



## **Work motivation in Project Management: Are we still interested? A**

### **bibliometric analysis of doctoral dissertations**

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#### **Abstract**

This study included a review and bibliometric analysis of doctoral dissertations on work motivation in project management. Designed to be an exploratory review, work motivation in project-based organizations, and in permanent organizations which undertake projects were considered. 840 doctoral theses from the period 1972-2018 were analyzed. The results showed an increasing number of theses being published on the topic of work motivation, and increasingly on allied topics of leadership, job satisfaction, and project management context. Further, a substantial number of these studies are grounded in phenomenology and grounded theory-adopting interviews as a choice of methodology. Empirical studies were also found to be popular, especially in the early decades. Implications for further studies on the topic of work motivation are presented.

#### **Introduction**

Research in project-human resource management has generated considerable interest in the recent past (Müller & Turner, 2010), some of which focused on understanding work motivation (Sieler, Lent, Pinkowska, Pinazza, 2012; Ayokunle, Xia, Hon, & Darko, 2017). However, the literature may have fallen short in considering the role of context to explain work motivation. The extant literature has focused on investigating work motivation in stable contexts such as a permanent organization (Parker, Broeck, & Holman, 2017) and the theories of work motivation in such stable contexts have been extended to the field of project management. However, modern organizations operate in contexts of high uncertainty (Alotaibi, & Mafimisebi, 2016), and non-traditional working relationships such as a network of actors working with each other for a limited time to achieve specific objectives (Johnson, Creasy, & Fan, 2016). Such organizations are characterized by projects that span across the functional units and being managed as a network, having multiple or divergent objectives and knowledge-based work processes (Lindner, & Wald, 2010); what are known as pluralistic

contexts (Bredillet,2004). It then becomes important to understand, and establish a theoretical corpus of work motivation specific to such contexts.

Extant research on work motivation shows a growing interest reflected through a number of papers being published on this topic. An analysis of peer reviewed articles from Web of Science database indicates 145 peer reviewed articles. Allied variables such as leadership, job satisfaction, and project team management have been investigated as an outcome of work motivation. Thus, considering such sustained interest in the topic, the larger purpose of this paper is to investigate whether this interest is reflected in the doctoral studies.

Thus, I set out to investigate the following research questions:

1. What are the countries and leading institutions where research on this topic is conducted?
2. What are the trends in methodologies applied to investigate the research problems?
3. What are the most frequently used key words and how are they associated with each other?

### **Literature review**

There have been numerous reviews on the constructs and conceptualization of work motivation, research progress, and directions for future research on the topic (c.f. Cerasoli, Nicklin, & Ford, 2014; Ryan, 2011; Kanfer, 2010; Steers, Mowday& Shapiro, 2004; Hardré, 2003). Literature reviews on work motivation specific to certain industries can also be found (c.f. Toode, Routasalo, & Suominen, 2011; Beecham, Baddoo, Hall, Robinson & Sharp, 2008). Recent works from organizational behavior, and industrial-organizational psychology literature focus on consequences of work motivation such as employee's turnover intent (Sahir, Phulpoto,& Uz-Zaman, 2018), goal achievement (Janke, Daumiller, & Dickhäuser,, 2018)antecedents of work motivation (c.f.Thy-Jensen.& Ladegaard-Bro, 2018), and development of work motivation scale (c.f. Gagné et.al, 2015; Chen & Fouad, 2016). There has been growing interest on what motivates project workers recently. Although the state of research is predominantly normative (connoting to practices), literature review reveals these practices connote to major theories of work motivation. Various theoretical lenses such as Socio-Technical Perspective (c.f. Schmidt &Adams, 2008), scientific management (c.f. Rose & Manley, 2008), job characteristic model (c.f. Mahoney, & Lederer , 2006; Beecham, Baddoo, Hall, Robinson, & Sharp, 2008; Bjorklund, 2010), and intrinsic motivation perspective have been used to explain work motivation in projects and/or project-based organizations.

The literature on work motivation in temporary organizations, though 'sporadic' in terms of not being able to offer integrative underlying theoretical lenses to explain motivating job



characteristics, has been fairly extensive. Various facets of job such as financial incentives linked to performance (c.f. Rose & Manley, 2009; Armstrong, 2003, grounded in Scientific Management studies (Taylor, 1911), task identity, task meaningfulness, and feedback on performance (c.f. Schmid & Adams, 2008; Andersen, 2010 drawn from Tavistock Studies on Socio-Technical Systems perspective (Trist & Bamforth, 1951; Cherns, 1976; Walker & Guest, 1952), task variety (c.f. Seiler, Lent, Pinkowska, & Pinazza, 2012; Heimgartner, Windl, & Solanki, 2011, grounded in Socio-Technical Perspective (Walker & Guest, 1952), work as intrinsically motivating, and job security as extrinsic motivator (c.f. Parker, Wall, & Cordery, 2001; Mahoney & Lederer, 2006; Schmid & Adams, 2008, drawn from Herzberg, Mausner, & Snyderman's Two-Factor theory (1959), task significance (c.f. Badir, Buchel, & Tucci, 2012; Schmid & Adams, 2008 drawn from studies on job enrichment (Paul, Robertson, & Herzberg, 1969; Paul, & Robertson, 1970), skill variety, and task identity (Mahoney & Lederer, 2006; Kluger & DeNisi, 1996; Ling & Loo, 2015), autonomy at work (c.f. Siler, Lent, Pinkowska, & Pinazza, 2011; Leung, Chan, & Dongyu, 2011, drawn from Demand Control Model (Karasek, 1979), personal growth and job enrichment (c.f. Li, Bingham, & Umphress, 2007 grounded in Naylor, Pritchard, & Ilgen's Resource Allocation Perspective, 1980), communication and collegiality between the project actors (c.f. Kluger & DeNisi, 1996; Beecham, Baddoo, Hall, Robinson, & Sharp, 2008; Nesheim, & Smith, 2015, grounded in Distal motivation theory (Kanfer, 1990; Campbell, 1990), and access to work related information, and informal communication among project actors (c.f. Turner & Lloyd-Walker, 2008; drawn from Morgeson & Humphrey's Extended Job Characteristic Model (2006).

While extant research contributed to our understanding of work motivation in case of projects, there are no reviews available on doctoral studies that focus on work motivation in this knowledge domain.

### **Methods**

In the present study, a bibliometric analysis was run on the doctoral dissertations conducted on work motivation in project management. PROQUEST Dissertations and Theses Global database was used. The database is extensive and has a collection of all masters and doctoral theses published in social sciences, humanities, computer science, theoretical sciences, applied sciences, and religion. While reviewing the literature, I have applied the following criteria to include the thesis in the sample:

1. The thesis should be included in PROQUEST Dissertations and Theses Global database
2. The thesis is a doctoral dissertation
3. 'work motivation' is one of the variables investigated in the study
4. The thesis is written in English.

An initial search using the key words “motivation” AND “project management” revealed 18,116 documents. The search was further refined by applying the following words as filters based on which the theses are indexed in the database: “work motivation”, “motivation”, and “project management”. 845 documents were then extracted out of which 5 were found not to satisfy one of the above-mentioned criteria- work motivation not being one of the variables that was investigated. Thus, 840 documents were considered for bibliometric analysis. The dates of publication ranged from 1972 to 2018.

### Analysis

VosViewer 1.6.8, an open source software tool used for constructing and visualizing bibliometric networks . The key words are extracted from the thesis’ abstract and the title. Words are counted for their presence or absence in the document, what is termed as binary counting. Each word would have to appear for a minimum of ten times to be included in the dataset for analysis. An initial set for 596 terms were first extracted after the first iteration. A relevance score for each of these terms is calculated and 60% of the terms with the highest relevant scores are considered for the initial iteration of the analysis. Thus, 358 terms were considered for the second iteration.

### Results

In response to question 1, I found that most of the doctoral dissertations are published in USA (n=761). This is followed by England (n=39), Canada (n=19), and other Asian countries.

Figure 1 below summarizes the number of theses by the country.

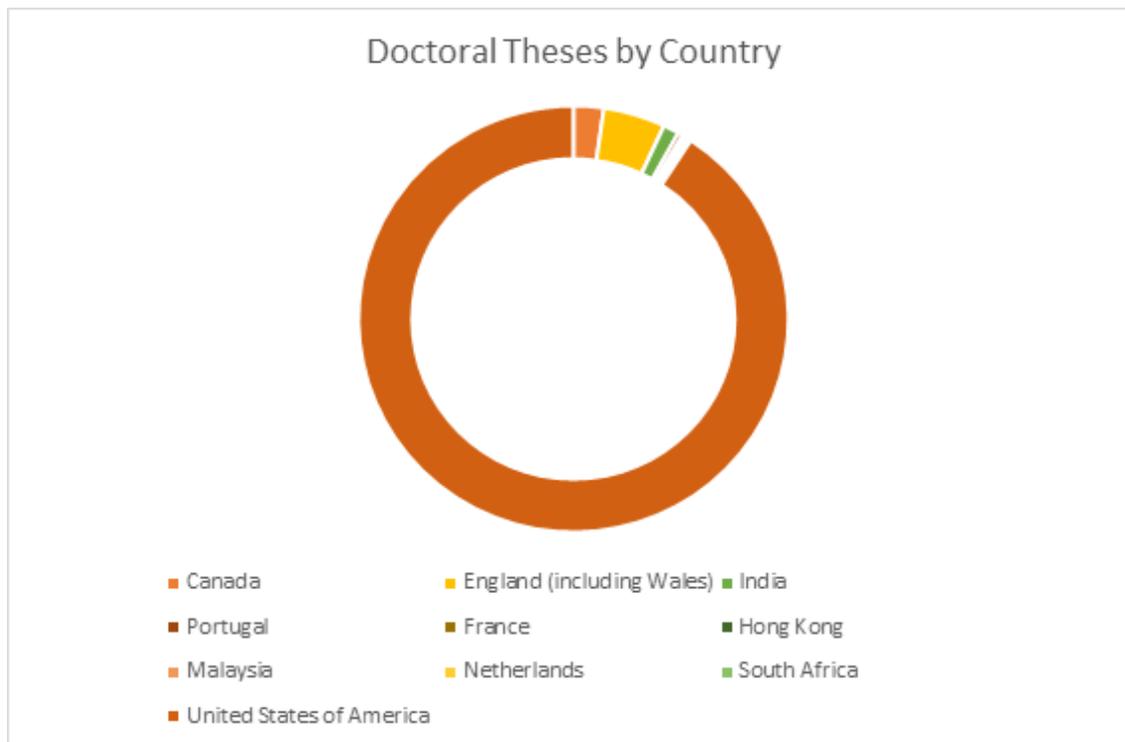


Figure 1. Doctoral theses by country

In response to research question number 2, management as a subject area published the greatest number of doctoral dissertations (n=430), which was followed by organizational psychology (n=182), organizational behavior (n=182), business administration (n=116), and a significant number in higher education (n=84).

On the question on methodological trend, I identified four common classes of research methods- quantitative (including survey analysis and ex post facto survey research), qualitative (including depth interviews, focus groups, case research methods, quasi-experimental design that included interviews, content analysis, document analysis, grounded theory, semi-structured interviews), action research (that included computer based simulations, laboratory experiments, and personal observation), and mixed research methods (which includes a combination of any of the afore mentioned research methods). A majority of the theses applied quantitative research methods (n= 424). Qualitative research methods (n=237) and action research (n=40) were particularly found to be more common after the year 2000. Likewise, studies employed mixed research methods (n=139) gained acceptance at the turn of the century.

Figure 2 shows the trend in the number of doctoral dissertations by the year for the period 1972-2018. Figure 3 presents the methodology used in the studies from 1972 to 2018.

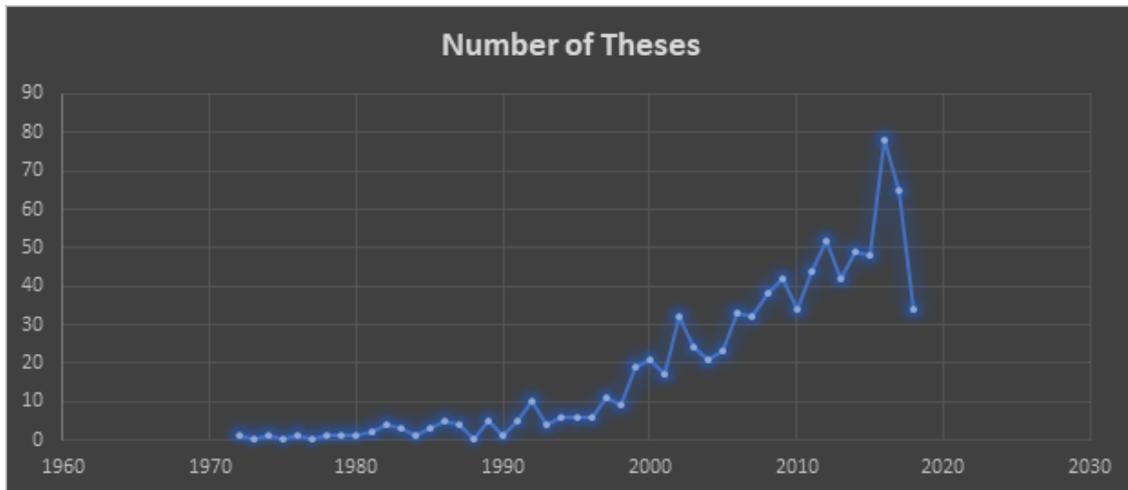


Figure 2. Number of doctoral theses

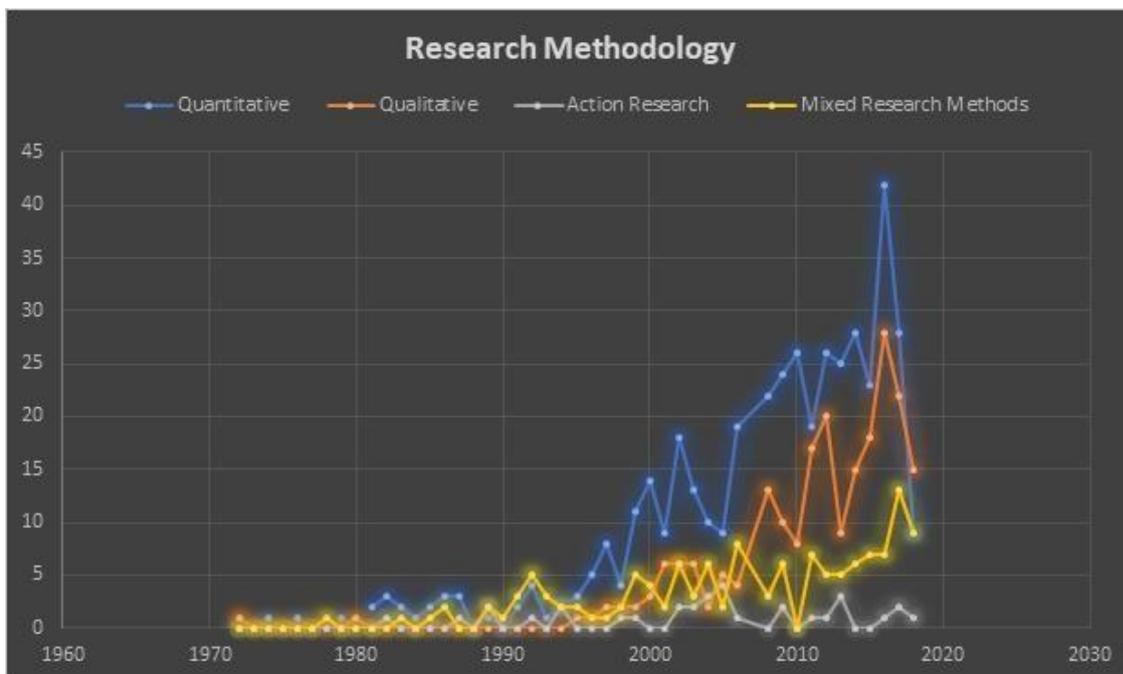


Figure 3. Research methodology applied in the doctoral studies

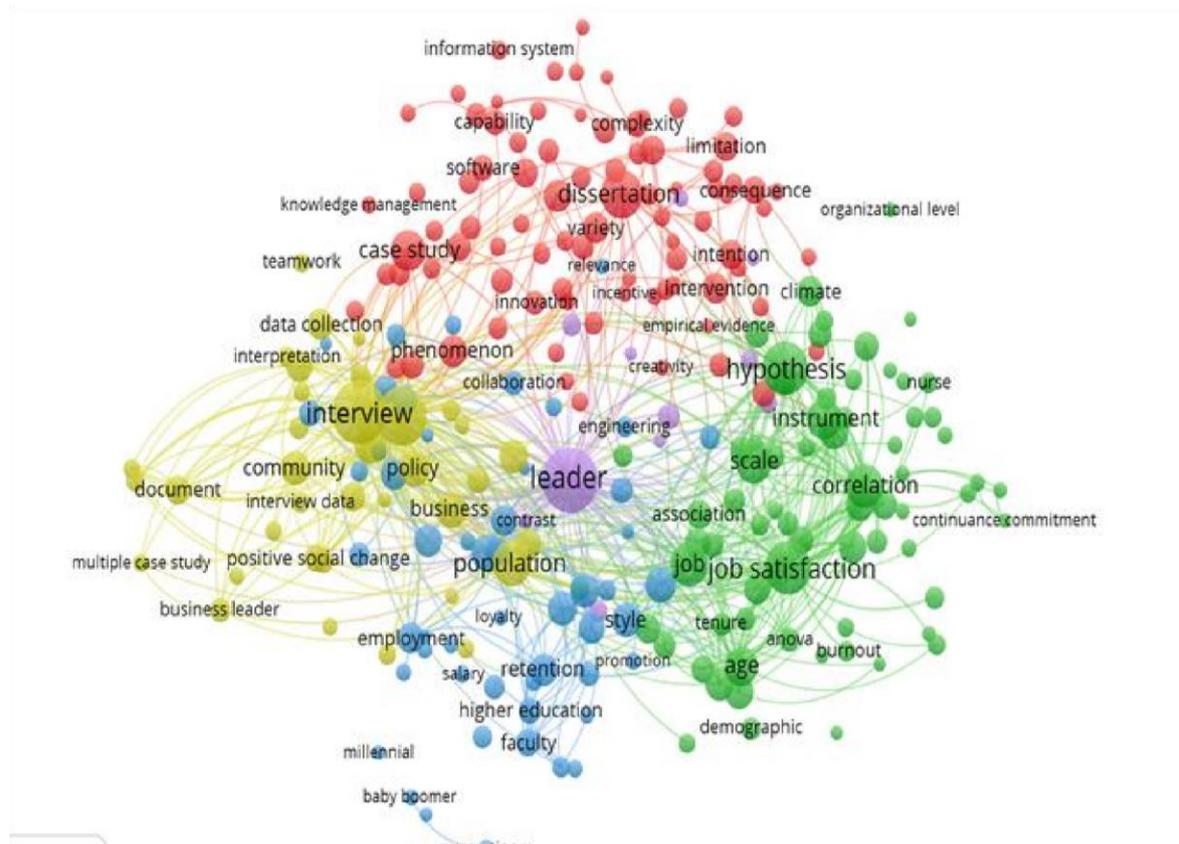


Figure 4. Bibliometric Analysis of Theses



Key word association based on the number of times the words occurred in the corpus was run. It revealed 5 major key words that formed where the other key words gravitated towards each of this one major key word based on the strength of association. Cluster 1-Leader comprised 85 terms of which most significant were- leadership style, incentive, and engineering.

Cluster 2-Interview comprised of 70 terms, most prominent of which were- data collection, multiple case study, interview data, community, and business.

Cluster 3-Job satisfaction comprised of 53 terms, most prominent of which were-climate, tenure, age, burnout, ANOVA, scale, instrument, and hypothesis

Cluster 4-Dissertation comprised of 36 terms, most prominent of which were-information system complexity, knowledge management, and case study

Cluster 5-faculty comprising of 11 terms, most prominent of which were- higher education, retention, salary, and employment

#### **Results Response to Research Question 1**

A close to 90% of the doctoral dissertations considered for this study were published in United States of America (c.f. Bundschuh, 2018; Ricotta, 2018) A distant second and third are England (c.f. Aseri, 2015) and Canada (c.f. Perreira, 2016). With strong project management associations based in USA and with dedicated project management departments in major universities across the country, the number of doctoral studies reflects the growing interest of project management in academia along with the industry. The database does not include the doctoral dissertations from Australia and New Zealand. However, I believe the number of publications is still indicative of growing interest in project management scholarship in North America

#### **Response to Research Question 2**

For the period between 1972 and 1990, quantitative research methods were predominantly employed over qualitative research methods (c.f. Wagner, 1974; Almohawis, 1986; Stewart, 1980) Most common was survey method and ex-post facto empirical research. A limited number of studies applied qualitative research methods- content analysis (c.f. Meell, 1985; Hensler, 1987). A few studies employed mixed research methods- substantiating the results of empirical survey with document analysis, interviews (semi-structured, depth), and case research method. In the ensuing decade between 1990 and 1999 (c.f. Davis, 1995; Wheeler, 1999), similar trends are observed for the preferred choice of research methodology. However, mixed research methods have gained popularity with techniques such as ethnography and content analysis used in addition to empirical studies. Studies that applied action research methods- quasi-experimental design, personal experience, and computer-based simulations were also used (Cornella, 1992; Tankoonsombut, 1998). The increasing

interest on the topic of work motivation continued with a sharp increase in the number of dissertations published. In each of the years that followed from 2001 to 2018, close to 50% of the dissertations used quantitative research (c.f.Hernick 2017) , while mixed research methods, qualitative research using grounded theory (Boggess-de Bruin,2017; Sasala, 2014) , thematic analysis (Smith, 2012), semi-structured interview and, narrative approaches (Collins, 2016) are published.

### **Response to RQ 3**

The bibliometric analysis of the dissertations based on the strength of association among the key words revealed five major word clusters; three of which pertained to allied variables of work motivation, and two related to methodology.

**Cluster 1. Leadership:** Leadership emerged as a central concept in the studies on work motivation in project management. Indeed this is not surprising as extant literature investigates motivation from the project manager's perspective (c.f. Schmid & Adams, 2008; Creasy & Anantatmula,2013). Doctoral studies specifically investigated the leadership style of project managers for their impact on job satisfaction and employee motivation (Agboli, 2016), leader's motivation strategies to improve follower performance (Schwartz, 2013), and the influence of leader on virtual team member motivation in new product development projects (Moore, 2007). Furthermore, leadership as a variable is also strongly associated with variables in other clusters such as job satisfaction (Mirza, 2005), and higher education (Evans, 2000). Both qualitative and quantitative research methods were employed when investigating work motivation from the leader's perspective. Interviews (c.f.Hernick, 2017, Brown, 2002), case research (c.f. Prior, 2015; Kea, 2008) and empirical surveys (c.f. Dunbar, 2002)were the more common research methods.

**Cluster 2. Interview.** This word cluster mostly comprised of terms related to qualitative research methods employed in the studies. Terms such as multiple case studies, data collection, document analysis and interpretation closely aligned with each other in this cluster (c.f. Apfel, 2011; Pitron, 2008; Boggess-de Bruin, 2017).Apart from methodology, variables related to the larger business context in which the project operates are also a part of this cluster. Thus, studies on positive social change (Williams, 2017), employment and employer expectations (Hillerbrand, 2014; Gallaway, 2015), and role business leadership and senior management in motivating the employees (Willis, 2001).

**Cluster 3. Dissertation.** The third cluster includes terms closely associated with project management and projects. Thus, doctoral studies which focused on motivation among information system professionals (Chiu, 2005; Bowen, 2016), project complexity (Frahm, 2015), project innovation, and team member capability (Tonial, 2009), and knowledge

management (Steenkamp, 2014; Evans, 2018). These variables affect motivation by influencing the job attitudes of a person.

**Cluster 4. Job satisfaction:** This cluster comprises of terms mostly associated with outcomes of work motivation, or control and mediating variables in an empirical model that explains work motivation. Thus, doctoral theses on job satisfaction (Hernick, 2017; Holden, 2002), burnout (Emelander, 2011; Whistler, 2014), and organizational commitment (Chiu, 2005). Most of the dissertations on these topics have employed quantitative research methods as is evident from the terms – hypothesis, correlation, ANOVA, and scale being in this cluster (c.f. Dunbar, 2002; Tonial, 2009; Moody, 2008).

Cluster 5. Faculty. A significant number of theses have been published in the area of higher education, and on motivation of faculty in higher education institutions. Variables such as employment, salary, loyalty, higher education, and retention aligned closely with each other. Furthermore, the dissertations employed qualitative research methods more commonly over quantitative research methods (c.f. Brown, 2016; Dunbar, 2017; Jaffee, 2015).

#### **Limitations and Strengths**

Within the scope of this study, the dissertations were considered from ProQuest Dissertations and Theses Global. Therefore, the dissertations from other databases were not considered. The study is significant because it focuses on analyzing the content of doctoral dissertations, which is a good indicator of the sustained interest to study work motivation.

#### **Future research**

There is an ongoing dialog in the project management literature about the conceptualization of a project. At the heart of this conversation is the concept of ‘temporary organizing-a currently held view of a project. Temporary organizing is a ‘process’ when the actors are temporarily engaged or employed and interact with temporary structures such as tasks or resources. The actors will reflect on the nature of interactions. However, the actors may not completely control the process, and the outcomes of this interaction may lead to some other unintended sequence of processes (Bakker et al, 2016). Our review of work motivation literature from the dissertations does not adequately consider this conceptualization of a project. The construct of work motivation, and the theories on which these concepts are built still connote to a stable environment with permanent structures and well-defined tasks; what has been espoused by the traditional view of a project. Therefore, my future research will focus on (i). refining the context-from the traditional view of a project to temporary organizing; and (ii). understanding the influence of this context on the dynamics of work motivation.



## Conclusion

A general approach to visualize the research on work motivation in project management field has been presented. Based on an extensive literature review of doctoral dissertations from PROQUEST Dissertations and Theses Global database, major themes and the interaction between them was presented. Also discussed was the change in the choice of methodology employed across the years and the countries where research on work motivation is being rigorously pursued. Directions for future research, and implications for doctoral studies on work motivation are presented.

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