follows: After the introduction, we describe the link between social networks and ambidextrous behaviour of project and middle managers and explain the development of the hypotheses. We then present a quantitative survey on social networks and ambidextrous behaviour conducted among 153 R&D project and middle managers. First results from a linear regression model and structural equation modelling show significant correlations between social networking and ambidextrous behaviour. The full analysis and results are (in case of acceptance of this paper) to be presented at the BAM conference.

2. Theory and Hypotheses

2.1 Social networking and ambidexterity of individuals

The connection of ambidexterity and networks of managers has been researched before (e.g. Lavie & Rosenkopf, 2006; Tiwana, 2008). However most of these surveys deal with organizational ambidexterity and social networks of managers (e.g. Cao, Simsek, & Zhang, 2010; Gassmann, Widenmayer, & Zeschky, 2012; Heavey, Simsek, & Fox, 2015; Josserand et al., 2017; Turturea, Jansen, & Verheul, 2015). However, there are few studies on the connection between social networks and individual ambidexterity, that is, how individual managers cope with ambidexterity by referring to their social networks. In empirical work (Mom et al., 2009) emphasized that a higher connectedness of managers is positively linked with ambidexterity. Rogan and Mors (2014) show the importance of managers' external network density and internal contact heterogeneity for ambidextrous behaviour.

The aim of this study is to further investigate how exactly networks can help managers, especially project managers and middle managers who are responsible for R&D projects to be ambidextrous. Mainly based on the findings of Rogan and Mors (2014) and 24 interviews in a pre-study (see Rost, Sonnenmoser, & Renzl, 2019), this study focus on how the heterogeneity, the density and the formality of the network influence ambidextrous behavior. In addition, it is examined whether the strength of the ties and the content exchanged through the ties are related to the ambidextrous behavior of middle managers.

2.2 Hypotheses

In the following, we will formulate four hypotheses on variables, which describe the networks of the managers (formality of networks, network density and strength of ties) and one hypothesis on the benefits R&D middle managers get from networking within and outside the organization.

Heterogeneity: Although the structure of a network is important for the performance and innovative capacity of an individual, the content exchanged via individual relationships, especially access to heterogeneous knowledge, is also an essential aspect (Rodan & Galunic, 2004). Through heterogeneous contacts it is possible for individuals to maintain heterogeneous knowledge. By linking the knowledge of heterogeneous network partners manager can generate a diversity of information, which is essential for novel ideas (Lazer & Friedman, 2007; Rodan & Galunic, 2004). In order to behave more ambidextrously and not to run the risk of only concentrating on exploitation, but also on exploitation, this is essential. Atuahene-Gima and Murray (2007) demonstrate, for example, that most of all, ties to people who work in a different industry help them to behave explorative. The reason for this is, that you have access to more non-redundant information through relationships with people who work in a totally different environment. Contact heterogeneity in networks trigger new ideas and aid the selective cross-fertilization of ideas and help not just concentrate on exploitation and therefore help manager to be ambidextrous (Rogan & Mors, 2014; Rost et al., 2019). These arguments lead to the following hypothesis.

HYPOTHESIS 1 (H1): Heterogeneity in a manager's network will be positive related to manager's ambidexterity

Formality: Informal networks can be drivers for implementing innovation. In their conceptual work Kleinbaum and Tushman (2007) suggest that manager initiate interdependent innovation not through formal contacts of the firm but through informal network contacts. Gassmann et al. (2012) ascertained that informal contacts in a personal network can support business unit ambidexterity by connecting the unit with innovation champions in the company. Informal network ties help managers to avoid bureaucracy that can for example delay the implementation of innovations (Løvås & Sorenson, 2008) which in turn means that if network ties are informal it is linked with resource mobilization which in turn is a key dimension of ambidextrous behavior (Rogan & Mors, 2014). However, this assumption of Rogan and Mors (2014) was not confirmed by their research. Nonetheless these arguments suggest the following hypothesis.

HYPOTHESIS 2 (H2): Tie formality in a manager's network will be negative related to manager's ambidexterity

Network Density: The network density indicates the degree of connectivity of a network (Herz, 2012; Marsden, 1987). Previous studies show, that networks who are sparsely connected are better in providing new knowledge and information to managers (Burt, 1992; Reagans & McEvily, 2003). The redundancy of information becomes higher, the more individuals are connected in a network, as more similar information is passed on in this way (Rogan & Mors, 2014). In order to be able to behave more ambidextrously, it is important to obtain different knowledge and information and not to have too much redundant information. Thus, we expect:

HYPOTHESIS 3 (H3): Higher density in a manager's network will be negative related to manager's ambidexterity

Strength of ties: According to Granovetter (1973), ties can be classified as weak or strong. Weak ties offer a wide, diverse spectrum of information whereas strong ties transfer more complex, specific knowledge (Burt, 1992; Granovetter, 1983; Reagans & McEvily, 2003; Reagans, Zuckerman, & McEvily, 2004; Rost et al., 2019). Conforming to Kleinbaum and Tushman (2007) strong relationships are relevant for exploitation, because relevant information for innovation is more likely to transverse the interdivisional boundary through different units through strong ties. Josserand et al. (2017) emphasize that a combination of strong and weak ties allows business units to manage ambidexterity. Heavey et al. (2015) show in their study that strong ties help managers to deal with the dual knowledge trade-offs of ambidexterity. Whereas Rost et al. (2019) have shown that weak relationships are important for gaining relevant knowledge, which is important to behave more ambidextrous. Although some studies assume that strong relationships can also have a positive effect on ambidextrous behaviour, we will test the result of the qualitative study by Rost et al. (2019) and therefore suggest the following hypothesis.

HYPOTHESIS 4 (H4): Strong ties in a manager's network will be negative related to manager's ambidexterity

Benefits: Different content is transported through network contacts. Based on the qualitative study by Rost et al. (2019) we assume that various content tend to favour or inhibit ambidextrous behaviour.

HYPOTHESIS 5 (H5): Benefits transported through manager's network have an (positive, negative) influence on manager's ambidexterity

3. Methods

In this section we describe the sample, the data collection process and the measures of the variables. We have already started to test the hypotheses with a linear regression and a structural equation modelling. Since the analysis has not yet been completed, we do not describe it in this version of the paper.

Sample and Data Collection

To test the hypotheses a survey was conducted using a standardized questionnaire among middle and project managers who work in research and development (R&D). The questionnaire is divided into the following sections: (1) company-related information (2) ambidextrous behaviour (3) ego-centric network (4) sociodemographic data.

In section 3 of our survey egocentric networks, the independent network variables were collected. An ego network is the relationship between a focal person (ego) and other persons (alteri). The ego is in direct contact with the alteri. Moreover, through the ego the relationship between the alteri is elevated (Wolf, 2010).

In the survey a total number of 153 R&D project and middle managers, 127 men and 26 women, have participated in the study. All participants work as project and/or middle managers with responsibility for projects in the R&D departments especially in the automotive industry, in the mechanical engineering industry or in the IT sector.

Measures

Dependent Variable

Ambidextrous behaviour: To measure the dependent variable ambidextrous behaviour a scale developed by Mom et al. (2009) was used. Seven items query explorative and seven items query exploitative behaviour on a seven-point scale.

Independent Variables

Heterogeneity: Within the ego-network, heterogeneity was raised in two ways. On the one hand it was asked whether the alteri work in the same or in a different sector. On the other hand, the respondents were asked to indicate the area of business in which the mentioned contacts work (see Marsden, 1987; Rogan & Mors, 2014).

Formality: Inspired by Rogan and Mors (2014) the formality of the ego-network was measured by asking the respondents how formal the relationship to the mentioned contacts is.

Network density: The network density indicates the degree of connectivity of a network. This means how strong the alteri in the network are in contact with each other (Herz, 2012; Marsden, 1987).

Strength of ties: Granovetter (1973) determined the strength of ties by a combination of characteristics including: the amount of time, intensity of emotions, intimacy and reciprocal interaction (Granovetter, 1973).

Benefits: To find out what benefits the respondents received from the respective relationships the respondents had to assess how much they could agree that the person mentioned (1) inspires me to new ideas, (2) supports me with work-related information or (3) supports me by asserting the influence he has in the organization.

4. Conclusion

The planned contribution is to show how different types of networks (e.g. internal or external) help project managers to contribute to exploitation or exploration activities and thus to transfer the findings of Rogan and Mors (2014) on networks of ambidextrous top managers to the context of project and middle managers and to specify and extend them for these employee groups.

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