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Champions of IS Innovations

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Abstract:

Researchers have studied champions in diverse settings and kinds of initiatives; a significant body of work on champions has also steadily grown in the information systems discipline. However, we still lack clarity about the distinctiveness of IS champions. Given the poor track record of IS project success and champions' importance to that success, we argue that this lack of conceptual clarity about the uniqueness of IS champions constitutes a significant and urgent gap. In part, this gap exists because researchers have inadequately consolidated knowledge about IS champions thus far. In response, we systematically reviewed the literature and approached this gap from two viewpoints: 1) a research process perspective whereby we investigated the approaches and practices that IS champion research has followed and 2) a thematic perspective whereby we examined how knowledge about IS champions has accumulated to date. Our findings culminate in three contributions: we 1) propose eight IS champion distinctive features using a classification scheme, 2) redefine IS champions in a way that better reflects the distinctiveness of the champion role in IS innovation, and 3) combine findings from process and thematic perspectives in an agenda to advance IS champion research.

Keywords: IS Champions, IS Innovation, Systematic Literature Review, Research Agenda.

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1 Introduction

Researchers and practitioners widely recognize and use the "champion" concept. But what is a "champion"? Broadly speaking, a champion takes up a cause and becomes an advocate for it (Champion, n.d.). Champions represent special kinds of leaders who voluntarily carry the flag for specifically chosen causes and mobilize others to join in (Taylor, Cocklin, Brown, & Wilson-Evered, 2011). Researchers have noted their enthusiastic promotion of a particular matter and persistence in the face of strong opposition since Donald A. Schön described them in 1963. Most importantly, these individuals play a critical role in whatever initiative they become involved in.

Champions have become well established in areas such as medical and health sciences, environmental science, marketing, education, sport science, and technological innovation (Shane, 1994; Howell & Boies, 2004; Sergeeva, 2016). They have also become commonplace in the information systems (IS) discipline (Esteves & Pastor, 2002; Bassellier, Benbasat, & Reich, 2003; Kamal, 2010; Van Laere & Aggestam, 2015) since the champion concept made its way into the IS literature in the 1980s. Since then, research about these key individuals and their role in IS projects has appeared sporadically in academic writings. Today, IS literature often uses a definition from Roure (1999, p. 4) to describe champions:

> *Any individual who made a decisive contribution to the innovation by actively and enthusiastically promoting its progress through critical stages in order to obtain resources and/or active support from top management.*

The fact that "champions" occur in diverse disciplines raises a question: what distinguishes IS champions from other champions? Researchers have not yet answered this question. However, we can acknowledge two conceptually distinctive IS characteristics as the subject of their championing: 1) information systems' innovative nature and 2) their socio-technical nature. First, IS fit the way Rogers (2003, p. 11) define an innovation: "an idea, practice, or object that is perceived [as] new by an individual or other unit of adoption". Second, the innovative objects are informational, such as new data or information sets and flows, and technological, such as new ICT products or services. The innovative practices are organizational, managerial, or social, such as changing work processes, organizational structures, or business strategies (Swanson, 1994). IS innovations combine these social, informational, and technological aspects such that they have a socio-technical nature (Avgerou, 2003). Therefore, socio-technical innovations represent the rather distinct subject of championing in the IS discipline and, more accurately, reflect the phenomenon of interest in this paper; namely, champions of IS innovations or IS champions in short. Because IS innovations differ from other innovations, we argue that IS champions' roles, competencies, and identities will likely differ somewhat from those in other disciplines.

Still, the implications that IS innovations' unique characteristics have for champions remain largely unclear. In reviewing the extant literature, we realized that few studies have explicitly endeavored to frame IS champion characteristics as distinct. Studies have not asked questions about the uniqueness of IS champions or compared IS champions with champions in different domains. Second, we found no cross-cutting review about what the literature says about champions in the IS domain; we would require work that synthesizes the IS champion literature to consolidate knowledge about IS champions and to provide important indications about what future directions research on this topic might take.

We argue that this lack of conceptual clarity about the uniqueness of IS champions constitutes a significant and urgent gap in the literature. It constitutes a significant gap because research has linked key individuals such as champions to IS project performance[1] as a critical success factor (e.g., Schmidt, Lyytinen, Keil, & Cule, 2001; McManus & Wood-Harper, 2007; Cerpa & Verner, 2009; Standish Group, 2009; Dwivedi et al., 2015). In synthesizing the IS project performance literature, Irvine and Hall (2015) recently found the top three most cited success factors to concern the roles of key individuals, such as champions, in IS projects. Therefore, for IS projects to succeed, we need to better aggregate knowledge about IS champions' roles, competencies, and characteristics.

It constitutes an urgent gap due to the continuing poor track record of IS projects. To illustrate, Hastie and Wojewoda (2015) optimistically estimate that no more than a third of IS projects that began between 2011 and 2015 have reached their full potential, while about 20 percent will end in complete failure. As such, we set the ever-growing investment in IS projects, continuing high failure rates, and known significance of key

[1] For the reasons we outline above, we regard IS projects as IS innovations because they introduce new objects and practices to their adopters.

individuals such as champions to their success alongside our lack of consolidated knowledge about IS champions. In this situation, we argue that we urgently need more complete, adequate, and coherent knowledge about such champions.

Accordingly, with this study, we contribute to this knowledge gap around the nature and potential uniqueness of IS champions. We consolidate IS champion knowledge to date and, thereby, reveal cumulative insights and provide a baseline for future work that might most productively advance our understanding about these key individuals. We follow a three-fold approach. First, we examine IS champion research approaches and practices to date because we need such understanding to evaluate the reliability and rigor of the knowledge created thus far. Second, we thematically examine IS champion research to draw out key conceptualizations such as potentially unique features. Third, we identify specific knowledge gaps and priorities to enable more complete and coherent knowledge about IS champions to accumulate in the future. Specifically, we address three research questions (RQ):

RQ1: How are IS champions researched and by whom?

RQ2: What has research said about IS champions so far and what might be their unique characteristics?

RQ3: What might future research on IS champions prioritize?

This paper proceeds as follows: in Section 2, we briefly outline the systematic literature review method we followed. We further detail how we identified and selected literature and appraised sources' quality. In Section 3, we present our findings from evaluating IS champion research approaches and practices. In Section 4, we present our findings about IS champions, which we divide into seven thematic areas. Finally, in Section 5, we discuss the uniqueness of IS champions and future research directions and conclude the paper.

2 Research Method

Three considerations motivated the systematic and analytical approach we followed to review the literature:

- Criticism that IS scholars take too long to adopt rigorous literature-review methods (Webster & Watson, 2002; Levy & Ellis, 2006; Jennex, 2015).
- The absence, to our knowledge, of any such review to date of IS champions despite, as we note above, their acknowledged importance.
- The accumulation of a critical mass of literature that pertains to IS champions that one could use to conduct a systematic literature review (SLR).

In this analysis, we followed Okoli and Schabram's (2010) four-phased SLR strategy given its specific relevance to the IS domain. Table 1 outlines the four phases: 1) planning, 2) selection, 3) extraction, 4) execution. It also briefly describes the eight composite steps across these phases and summarizes how we applied and implemented each step in this project.

We address step one in Section 1. Steps two to five focus on identifying, selecting, and screening studies for review, which we discuss in Sections 2.1 and 2.2. We discuss the outputs of the final review steps in Sections 3 and 4. We offer potentially distinctive IS champion characteristics and recommendations towards a future research agenda throughout and summarize them at the end of the paper.

Table 1. Approach for Conducting the Systematic Literature Review (Adapted from Okoli & Schabram, 2010, p. 7)

Planning	**Step 1: Purpose** One must clearly and explicitly identify the purpose and intended goals for the review. • To consolidate IS champion knowledge to date in order to identify distinctive features and reveal cumulative insights of championing in the IS domain as a baseline for future research (see Section 1).

	Step 2: Protocol
	Before the review commences, one must develop a detailed protocol to ensure that one follows a systematic, repeatable, and reliable approach. This plan describes the procedures used for every step of the review. It is particularly important when more than one reviewer conducts the review (as in this review) to ensure clarity and agreement about procedures. One should document the protocol.
	• We identified search terms via iteratively analyzing papers that cited Schön's (1963) original work
	• We confirmed innovation and IS literature as relevant disciplines for IS champions research
	• We chose Google Scholar as the search engine after considering alternative databases because:
	  ○ It is freely accessible and, thus, allows anyone to reproduce the search
	  ○ It provides readily accessible citation information: an important aspect at the start of an SLR
	  ○ It is broad and non-disciplinary whereas other tools are narrower and discipline specific
	  ○ It has the widest coverage of scholarly documents (Khabsa & Giles, 2014) compared to alternatives
	• We devised a repeatable search strategy (see Table 2 for summary)
	• We developed, piloted, and refined a multi-reviewer protocol (see Steps 3-5 and protocol in Appendix A).

Selection	**Step 3: The literature search** One needs to explicitly and in detail explain the rationale and procedure one followed to search for literature. The search needs to be repeatable and its comprehensiveness justified. • We applied the search strategy using Google Scholar; it yielded 255 results that we used in Step 4.

	Step 4: Practical screening
	One needs to screen search results to include them in the review. One derives the criteria, which one needs to make explicit, for including sources (and by implication excluding others) from the purpose. This high-level assessment eliminates the obviously irrelevant works. One should report practical reasons for eliminating studies without further examination.
	• We screened all 255 sources for inclusion based on whether:
	  ○ They focused on individual champions as the unit of analysis
	  ○ They reported empirical research with primary data explicitly collected and used for the study's purpose to ensure they constituted original additions to the domain
	  ○ They belonged to the IS or innovation studies discipline literature or the cognate business and management discipline and pertained to IS or other technological innovations
	  ○ They had undergone peer review as a method to control for quality
	  ○ One could access them electronically for computer-based content analysis.
	• Using this criterion, two independent reviewers selected 33 sources for inclusion and rejected the remaining 222; thus, rejected sources were independently verified and carefully documented.

Extraction	**Step 5: Quality appraisal** Following practical screening, one must screen the remaining works for exclusion. In this step, one assesses content in more detail and should explicitly detail the criteria they use. The review's purpose, aims, and objectives will influence the measures one uses during this appraisal. • Assessing the studies' content in more detail based on the criteria in Step 4, we excluded an additional eleven sources: seven for being non-empirical papers (Mohi Uddin, 2000; Howell, 2005; Sipior, 2005; Coakes & Smith, 2007; Molloy & Kriz, 2012; Renken & Heeks, 2013, 2014), one since it lacked evidence it had undergone peer review (Appolis & Alexander, 2013), and three because they focused on championing non-technological innovations (Lichtenthaler & Ernst, 2009; Bankins, Denness, Kriz, & Molloy, 2017; Fujii, 2017). • We obtained 22 final sources as a basis for analysis.
	Step 6: Data extraction One needs to systematically extract applicable information from the final papers. One should use a guide and assessment procedures, established during protocol development, to extract raw data for synthesis in the next step. • We quantitatively and qualitatively analyzed the selected sources' content using a scoring form (see Appendix A) with thirty variables and associated measures (see Appendix B, which summarizes the data that we extracted during content analysis).

Table 1. Approach for Conducting the Systematic Literature Review (Adapted from Okoli & Schabram, 2010, p. 7)

Execution	**Step 7: Study synthesis** In this phase (the main analytic phase), one needs to combine, compare, and contrast the qualitative and quantitative data one collected during the extraction phase. • We analyzed IS champion research approaches and practices to evaluate the reliability and rigor of the knowledge created thus far (Section 3) • We followed an inductive approach to identify key thematic areas that served as a framework for analysis (Section 4)
	Step 8: Review writing We report the results from the systematic literature review.

2.1 Identifying and Selecting the Literature

SLR necessitates that one explicitly clarify and justify the search procedure when developing the protocol. In initially exploring the IS literature, we found that many studies that pertain to IS champions have often drawn from seminal empirical research on the concept in the innovation literature—the disciplinary birthplace of the champion concept. As such, we needed to include both the innovation and IS literature in order to capture the core body of knowledge about championing IS-related technological artefacts and innovations.

As a pilot procedure, we searched for papers that cited Schön's (1963) work whose "discussion of champions serves as the starting point for most writers concerned with championship" (Howell & Higgins, 1990c, p. 250). From these search results, we realized that studies have used various different terminologies to refer to champion-type individuals but have often omitted one or more aspects of Roure's (1999) definition and our refinement to socio-technical innovations' being the subject of championing in the IS discipline. For example, Markus and Benjamin (1996) use "change agents", but this conceptualization focuses on a narrow view of the champion role (i.e., getting users to accept new technology) and does not consider their engagement with the innovation process. The terms "promoters", "brokers", or "intermediaries" (Sarkar, Butler, & Steinfield, 1995) have similar limitations in that they focus only on individuals' advocacy of new technology or the brokerage role between different stakeholder groups but not on the fuller range of technical, social, and organizational elements that pertain to championing IS. In sum, the IS champion role encompasses more than these terminologies and their associated conceptualizations. As such, we limited search results to studies that contained "champion" or "champions" in the title. We found doing so an effective method to identify papers that conceptualized IS champions in the full sense of Roure's definition and our refinement to socio-technical innovations. Additionally, with this approach, we identified papers that explicitly focused on champions as the unit of analysis. This procedure yielded 59 papers that originated from various disciplines including IS and innovation.

From this limited set of works, we examined titles and abstracts to identify commonly used terminology and, thereby, formed a basis from which to identify potential search terms. This process was iterative: when we identified new terms, we repeated the search and evaluated the results. We selected Google Scholar to implement the search strategy for reasons we outline in Table 1. Table 2 summarizes our final search terms and strategy.

Table 2. Summary of Google Scholar Literature Search Strategy

Search string	All in title: champion OR champions AND (project OR technology OR technological OR innovation OR "information system" OR IT OR role OR "non champions")
Time period	1990-2017
Exclude	1) patents, 2) citations, and 3) non-English results
Final search date	30 January, 2018

The remainder of the search terms mainly dealt with the context or object of championing (project, technology, technological, innovation, information system, IT). We added the "role" and "non champion" terms when it became apparent that, without them, some key sources that we identified during our preliminary searches did not appear in Google Scholar.

We made further refinements in order to isolate the most relevant sources. We wanted to focus our attention on contemporary literature and chose 1990 as the most recent date with which we could include

the most-cited sources that pertain to IS champions (those that Howell authored). Furthermore, the literature on champions has steadily grown since Schön's (1963) work in the early 1960s, but research into ICT championing became commonplace only from the 1990s onwards. As such, we limited our review's scope to the period as per Table 2. We excluded patents, citations, and non-English results.

We screened the 255 identified sources for inclusion using the criteria that we outline in Table 1. From this process, we selected 33 sources for inclusion and rejected the remaining 222 since they did not meet one or more criteria. In that way, we completed the second phase of our SLR approach. The third phase of the review—data extraction—involved quantitative and qualitative content analysis, which we discuss in Section 2.2.

2.2 Quality Appraisal and Data Extraction

We screened the remaining 33 sources for exclusion via appraising their quality. To do so, we assessed their content in more detail. We had two reviewers independently assess the sources using the five inclusion criteria set out in Table 1, which resulted in our excluding a further 11 sources. Thus, at the point of entry to data extraction (step six), we used a final collection of 22 sources, which we present chronologically in Figure 1, as the basis to review the body of knowledge about IS champions.

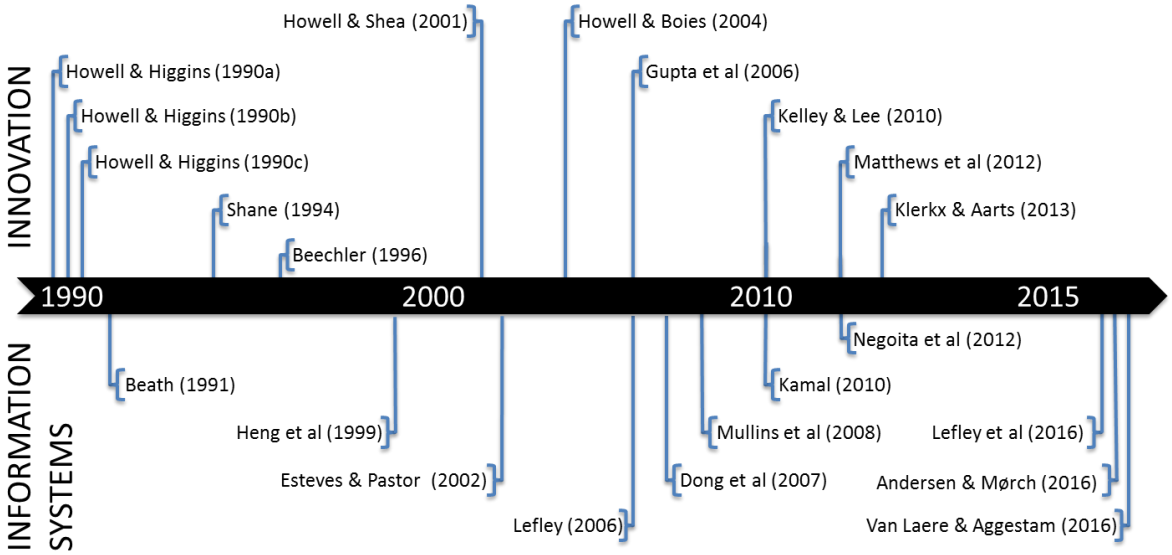

Figure 1. Champion Literature Timeline

Figure 1 shows that we obtained a balance between innovation (11) and IS (11) sources. From the Innovation literature, champion research emerged at fairly regular intervals throughout the period, which indicates ongoing interest in champions and their role in the innovation process. Champion research in the IS literature, however, appeared mostly in the latter half of the period we considered—a period that coincided with the widespread diffusion of ICTs in general and the Internet in particular. We offer this evidence of sustained interest in champions from the innovation literature coupled with a growing interest from the IS literature as additional motivation for the timeliness and significance of the current review.

We extracted data through a comprehensive, pre-piloted procedure using a scoring form (Appendix A). We summarize the extracted data in Appendix B. The iterative process of testing and refining measures and procedures we followed resonates well with the experiences of Okoli and Schabram (2010). In the obvious confines of our own resources, the criteria and procedures for the content analysis are reliable, repeatable, and unambiguous. We present our analytical review in Sections 3 and 4.

3 Champion Research Approaches and Practices

In this section, we answer our first research question about the approaches and practices that researchers have used to research IS champions. Our findings form the basis from which we make recommendations.

3.1 Bibliographic Analysis

We required sources to have undergone peer review for inclusion as a quality-control measure, which meant our final sample contained journal papers (16), conference proceedings (5), and a single working paper. We examined who researches IS champions and how they deliberate because research traditions differ between disciplines; insights into this knowledge production system can help explain the nature of the knowledge that has accumulated.

As Figure 2 shows, 42 unique individuals who originated from a variety of disciplinary backgrounds authored the papers in our sample.

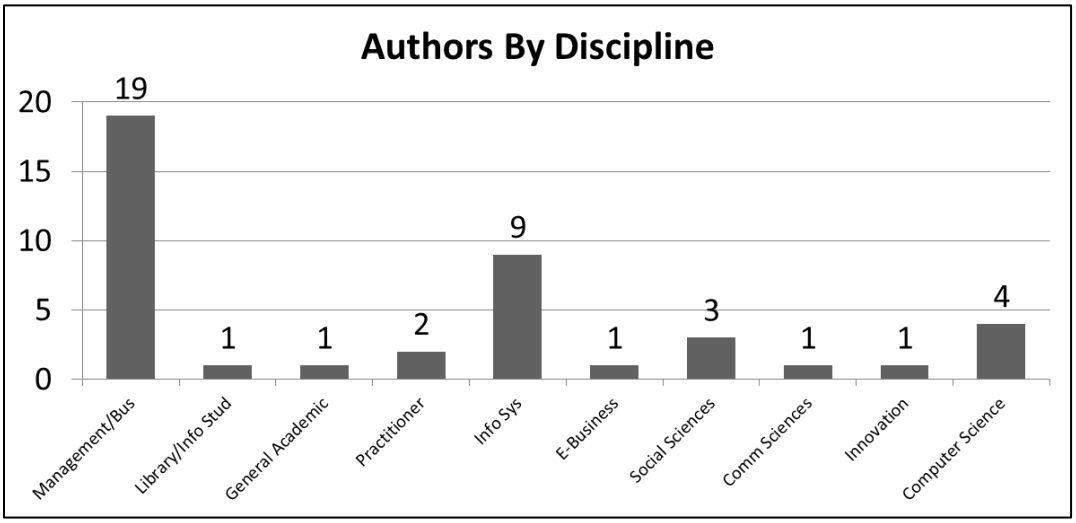

Figure 2. Contributing Authors' Disciplinary Background

Figure 2 shows that the majority of scholars originated from a management or business background (45%) and just over one-fifth (22%) from IS. Together, these two groupings capture the most IS champion research in our sample. The remaining third had scholars from eight cognate disciplines, which evidences the widespread interest in champions. It also shows the potential for multi- and inter-disciplinary research. However, only six of the reviewed papers had co-authors from different disciplinary backgrounds, which indicates that researchers have yet to realize this potential.

We also examined the most influential IS champion scholars and the effectiveness of communication between different scholars through their publications. To do so, we explored citation patterns between the reviewed papers (see Figure 3).

Figure 3 illustrates a citation network diagram where the nodes represent papers and the one-directional links that originate from the cited source indicate citations. The size of a node is proportionate to the number of times other papers (both in and outside the sample) cite it; as such, the largest nodes represent the papers with the most cites. The blue squares represent the 22 papers we reviewed, while the red circles represent eight champion sources that appeared before the period we examined. We identified these latter sources via conducting a bibliographic analysis of the papers in our sample. The Figure 3 citation network diagram provides the basis for analyzing the importance of individual papers and the nature of communication in the IS champion literature.

Jane M. Howell served as the lead author in three of the four most-cited papers in this collection. The results show that she is, second to the seminal work of Schön (1963), the most influential scholar in this area, which suggests that anyone interested in researching IS champions should review her work (including Howell, 2005).

Communication between sources represents an important means to incrementally build knowledge in a research area. In analyzing the Figure 3 network, we found that papers cited an average of 1.6 other sources in our sample (i.e., the 22 papers). This average increased to 3.6 citations per paper when we added the links to the pre-1990 champion research. We conclude from this finding that researchers have conducted IS champion research in a rather isolated manner and, thus, have forfeited the full benefit that

they could attain from incrementally building on knowledge in the area. We further explore this aspect when we analyze the theory bases in Section 3.3.

3.1.1 Research Recommendations

1) While the interdisciplinary interest in champions of IS innovation is encouraging, an opportunity for more native IS scholars who understand the contextual ICT element first hand to contribute exists.

2) Only six of the papers had multi-disciplinary author teams; as we argue in Section 4, one needs to consider context and contingent factors to understand IS champions. Therefore, we recommend that research teams increase their disciplinary diversity (specifically, that they involve more practitioners, innovation studies researchers, and social science researchers).

3) The limited communication between papers in the corpus of IS champion literature, which the low citation rate we found evidences, leads to a recommendation that authors should engage much more with prior IS champion research in order to incrementally build on knowledge more fully. We offer this review paper an access point to the relevant body of literature.

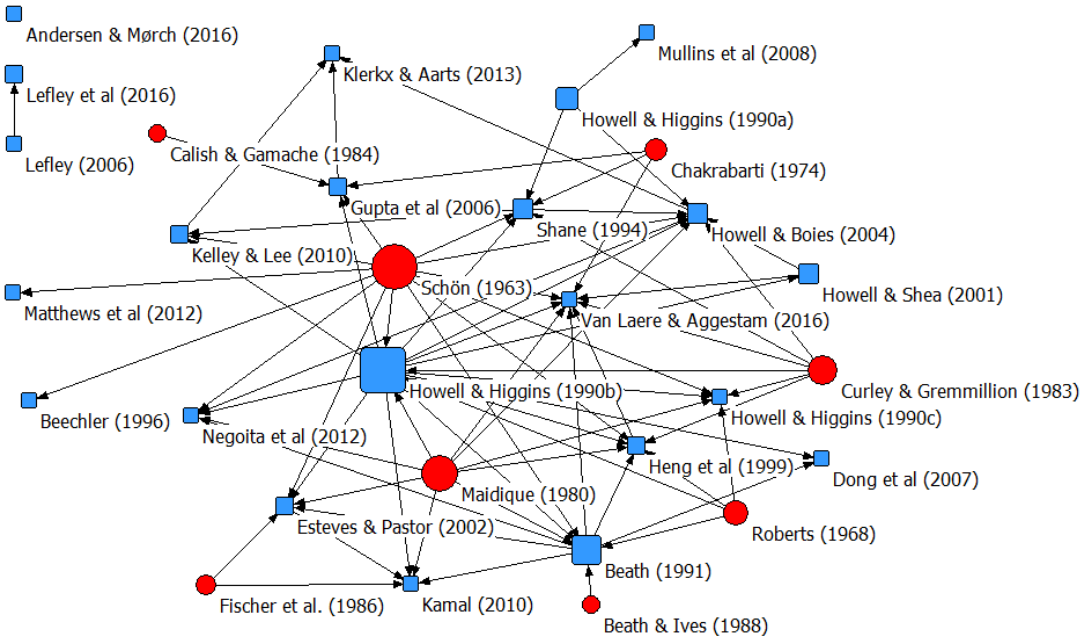

Figure 3. Citation Network Diagram

3.2 Research Philosophy

The philosophical assumptions that underpin research and the extent to which research design coincides with strategy affects the type and quality of knowledge research creates; it affects how others perceive a study's reliability, validity, rigor, and quality (Becker & Niehaves, 2007). Since we focus on consolidating IS champion knowledge to date and, thereby, on revealing cumulative understandings, we need to gain insight into the philosophical approaches that IS champion research has followed.

We used the familiar categorization of research philosophies—positivism, interpretivism, critical research, and critical realism (as per Mingers, 2004)—as the basis of our analysis[2]. Appendix B summarizes our content-analysis results as they pertain to research philosophies.

In the 22 papers in our sample, only two explicitly stated their philosophical perspective; for the remaining 20 papers, we had to interpret it. Overall, we found 86 percent to be positivist (10 papers explicitly treated

[2] We acknowledge that researchers have used several classifications of IS research paradigms over the years (Burrell & Morgan, 1979; Fitzgerald & Howcroft, 1998; Monod, 2003; Chen & Hirschheim, 2004; Weber, 2004) but decided to use the Mingers' (2004) categorization as it fits earlier literature on which we build our arguments.

phenomena as real and objective and nine papers treated some phenomena as real but did not ascribe cause or mix some positivism with notions of constructivism). Further, only nine percent followed an interpretive approach (two papers). We could not determine the research philosophy for one paper. None of the reviewed papers approached champion research from the critical or critical-realist perspectives.

To interpret these results and determine what they reveal about IS champion research, we briefly turn to the philosophical traditions prevalent in IS literature. In one of the earliest cross-cutting analyses of IS research, Orlikowski and Baroudi (1991) evidenced the philosophical homogeneity in the discipline; positivism accounted for 96.8 percent and interpretive studies represented the remaining 3.2 percent of their sample—a result they described as "unnecessarily restrictive". As such, they argued for the usefulness of alternative paradigmatic approaches and that "much can be gained if a plurality of research perspectives is effectively employed to investigate information systems phenomena" (1991, p. 1).

We similarly argue that the relative positivist monoculture limits IS champion knowledge generation and accumulation in a non-trivial way. For example, reflected in the belief that an objective reality exists and that natural phenomena can be known and studied, the positivism inherent in most of the IS champion literature led it to ask questions such as "how do IS champions differ from non-champions in terms of their skills, preferences and leadership behaviors?", "are the differences between champions and non-champions universal or shaped by local culture or domain?", and "what are the skills that enable champions to be successful in promoting IS?".

Different philosophical approaches would ask different questions about the phenomenon of interest (Monod, 2003), but the literature has largely lacked such questions to date. For example, interpretivism posits that reality is a subjective social construction—that people create it in their minds while interacting in the world. From this perspective, IS champion research focuses on understanding the human and social interactions whereby people construct their subjective meanings about reality. As such, interpretivists would explore questions such as "what are the important aspects of a champion's role understood to be?", "how does organizational culture influence IS champion performance?", and "how do IS champions build relationships with other stakeholders?". The two interpretive studies in our sample (Heng, Trauth, & Fischer, 1999; Kamal, 2010) demonstrated the unique types of knowledge about IS champions that one can gain compared to positivist studies. Indeed, as we demonstrate in Section 4, many gaps in knowledge about the distinctiveness of IS champions that we could fruitfully pursue using the interpretive approach exist.

Critical IS research challenges the status quo of organizations and information systems to expose inconsistencies and contradictions in the social system (Orlikowski et al., 1991). Thus, a critical approach would question the notion of IS champions, identify in whose interests those champions act, analyze the power of champions and the innovations they champion, and possibly raise alternative approaches. We ascribe the deficiency of insights into these important aspects, at least in part, to the lack of engaging in critical IS champion research.

Lastly, critical realism assumes that phenomena exist independently from human cognition on the one hand but acknowledges that, as a human activity, knowledge production is always socially and historically located. Its focus on deep causal explanations would help researchers to better understand the big questions around IS champions, such as "where do they originate from, and why?", "how can they be developed?"; "what are the positive and negative impacts of champions on IS projects?".

In sum, from analyzing the philosophical approaches that the IS champion research has followed, we find that positivism's dominance has limited the knowledge researchers have generated about IS champions.

3.2.1 Research Recommendations

1) We can improve the reliability and validity of IS champion research by explicitly discussing its philosophical underpinnings and then following guidelines for rigor in the chosen philosophy. We could encourage researchers to do so if reviewers sought such explicitness and reflectiveness from IS champion researchers. Reviewers could also evaluate studies in terms of the consistency with which they analytically treat phenomena and the extent to which research findings coincide with philosophical assumptions.

2) To remedy the prevailing positivist monoculturalism in IS champion research, we need to diversify into alternative philosophical approaches. Other philosophies, including critical research and critical realism, hold the potential to inform champion research in new ways.

3.3 Theory Base

A paper's theoretical base refers to the knowledge framework that it uses. We analyzed the types, roles, and value of theory in the IS champion research because 1): theory guides what one can uncover about IS champions and any theoretical skews may also skew what we know about the topic, 2) Diversity in the theories that papers use offer insights into the extent to which knowledge about IS champions has become aggregated or fragmented, and 3) following Lewin's (1951, p. 169) famous phrase that "nothing [is] quite so practical as a good theory", the theory one chooses guides the nature of practical recommendations that IS champion research makes. We explored the knowledge frameworks in the IS champion research through three analytical activities.

3.3.1 Analysis 1

In some instances, the knowledge framework took the form of a named theory, such as a social capital theory. At other times, one could best capture the knowledge framework by identifying the theoretical constructs that a paper used in its analysis or produced via theory building. Table 3 presents the theories and theoretical constructs[3] we identified in the IS champion research.

Table 3. Theories and Theoretical Constructs used in the Collection of Papers

ID	Theories and constructs	Relevant papers
1	Champion roles	Beechler (1996), Esteves & Pastor (2002), Gupta, Cadeaux, & Dubelaar (2006), Lefley (2006), Kamal (2010), Matthews, Bucolo, & Wrigley (2012), Klerkx & Aarts (2013), Van Laere & Aggestam (2016)
2	Leadership (including Transformational Leadership)	Howell & Higgins (1990a, 1990b, 1990c), Heng et al. (1999), Dong, Sun, & Fang (2007)
3	Champion influence tactics	Howell & Higgins (1990b, 1990c), Negoita, Rahrovani, Lapointe, Pinsonneault, & Mirza (2012)
4	Champion emergence	Howell & Higgins (1990b), Howell & Boies (2004), Negoita et al. (2012)
5	Champion impact on project	Howell & Shea (2001), Esteves & Pastor (2002), Lefley (2006)
6	Personality characteristics	Howell & Higgins (1990a, 1990b)
7	Champion support	Beath (1991), Kelley & Lee (2010)
8	Champion behavior	Howell & Shea (2001), Van Laere & Aggestam (2016)
9	Network theory	Gupta et al. (2006), Klerkx & Aarts (2013)
10	Technology acceptance model (TAM)	Dong et al. (2007), Mullins, Kozlowski, Schmitt, & Howell (2008)
11	Career experience	Howell & Higgins (1990a)
12	Championing process	Howell & Higgins (1990a)
13	Social Deviance	Shane (1994)
14	Champion types	Heng et al. (1999)
15	Champion innovativeness	Kelley & Lee (2010)
16	Champion empowerment	Kelley & Lee (2010)
17	Champion resource requirement	Kelley & Lee (2010)
18	Champion managerial control	Kelley & Lee (2010)
19	Financial appraisal profile (FAP) model	Lefley (2006)
20	Innovation theory	Mullins et al (2008)
21	Social capital	Negoita et al (2012)
22	Schön's reflection in action	Matthews et al. (2012)
23	Cultures of participation	Andersen & Mørch (2016)
24	Optimism bias theory	Lefley, Hynek, & Janeček (2016)

[3] "Theoretical constructs" refers to existing theoretical notions that a study either incorporates as input or to new theoretical notions that emerge from analytical induction. "Theories" refers to known frameworks of knowledge, such as the technology acceptance model (TAM). In our analysis, we treated theories and theoretical constructs the same since we focused on identifying all aspects of IS champions that the literature has theorized.

The variety in theory types in Table 3 means that theoretical monoculturism does not limit IS champion research; we can likely attribute this theoretical diversity to the multidisciplinary interest we point out in Section 3.1. Moreover, almost half (10/24) of the theories or constructs featured in multiple studies, which shows variety in theory use and, in principle, suggests theory building could have occurred whereby subsequent authors contributed to improve theoretical understandings gained from earlier work. However, the citation patterns between the papers (see Figure 3 above) indicates that sources did not often build on prior work or even establish such connections through cross referencing. As such, researchers have yet to fully realize the potential strength of theoretical variety and, thus, to aggregate IS champion research.

Consider, for example, the most common theoretical construct from Table 3 (i.e., champion roles): only two of the eight studies referenced each other (Kamal (2010) cited Esteves and Pastor (2002), and Klerkx and Aarts (2013) cited Gupta et al. (2006)). Consequently, researchers have made little progress in building a body of theoretical understanding about the unique roles of IS champions. Overall, from analyzing Table 3 and Figure 3, we see that theoretical individualism prevailed in the reviewed IS champion literature: authors have considered their theorizing about IS champions largely in isolation with little regard for similar prior work.

3.3.2 Analysis 2

To explore the types of theories in IS champion studies, we turn to Gregor (2016). She defines theory (in IS) as: "statements that say how something should be done in practice; or, statements providing a lens for viewing or explaining the world; or, statements of relationships among constructs that can be tested" (p. 613). She develops a taxonomy of five theory types based on different configurations of four characteristic: causal explanations, testable propositions, predictions, and prescriptions. Table 4 (next page) overviews Gregor's taxonomy, which we applied to classify the reviewed sources.

With Table 4, we move beyond identifying theories (the previous analysis) to revealing the kinds of theories that the IS champion sources used. Type I, III, and IV theories appeared frequently, while type II theories appeared in only two studies. We found no study in which a type V theory appeared.

To interpret these results, we draw on Sahay and Walsham (1995) who offer three arguments about theory's value: it allows 1) researchers to communicate with practitioners, 2) researchers to communicate with each other, and 3) knowledge to accumulate[4]. We consider each value source in relation to the IS champion research in the following paragraphs.

First, champions make decisively practical contributions to IS projects; thus, when researching IS champions, researchers need to provide theory-based, prescriptive statements that "specify how people can accomplish something in practice" (Gregor, 2006, p. 620) in order to provide practitioners with actionable findings. Indeed, the studies we reviewed did feature implications for practitioners even from type I-IV theories. To illustrate, Howell and Higgins (1990b) used a theory of transformational leadership to analyze the factors that lead cause champions to emerge; their findings propose transformational leadership training as an effective means to enable individuals with certain "personal characteristics and social skills" (1990b, p. 339) to emerge as champions. Theory enables this type of communication with practitioners, which positively indicates the value of theory in IS champion research. However, we noted that the papers we reviewed notably lacked type V (design and action) theories, which constitutes a research gap that will constrain the level of practical guidance.

Second, by using similar theories to investigate different aspects or different theories to study similar aspects, researchers obtain a common language to exchange ideas, challenge findings, and further explore identified gaps. In turn, this common language allows knowledge to accumulate (i.e., the third value source) rather than small, unconnected pockets of knowledge. The IS champion literature we reviewed illustrated these two values: for example, Dong et al. (2007) continued a discussion about transformational leadership behavior of champions that Howell and Higgins (1990b) started earlier. Dong et al. not only compared their work to Howell and Higgins' work but extended it by establishing a correlation with the theory body about individual technology beliefs—something quite distinctive about IS champions. However, more generally and as we argue above based on analyzing Table 3 and Figure 3, IS champion researchers have scarcely communicated with one another, which has resulted in their not fully realizing their potential for theory building.

[4] They argue a fourth value: strengthening legitimacy and recognition of the field as an academic discipline. However, as IS champion research is not aspiring to be a distinct academic discipline, this is not discussed here.

With this analysis, we cannot determine the areas in IS champion research that researchers have not adequately theorized. However, we determine such areas in Section 4 alongside emerging knowledge gaps which we then consider in conjunction with Tables 3 and 4. Next, we analyze the role of theory in IS champion research.

Table 4. A Taxonomy of Theory Types Applied to IS Champion Research (Based on Gregor, 2006

Theory type	Distinguishing attribute	Causal explanations	Testable propositions	Predictions	Prescriptions	Classification of IS champion papers
I. Analysis (e.g., design-reality gaps, taxonomies, frameworks)	**Says what is:** the theory does not extend beyond analysis and description. It specifies no causal relationships among phenomena and makes no predictions.	-	-	-	-	Beechler (1996) Heng et al. (1999) Lefley (2006) Kelley & Lee (2010) Kamal (2010) Matthews et al. (2012) Klerkx & Aarts (2013) Andersen & Mørch (2016) Lefley et al. (2016)
II. Explanation (e.g., theories of understanding: structuration theory, cases revealing drivers/barriers/CSFs)	**Says what is, how, why, when, and where:** the theory provides explanations but does not aim to predict with any precision. It makes no testable propositions.	✓	-	-	-	Negoita et al. (2012) Van Laere & Aggestam (2016)
III. Prediction (e.g., Moore's Law)	**Says what is and what will be:** the theory provides predictions and has testable propositions but does not have well-developed justificatory causal explanations.	-	✓	✓	-	Howell & Higgins (1990c) Beath (1991) Esteves & Pastor (2002) Howell & Boies (2004) Gupta et al. (2006)
IV. Explanation and prediction (e.g., cybernetics, soft systems approach, complexity theory, TAM, ideal types)	**Says what is, how, why, when, where and what will be:** provides predictions and has both testable propositions and causal explanations.	✓	✓	✓	-	Howell & Higgins (1990a) Howell & Higgins (1990b) Shane (1994) Howell & Shea (2001) Dong et al. (2007) Mullins et al. (2008)
V. Design and action (e.g., participative methodologies)	**Says how to do something:** the theory gives explicit prescriptions (e.g., methods, techniques, principles of form and function) for constructing an artefact.	✓	✓	✓	✓	

3.3.3 Analysis 3

Geoff Walsham (1995, p. 76) has illustrated the different roles that theory has (particularly in IS case studies but also more generally) by linking it to different stages in the research process: "as an initial guide to design and data collection; or, as part of an iterative process of data collection and analysis; or, as a final product of the research". These different roles became visible when we analyzed the diverse research approaches that the papers in our sample followed (Appendix B summarizes the relevant extracted data).

Half of the studies either explicitly (9) or implicitly (2) used some theory or concept for their testing (hypothetic-deductive). Therefore, these studies used theory as input to analyze IS champion constructs and test hypotheses. Accordingly, theory guided their research design, data collection, and data analysis. A further eight studies used some theory or concept to start their analysis and then tested it with data. They drew conceptual inferences at a theoretical level (quasi hypothetic-deductive followed by inductive) in a subsequent analytical step. Here, theory had three roles: 1) it served as input to the study design, 2) it formed part of the analytical process, and 3) it served as research output. The remaining three studies

began with data and produced theory as a research output via analytical induction (inductive or quasi-inductive).

We can see the diversity in these approaches to theory as a strength—a balance of theory testing and theory building that suggests theory's value in expanding IS champion knowledge. As a result, some "native" champion theories have already emerged. For example, in their inductive study, Van Laere and Aggestam (2016) yielded a theoretical conceptualization of how the collective performance of multiple champions in fluid contextual conditions led to innovation success. In another example, Gupta et al. (2006) developed a theory about the roles of IS champions in the creation of a new enterprise. These native IS champion theories have value to both researchers and practitioners who want to harness the potential positive contributions of champions.

Furthermore, the different roles that theory plays in the research approach can amplify incremental knowledge building, Sahay and Walsham's (1995) third value of theory. We found small instances of incremental theory development and refinement in the papers in our sample. In particular, research that has conceptualized IS champions as transformation leaders comprises perhaps the most developed area to date. Howell and Higgins (1990b, 1990c) initially tested the notion that IS champions represent transformational leaders through hypothetic-deductive studies, and Heng et al. (1999) and Howell and Boies's (2004) followed after with their inductive work. Heng et al. (1999) extended the personality trait-based leadership conceptualization of champions by evidencing the importance of organizational-level characteristics, which Howell and Boies (2004) extended by tying leadership behaviors to the emergence of champions and their roles in the innovation process. However, even with this example of incremental theory building, the earlier and later studies had only weak links between them; for instance, neither of the two examples framed their theoretical contribution in relation to the foundation studies.

This evidence shows that theory has value and does play a role in facilitating communication between researchers and helping IS champion knowledge to incrementally accumulate, but we conclude that researchers have mostly not tapped into the potential at present due to the relative isolation in which they have thus far conducted IS champion research.

3.3.4 Research Recommendations

1) We found that theoretical individualism (i.e., limited engagement between studies that use similar theories) prevailed in the IS champion literature: authors considered their theorizing about IS champions in isolation with little regard for similar prior work. We argue for a move towards theoretical collectivism (i.e., IS champion researchers communicating with each other through theory) whereby better incremental theory building can occur.

2) A few native IS champion theories have already emerged; we encourage researchers to pursue original theory development further, particularly to develop practice-oriented (type V) theories. For example, it would only take a small additional step for champion emergence and champion support theories (as per Table 3) to become prescriptive; that is, to prescribe the necessary steps and conditions for champions to emerge or to recommend support actions for managers that would cause champions to promote IS more successfully.

3) Room to expand the range of theories in IS champion research by identifying existing theories with agency to illuminate undertheorized aspects exists. For example, capability theory (Sen, 1992) could yield novel insights into IS champions' competencies, roles, and activities; well-established existing theories about personal characteristics, such as the Big Five personality traits (Goldberg, 1990), could bring together the many disconnected studies on aspects of champion traits; and motivational theories, such as the work preference index (Barba-Sánchez & Atienza-Sahuquillo, 2012), could help researchers more deeply understand champions' motivations.

3.4 Research Strategies, Methodological Choices, and Methods

One would not completely evaluate the reliability and rigor of IS champion research without examining research design choices and practices. We summarize our results in Appendix B and discuss our analytical conclusions in this section.

We can differentiate the studies we reviewed based on their research strategy (i.e., their overall action plan to achieve their goals) (Palvia et al., 2004, p. 529). Overall, we found a trend in which the studies

followed a relatively narrow range of common approaches: survey research (8), case studies (5 single cases; 3 multiple cases), field studies (4) and content analysis (2).

We found a similar trend in which the studies followed a fairly narrow range of common approaches when analyzing their data-collection methods. More papers (13) used interviews (structured, semi-structured, or unstructured) than any other method to collect data. Further, ten used questionnaires (or surveys). Other strategies included one Delphi study, two studies that used observations, two that performed document analysis, and one that performed a discussion analysis. While plurality in research strategies and methods does not represent an end in itself, one can expect it to emerge as a discipline progresses in how it creates knowledge (Easterby-Smith, Golden-Biddle, & Locke, 2008). The limited diversity in the strategies and methods the papers used means that untapped potential to deepen and widen IS champion knowledge through alternative approaches remains.

The papers used various methodological designs (see Appendix B): 1) eight studies followed a qualitative approach (six case studies among them); 2) seven studies followed a quantitative approach (all but one followed a survey strategy), and 3i) seven studies followed a mixed-methods approach (two were field studies and two formed part of a survey strategy). Thus, we detected some alignment between research strategies and methodological designs. While one can expect alignment of this nature for survey research, we note the scarcity of mixed-method approaches in sources that followed a case strategy (we found only one), which denies the other case studies the validity-related benefits that multi-method triangulation affords.

We also analyzed the data that the sources used with respect to the time period they covered (see Appendix B). We found that 16 studies used data related only to a single time period with little or no regard for changes over time. We found only four studies that considered time as an important factor in their analysis. The remaining two studies included some trend analysis whereby the main element included some kind of a history. Less than a third of the reviewed sources (6/22) used an approach that allowed the authors to analyze how champions change over time. This dominance of cross-sectional, single-period studies is problematic given that champions are change agents (Howell & Higgins, 1990a; Negoita et al., 2012), and, therefore, research evaluating their role and activities longitudinally is essential to capture that change.

3.4.1 Research Recommendations

1) Research strategies beyond the big three (surveys, case studies, and field studies) hold the potential to yield new knowledge about IS champions. Examples include ethnography (which could yield valuable longitudinal insights into the impacts of champions over time), action research (which could contribute missing action-oriented theoretical insights we identify in Section 3.3.2), and experiments (which could advance the rigor of positivist IS champion research).

2) Researchers have access to a range of alternative methods that could provide new insights for IS champion research. Two examples include social network analysis (SNA) (which could deepen methodological and analytical rigor when answering questions about who IS champions draw resources from, the types of resources they access through others, and the influence tactics they use to obtain the resources they need) and group interviews (a means to efficiently involve more stakeholders in the research and to identify distinctive IS champion themes that research has not yet studied).

3) Multiple perspectives, which mixed-methods approaches enable, will likely allow researchers to better understand IS champions compared to insights from a single method (Creswell & Plano Clark, 2007). Mixed-methods approaches represent a small but growing trend in IS research (Venkatesh, Brown, & Bala, 2013), which suggests that an opportunity to further champion research in this way exists: the complex interactions between individual champions, organizational environments, and innovative technology inevitably require unique combinations of multiple and mixed methods to create a cumulative body of knowledge.

3.5 Champion Identification

One of the earliest sources emphasized the importance and challenge of accurately identifying champions (Howell & Higgins, 1990b). Indeed, studies may wrongly identify champions: relying on a single source or self-nomination (given that being a champion represents “a socially desirable label” (Howell & Higgins,

1990b, p. 318)) lacks rigor in differentiating between champions and non-champions. Or studies may have no clear definition against which to verify "candidate champions". Therefore, we singled out champion identification in our appraisal. Table 5 summarizes the procedures that the 22 studies followed.

Table 5. Champion Identification

Howell & Higgins (1990a) "singled out" 25 individuals from >150 interviews with people from 25 companies and 28 successful IT innovations.	**Howell & Shea (2001)** verified through champions that company executives nominated via interviews with the nominees.	**Kelley & Lee (2010)** relied on senior executives who identified the champions in their divisions.
Howell & Higgins (1990b) used peer nomination in which they classified nominated individuals based on whether nominators agreed 100% on an individual, which the researchers verified via open-ended questions.	**Esteves & Pastor (2002)** did not differentiate between champions and non-champions among respondents.	**Kamal (2010)** identified champions based on their designated position in the organization.
Howell & Higgins (1990c) used peer nomination and classified nominated individuals by nominee based on whether multiple nominees agreed 100% on an individual, which they verified via open-ended questions.	**Howell & Boies (2004)** interviewed key executives who nominated and classified individuals in different roles, including champions. Selection based on whether multiple nominators agreed 100% on an individual.	**Negoita et al. (2012)** considered formally appointed project champions.
Beath (1991) initially identified champions through peer nomination and subsequently verified them through individual interviews with the nominees themselves.	**Gupta et al. (2006)** identified different types of champions based on document analysis of recorded discussions over a period of months. Based role identification on definitions from literature.	**Matthews et al. (2012)** identified champions according to individuals that the CEO and senior management had nominated and sponsored as representatives of their companies.
Shane (1994) asked individuals about past experiences with overcoming organizational obstacles and identified champions as individuals with at least one such experience.	**Lefley (2006)** spoke to the project appraisal team and reviewed project proposal documentation.	**Klerkx & Aarts (2013)** did not explicitly mention how they identified champions. The researchers seem to have predetermined the champions or, at best, they identified them during their fieldwork. The authors did not clearly determine them via the data.
Beechler (1996) did not explicitly identify champions. The author's results rely on managers' perceptions about championing behavior in their companies.	**Dong et al. (2007)** identified champions via participants and verified them through interview with senior manager (appointed project champions).	**Andersen & Mørch (2016)** relied on an online community to identify champions, which did so via recognizing and appointing them based on their participation in the community. They became appointed after they demonstrated extraordinary skills with the GS software.
Heng et al. (1999) used peer nomination with four IT consultants familiar with the individuals in the organizations under consideration. They used a two-step approach to finalize the list based on consensus among the IT consultants.	**Mullins et al. (2008)** did not explicitly define champions. Three items in the survey solicited information from respondents about the presence of a "representative (either the respondent or someone else) who strongly promoted the use of the Internet in meeting client needs".	**Lefley et al. (2016)** used the survey method to ask respondents if they were project champions or not (i.e., self-nomination). Although the authors offers their own definition for champions (p. 150), they did not actually use it identify or verify the champions.
Van Laere & Aggestam (2016) identified champions through observations and an interview. They justify why they followed this different approach.		

Many studies deliberately attempted (some more rigorously than others) to ensure they accurately identified champions. However, we still found instances in which authors did not explicitly define champions or clearly describe the procedures they followed. Broadly explained, the more rigorous studies used multiple steps to identify champions. One such step typically involved peer nomination: researchers

asked people who they think meets given criteria usually based on a predefined definition. A next step typically involved verifying a nominated candidate; thus, the final decision depended on triangulation between nominators, verification interviews, and researcher observations.

Less rigorous procedures involved only a single step to identify champions; the researchers typically identified "candidate champions" during fieldwork, simply relied on nominations from organizational representatives, or based their selection on a designated position in the organization. These approaches commonly lack a verification mechanism through triangulation or even clear criteria against which a researcher compares candidates. The least-rigorous studies did not differentiate between champions and non-champions or did not describe the identification procedures in any way.

Finally, a lack of rigor in champion-identification protocols can also cause researchers to succumb to the pitfall of circular reasoning: the danger of using certain criteria to identify champions initially and then eliciting those same criteria as champion characteristics. We did not commonly find such reasoning among the reviewed studies, but a couple showed some vulnerability in this respect.

3.5.1 Research Recommendations

1) Researchers should describe the identification procedure they follow in their champion research. One can find good examples in Howell and Higgins (1990c), Heng et al. (1999), and Howell and Boies (2004), who followed a two-step approach in which they nominated and verified champions against a definition, and in Van Laere and Aggestam (2016), who followed a different but well-justified approach.

2) Researchers should ensure that they follow a rigorous procedure to identify champions. At a minimum, researchers should clearly define champions and demonstrate how they operationalized the definition in the field. Researchers should embrace norms of scientific rigor, such as triangulation and elimination of biases, when designing procedures. Good practice suggests a multi-step procedure that can combine input from local actors internal to the organization and external researchers.

3) Researchers should guard against circular reasoning by ensuring they clearly distinguish between the champion-identification criteria and their analytical objectives.

In Sections 3.1 to 3.5, we examine IS champion research from a knowledge-generating process perspective as a means to evaluate and interpret cumulative insights. Based on the evidence and the outcomes of our analysis, we offer 14 research recommendations, which we propose as guidelines to maintain or enhance the quality of IS champion research. As such, we answer our first research question about how researchers have examined IS champions, and we return to these process-focused recommendations in Section 5 when we reflect on future research priorities. Before that, in Section 4, we turn to the second and third research questions around what we know so far about IS champions, their potentially distinctive features, and possible future research directions. To do so, we take a thematic perspective on how IS champion knowledge has accumulated.

4 Thematic Analysis and Findings

We thematically analyzed the IS champion research to draw out key conceptualizations and potentially unique features. We followed an inductive process whereby independent reviewers first read the whole content of the papers in order to identify broad thematic areas useful for categorizing their empirical focus. We took care to ensure the reviewers categorized the papers without influence from any particular definition or conceptualization of the IS champion notion. The reviewers also coded these relevant sections using NVivo 10, which helped them to manage the iterative process of identifying new thematic categories and splitting or combining existing ones. We terminated the process when the reviewers reached consensus on a final set of seven thematic areas.

We recognize that such an inductive approach does not constitute a familiar practice in IS systematic literature reviews, but we selected it because:

- In our review (and particularly to answer the second research question), we focused on exploring the possibility of grouping the IS champion research into sensible thematic areas, and such a venture is inductive by its very nature.

- We could not readily locate a suitable taxonomy that we could use to categorize the empirical work relating to champions. As such, the best way to proceed involved following a systematic, inductive approach using the papers in our sample.
- Researchers have acknowledged (e.g., Hammersley, 2002:4) and practiced (e.g., Jones, 2004) inductive approaches in systematic literature reviews in other disciplines.

As we state above, we identified seven thematic areas (research focal points): 1) champion origin, 2) their competencies and identities, 3) their roles and activities, 4) their relationships and influence, 5) their resource identification and mobilization, 6) their impact on projects and organizations, and 7) champion support (the environmental factors conducive for championing).

After agreeing on the themes, the reviewers undertook a final iteration by coding the themes that each paper addressed (step six in Table 1). They formed themes based on assessing three components in each source:

- Explicitly stated research questions or hypotheses
- The focus of the empirical work, and
- The knowledge contribution that the stated findings embodied.

We summarize the way in which the reviewers categorized the papers according to their thematic focus in Figure 4.

	Champion Origin	Competencies & Identities	Role & Activities	Relationships & Influence	Resource Identification & Mobilisation	Impact on Projects / Organisations	Champion Support	
Howell & Higgins (1990a)		X	X	X				3
Howell & Higgins (1990b)	X	X		X				3
Howell & Higgins (1990c)	X	X		X				3
Beath (1991)					X		X	2
Shane (1994)		X	X	X				3
Beechler (1996)		X	X	X				3
Heng et al (1999)		X						1
Howell & Shea (2001)		X	X			X		3
Esteves & Pastor (2002)	X		X			X		3
Howell & Boies (2004)	X	X	X	X				4
Gupta et al (2006)			X	X				2
Lefley (2006)			X	X		X		3
Dong et al (2007)						X		1
Mullins et al (2008)	X	X	X			X		4
Kelley & Lee (2010)							X	1
Kamal (2010)			X					1
Negoita et al (2012)	X			X	X			3
Matthews et al (2012)			X				X	2
Klerkx & Aarts (2013)			X	X				2
Andersen & Mørch (2016)			X					1
Lefley et al (2016)				X		X		2
Van Laere & Aggestam (2016)			X	X				2
TOTAL TIMES RESEARCHED:	6	9	14	12	2	6	3	

Key:
X Empirical Focus of Source
Innovation
Information Systems

Figure 4. Classification of Sources According to the Thematic Focus of their Research

Figure 4 reveals the varying levels of attention that the 22 studies paid to championing's different aspects. On the one hand, relatively many studies investigated champions' competencies and identities, relationships and influence tactics, and roles and activities. On the other hand, only six studies explicitly investigated the impact of champions, and in only one case did that focus serve as the paper's core focus. Yet, it is a rarely-disputed claim that champions have a positive impact. However, the nature of such impact and the conditions under which such a claim holds should be verified through research; it will be particularly important for organizations to respond appropriately to conditions under which potential negative impacts might be likely to occur. Only three studies provide insights into the support that champions need—another important consideration for practitioners. While the literature says much (speculatively) about champions and resources, only two of the reviewed studies explicitly researched the resource identification and mobilization theme. These lacunae clearly provide gaps that future research might fill.

One can also read across Figure 4 to note that only five of the 22 studies focused on a single theme. However, one might expect such a result since research on champions remains at a relatively formative stage (albeit with some small sense of acceleration towards the end of the period under review). As such, it may focus more broadly on several topics compared to a more mature research discipline (in which one might anticipate increasing specialization of thematic focus) would.

We describe and analyze key conceptualizations of IS champions for each of thematic area in Sections 4.1 to 4.7 (see step seven in Table 1). We also summarize knowledge gaps that we identified as research directions associated with each thematic area. Further, we aggregate a set of potential IS champion distinctive features with implied research priorities in Section 5.

4.1 Champion Origin

This theme focuses on the genesis of champions: where they come from and how they originate. Few studies explicitly addressed this theme and, due to this scarcity and the heterogeneity in their subtopics, this theme still represents an important gap in conceptualizing champions that future work needs to address.

Understanding research to date will serve an important foundation for such future work, and Howell and Higgins (1990b, 1990c) contributed the main concepts about champions' origin. They proposed that some individuals have a predisposition to champion behavior based on their personality traits and that one could identify them using psychological testing. Both they and Beath (1991) accepted that, while champions may emerge spontaneously, context shapes this process. However, studies did not agree about how context shapes champion emergence: Howell and Higgins (1990b, 1990c) and Beath (1991) pointed early on to organizations with many barriers to innovation as a favorable context, while, many years later, Mullins et al. (2008) found that the need to overcome organizational resistance has less importance in champion emergence than previously thought. Howell and Boies (2004) shed slightly more light on the conditions for champion emergence: they found that one can link it more strongly to early involvement during the idea-generation stage of a new innovation.

Some researchers may read this in a passive mode: for example, in a way where weak organizational and technological constraints encourage the emergence of champions. But some researchers saw it to have interventionist implications: Howell and Higgins (1990a) proposed developing champions through transformational leadership training; Beath (1991) recommended that organizations use "greenhouse" or "incubator" services that can nurture potential champions and provide them with resources and freedom from constraints.

Others saw the origin of champions less in individuals and more in particular organizational roles. One conceptualization perceived champions as deriving internally and mainly from senior-level project sponsor roles; unlike the personality-based argument, this view understood champions to emerge from positions of authority (Esteves & Pastor, 2002; Negoita et al., 2012). Variants of this view saw champions as emerging from a wider variety of managerial roles (Dong et al., 2007) or as appointed rather than originating from a more organic route (Kamal, 2010). The latter saw those appointments as best made based on a mix of domain knowledge and expertise and personality-based factors (Kamal, 2010). Finally, an interactive perspective posited that the informal but intensive collaboration between people working on the same initiative catalyzes championing (Van Laere & Aggestam, 2016).

From these different views, we can derive two axes:

- **Born vs. made**: some authors argued that becoming a champion results from an innate predisposition. While context and external interventions may impact the likelihood that an individual expresses this predisposition in champion behavior, it does not alter that predisposition. Accordingly, organizations would need to identify individuals who have a champion's profile. Others, however, argue that (almost) anyone can become a champion through appropriate development and training. Accordingly, organizations would need to focus on such development and training rather than profiling exercises.
- **Emergent vs. appointed:** some authors saw champions as naturally emerging in any innovation project or situation. These individuals take an interest in a particular cause and then begin to champion it. Organizations may affect whether individuals champion a cause via general contextual interventions, but they would not get directly involved at the level of the individual. Others, though, argued that one needs to plan for champions' presence: one must identify individuals and sometimes explicitly assign them the role of champion before championing can begin.

4.1.1 Future Research Directions

1) Few studies explicitly focused on the origins of champions, so simply conducting research to understand from where and how they emerge would prove valuable. While we induce the two axes above, the reviewed literature to date has not explicitly engaged with them, so it would be helpful to set these axes as focal research questions. One could subject these axes to empirically test whether IS champions are born or made and emergent or appointed and could draw practical recommendations for organizations from the results.

2) The specific practicalities also need investigation in the future: if one wants to identify champions, what profiling tools allow one to most effectively do so? If one needs to provide training to individuals in order to cultivate champions, what should be its content? If one needs to appoint champions, what formal role should one appoint them to?

3) Further axes remain unexplored as well, such as an internal versus external axis that would ask where champions originate in relation to organizational boundaries (e.g., can an organization bring in external actors to act as champions?).

4.2 Champions' Competencies and Identities

This theme considers champions' characteristics: both their human capital or competencies (skills, attitudes, knowledge) and also their identities (who they see themselves and who others see them as being?). The practical value of such knowledge of champions would assist organizations in recognizing, developing, and supporting them. In so doing, organizations could potentially improve the success of their IS projects.

We found that we could identify converging ideas about champion characteristics: they are innovative and creative individuals (Howell & Higins, 1990b; Heng et al., 1999; Mullins et al., 2008); they are often transformational leaders (Howell & Higgins, 1990a; 1990b; Dong et al., 2007); they are enthusiastic individuals with dynamic personalities (Howell & Higgins, 1990b; Kamal, 2010); they are discerning and perceive their role in the organization more broadly and strategically than non-champions and, thus, understand the organizational context in depth (Howell & Boies, 2004; Mullins et al., 2008); they have "deviant" preferences and display dissatisfaction with the status quo (Howell & Higgins, 1990c; Shane, 1994; Mullins et al., 2008); and they have extensive and diverse career experiences (Howell & Higgins, 1990a, 1990c; Gupta et al., 2006; Kamal, 2010).

Some authors added more depth to these characteristics with a contingent perspective and viewed champions' characteristics as varying or needing to vary depending on the context in which they operate (Beechler, 1996; Kamal, 2010). For example, champions may have different characteristics depending on which end of the emergent versus appointed axis prevails. Where organizations do not formally appoint champions, and, thus, when their efficacy does not depend on delegated authority, noted characteristics include a propensity to take risks (Howell & Higgins, 1990b; Shane, 1994), an optimistic outlook about the future (Howell & Higgins, 1990a, 1990b), and a preference for using people as sources of information in environmental scanning (Howell & Shea, 2001; Howell & Boies, 2004).

Conversely, in situations where organizations formally appoint champions, they often appoint senior managers in positions of authority (Heng et al., 1999; Dong et al., 2007), and such individuals may accept rather than oppose formal organizational structures and procedures (though still prefer to be pragmatic by simplifying planning activities) (Shane, 1994; Heng et al., 1999). These situations also emphasize the fact that they possess expert domain knowledge in relation to the technology or system that they promote (Heng et al., 1999; Kamal, 2010; Andersen & Mørch, 2016). However, we make these associations based on the characteristics and emergent versus appointed axis we discuss above rather than the studies themselves. Hence, while the notion of contingency of characteristics has support, research has not fleshed out the specific nature of that contingency.

4.2.1 Future Research Directions

1) In part, the suggested research directions here follow on from those on champions' origin: future research needs to look for ways to unify the disparate characterizations given in the different papers, and understanding the practical implications for identifying and developing champions (in turn, overlapping with issues of champion support).

2) The characterization to date has tended to cluster around a relatively narrow range of characteristics. Thus, it has left some much bigger questions (also related to champions' origins) unanswered, such as whether champions are more often men or women and/or young or old and whether these major differences indicate different champion profiles?

3) How do IS champions differ from other types of champions? For example, do they require technical competency and, if so, what type? Only Heng et al. (1999) touched on this question: they showed ten IT champions who had a mix of technical and non-technically qualifications. But such information says relatively little since qualification and expertise represent two different things: champions could be self-taught technology enthusiasts (e.g., Andersen & Mørch, 2016).

4) The contingency question remains open: rather than seeking a one-size-fits-all profile, it seems likely champion profiles must to some extent match their situations. But which components of context relate to which champion competencies?

5) Related to champions' identities, a few important questions come to mind: what motivating factors influence champions' decisions when they promote IS innovations? To what extent do these motivations align with their organizations' or the projects' motivating factors? Better understanding champion motivations and identities will help organizations identify champions, but the literature also points to the possibility of shaping champions' motivations that might better align with the organizations' objectives (Barba-Sánchez & Atienza-Sahuquillo, 2012).

4.3 Roles and Activities

This thematic area focuses on *what* champions do in organizations and *how* they do it. As we note above, an important component of *what* champions do involves identifying and mobilizing resources and building relationships with and influencing others. For example, Gupta et al. (2006) and Lefley (2006) mainly discussed these issues in covering champion roles. In this section, we synthesize the broader spectrum of work on champion roles and activities the organizational context.

We can relate some of the findings here to particular project stages. Beechler (1996), Howell and Boies (2004), and Lefley (2006) discussed champion activities in the early stages of projects. The former two papers found that champions generate ideas no better than non-champions but that they will identify viable ideas (their own or others) for which they then become enthusiastic supporters and see them through to concrete innovations. Doing so involves activity throughout a project's lifecycle, which includes participating in its implementation (Howell & Shea, 2001; Gupta et al., 2006; Kamal, 2010; Andersen & Mørch, 2016).

In supporting the process of IS innovation, champions have tended to play a linking role between the innovation and the wider organizational context. In one sense, they represent a lens for understanding innovations more strategically in the light of those innovations' contributions to key organizational outcomes and values (Howell & Boies, 2004; Matthews et al., 2012; Andersen & Mørch, 2016). As we discuss more below, they are a channel that gathers external resources and support for the innovation (Shane, 1994; Kamal, 2010). But they also serve as a buffer in that they provide autonomy for the innovation and those working on it from organizational, hierarchical systems and procedures (e.g., by

imposing only loose monitoring systems) and, thus, create a space win which others can be productive and find innovative and creative solutions to problems (Shane, 1994; Beechler, 1996; Van Laere & Aggestam, 2016). They also work with teams: they formally lead them sometimes but more often find ways to build consensus and a sense of unity. And the way in which they view the restrictions that the wider organization imposes may lead them to encourage and facilitate broader change (Shane, 1994; Beechler, 1996; Van Laere & Aggestam, 2016).

We also extracted a slightly different perspective from the literature that pertains to the almost universal claim about champions' importance. But what do they do that is particularly important? Studies offered three assessments:

1) First, that champions' importance comes from their seniority and position in their organizations, which allows them to secure required resources, engage with top managers, and facilitate the organizational change necessary when their organizations internally adopt new technologies (Esteves & Pastor, 2002).
2) Second, that champions' importance comes from their casting compelling visions that transcend individual interests and that cultivate favorable beliefs about the innovation among potential users (Dong et al., 2007).
3) Third, that champions' importance comes from their ability to advance the adoption of innovations in organizations (Mullins et al., 2008), such as by bridging different stakeholder groups inside and outside the organization and, thereby, advancing the innovation (Andersen & Mørch, 2016).

Note that importance (the criticality of the contribution) differs from the impact (the consequences of the contribution), which we discuss below.

Overall, we might conclude that champions' role and activities center on vision (an orientation to results, which includes organizationally strategic results), on harnessing resources and support, on creating an environment that helps an organization advance towards an overall goal, and on seeing innovations through to adoption. Although they must have the ability to assess the technical ideas that arise and support the technical staff working on the IS innovation, we found few other signs that IS champions need to apply technical, domain-based expert knowledge and skills (one issue that we raise in Section 4.2).

4.3.1 Future Research Directions

1) IS champion studies have typically focused on the individual, but one can see that the role that the individual has in an organizational context matters, so more research needs to analyze champions at the organizational level—a research gap already that some have already noted (Mullins et al., 2008; Van Laere & Aggestam, 2016).
2) This focus on the individual has also tended to obscure the fact that multiple champions may operate in the same IS innovation arena. Three studies (Gupta et al., 2006; Klerkx & Aarts, 2013; Van Laere & Aggestam, 2016) have broached this issue and identified the different roles that different champions play, but we need more work that fleshes out what those roles are. For example, such research could produce a IS champion taxonomy, or examine how teams of champions work together (or fail to do so).
3) Future work needs to explain the contingency theme. For example, research needs to examine how the role of an IS champion may differ at different stages of the innovation lifecycle, the different roles that different scales of IS innovation require (from one introduced into a single organizational subsection up to those based on inter-organizational and (inter-)national rollout) and the role of champions in formalized IS project structures versus situations that have not been formalized.
4) Related to this last point, we need to better understand champions' formal versus informal roles and, in particular, the ways in which champions sometimes need to ignore or subvert formal procedures.
5) Research into roles has mostly remained bound to a typical project cycle. Thus, it could prove valuable to step outside such bounds and ask, for example, what champions do as and when they exit from an IS project and what they do in the gaps between championing. Taking an even greater longitudinal approach, do they tend to be one-time or multiple champions, and do they tend to be parallel or serial champions?

4.4 Relationships and Influence

Champions' ability to enroll others into their vision-based endeavors represents their primary and distinguishing feature. Indeed, the volume and frequency of research that has examined relationships and influence the selected sources evidence this theme's importance; 12 studies explicitly attended to some aspect of it (see Figure 4).

From the literature, we found that champions draw on their personal networks to advance the IS innovation to which they commit, and, while they may draw on different parts of this network at different points in a project, they actively work all the time to expand that network (Howell & Shea, 2001; Howell & Boies, 2004; Gupta et al., 2006). Some champions focus on network and relationship building inside the organization, while others concentrate on external relationships (Howell & Shea, 2001; Howell & Boies, 2004; Gupta et al., 2006).

Research has mostly analyzed champions' relationship orientations in the context of their personal networks in which other people somehow perceive them "single heroes". However, researchers have recently recognized the importance of different relational networks—both relationships and collaboration between champions (champion networks) and collectives in the organization that work together to champion an innovation—to championing (Klerkx & Aarts, 2013; Van Laere & Aggestam, 2016).

In these relationships, champions use influencing tactics at high frequency, and they have a large repertoire of such tactics (Howell & Higgins, 1990a, 1990b, 1990c; Beechler, 1996). They prefer informal persuasion methods (Shane, 1994; Howell and Boies, 2004), such as articulating a compelling vision and expressing confidence in others' ability to participate in the innovation (Howell & Higgins, 1990b). That vision may seek to link problems (e.g., dissatisfaction with the status quo) with solutions (e.g., the new technology's strategic benefits) (Lefley 2006; Mullins et al., 2008; Lefley et al., 2016). An alternative perspective posits that champions tend not to use transactional-style influencing tactics with personal rewards (an exchange between champions and others where the former offer something in exchange for the latter to do a certain task) but prefer transformational-style tactics (a champion motivating and inspiring someone else that results in a response that prioritizes the collective's goal over the individual's personal objectives) through coalition building, reasoning, drawing on higher authority, and assertiveness (Howell & Higgins, 1990c; Shane, 1994). Several factors shape their ability to successfully practice these tactics, such as the perceived nature of the champion (organizational position, experience, trustworthiness) and the type of technology under consideration (Negoita et al., 2012).

4.4.1 Future Research Directions

1) Again, the issue of contingency emerges: the need for research into the different types of relationships and different tactics of influence that different types of champions use in different situations and with different project stakeholders (executives, managers, technical staff, etc.).

2) Research has lacked prioritization as yet: that is, which relationships matter most, and which influencing tactics work best?

3) Following the discussion about multiple champions, one can see that research to date has focused on interactions between champions and "others". Thus, a gap remains in researching champion networks to understand how they collaborate or otherwise interact with one another.

4) We need to better understand the target population that requires change and its links with the different relationship orientations and influence tactics of champions.

4.5 Resource Identification and Mobilization

The studies we reviewed often implicitly associated champions with identifying and obtaining resources in order to advance their IS projects through critical stages, yet only two studies looked at this topic a priori. We can draw a notable differentiation between resource types: information and technical resources represent critical material resources for champions (Beath, 1991) (which conceivably applies to IS champions specifically), and political support and social capital represent non-material resources of notable importance to champions' initiatives in identifying and unlocking various kinds of resources for the IS innovation to succeed (Beath, 1991; Negoita et al., 2012).

Some other papers provided some passing insights on champions' resource orientation—possibly just to reinforce the general message that champions bear the responsibility for obtaining resources for projects

(Esteves & Pastor, 2002; Heng et al., 1999). However, they did provide some details: champions use their social capital, influence, and relationships to acquire resources (Shane, 1994; Negoita et al., 2012). Further, this theme involves the sense of improvisation and informality that we can see in other themes: for example, Howell and Boies (2004) used a scavenger analogy to explain how champions covertly identify and mobilize resources.

The papers also reinforced the critical nature of non-material resources in noting that champions secure the "support" (Shane, 1990), "motivation" (Howell & Higgins, 1990c), and "enthusiasm" (Howell & Boies, 2005) of other stakeholders, such as both more senior and more junior staff. Thus, this and earlier findings suggest a need to expand Roure's (1999) definition that we discuss earlier beyond just resource seeking from top management.

4.5.1 Future Research Directions

1) We offer the limited explicit research attention on this championing aspect in the literature as both a gap and a necessary area for future research.

2) One approach would be to combine a focus on resource identification and mobilization with another thematic area such as relationships and influence: what relationships and what influencing tactics do champions use in obtaining resources? One could also investigate their approach with resources together with champion impact (e.g., how does a champion's ability to mobilize resources impact the outcome of an IS project?).

3) We also need to better understand if and how champions' role differs in contexts with variations in types and availability of required resources.

4.6 Impact on Projects and Organizations

One cannot easily research the impact that champions (let alone any specific aspect about them) have on IS innovations due to the problem of attribution (i.e., how to isolate those impacts related only to champions with among the myriad factors at play) and the problem that at least some of the measures involved would be qualitative and potentially subjective. These challenges may explain why relatively few (only six) papers we reviewed even partly covered this theme. This scarecity of research may also relate to the way in which the papers defined champions given that they inherently assumed that champions drive an IS innovation forward to successful implementation.

To correct this assumption, one can differentiate between champion impact during the early stages of the project as opposed to involvement later on (Lefley, 2006; Lefley et al., 2016). Here, the argument poses that champions impact projects by driving them forward in the early stages, overcoming objections by lowering perceptions of risk, and raising perceptions of strategic benefits. But such an impact has a negative overall impact if, in reality, the project does not benefit the organization. In other words, we might compare champions to a turbocharger: it may help an IS innovation reach its destination faster, but it may not represent the right direction for the organization.

More generally, though, papers presented evidence that champions have a positive impact. For instance, Mullins et al. (2008) found Internet adoption and use greater in situations that involved champions. Other papers provided somewhat eclectic evidence. For example, Dong et al. (2007) found indications that champions have a positive impact on users' technological beliefs, something that remains at some distance removed from impacts such as project or organizational success. And Esteves and Pastor (2002) addressed only the "mirror image": they offered circumstantial evidence that departure of a champion can have a negative impact on ERP projects. Only Howell and Shea (2001) addressed this theme broadly and directly via a longitudinal study that found that championing behavior positively predicted the outcomes of 47 product innovation projects.

4.6.1 Future Research Directions

1) Given that only one paper addressed this theme, more research clearly needs to address it (particularly given that it represents the "bottom line" of champions). A descriptive interest may arise from their mere existence, but a prescriptive interest arises from the promise that champions have a positive impact and improve success rates.

2) "Improve success rates of what?" represents another question. One can see that we need research that conducts a two-level analysis that looks at champions' impact on IS projects but

also on the wider organization. (And, of course, one could turn this investigation around to look at the impact of organizations' activities on champions themselves and the impact they have on other key individuals around them.)

3) Beyond the direct connection to impact, we also need to know what differential impact on IS innovations different elements from the themes have, such as different types of champions and different activities of champions at different times during a project.

4) Little research has examined champions' negative impacts. Developing the turbocharger analogy, (how) may champions end up driving IS innovations in the wrong direction?

4.7 Champion Support

We have seen that the context in which champions operate influences them (Kamal, 2010; Beechler, 1996), so what does that mean for conscious attempts to support them? Some studies did not specify what it means and simply, for example, advocated for general changes to the organizational context in order to encourage champions to emerge (Shane, 1994). Other recommendations had a narrow focus (e.g., that transformational leadership training will help encourage emergence of champions) (Dong et al., 2007; Howell & Higgins, 1990b). Beyond emergence, champions can benefit from support while enacting their main role. Three areas in which champions need and value support include: 1) information that they can use as persuasive evidence of their vision for using the innovation, 2) flexibility in the implementation process, and 3) political support for their vision (Beath, 1991).

Two final papers provided some contingent insight though they mixed the prescriptive and the descriptive. Support may vary by type of project: those closely related to current organizational operations require empowerment and sponsorship, while those that strategically diverge from that direction require more directive control from senior staff (Kelley & Lee, 2010). Support may also vary by organization size: in larger organizations, champions are often some way down the hierarchy and do not receive direct support from top managers; in smaller organizations, they can more easily make that direct connection (Matthews et al., 2012).

The differences in support have a bearing on the champion's ability to bring about change whether organizational or social. Champion support, in the narrowest sense, means assisting them in their typical roles and activities. But taking a broader and interventionist perspective would suggest creating an environment that supports championing for champions to either emerge or be recognized and appointed and further developed throughout the duration of an initiative. To create such an environment, we would need to understand their support needs in a more in-depth and nuanced way than we currently do.

4.7.1 Future Research Directions

1) Contributions in this section drew largely from studies at the emergent end of the continuum. Thus, more work needs to examine the particular support requirements of formally appointed IS champions.

2) While acknowledging their general relevance, the work did not investigate the role that environmental factors (organizational culture, organizational structure, systems of governance, systems of compensation) have on champions.

Research needs to push beyond mere presence/absence of support components to understand the specific effect these have on the actions of champions and, in turn, on the performance of IS innovations.

5 Discussion and Conclusions

In this paper, we commence with the premise that champions play a key role in helping IS projects succeed and that we need to understand their contributions given that projects have a poor performance history. However, IS champion research lacks progressive coherence and knowledge building, and we evidence the extent of this problem and possible causes throughout this paper. In a general sense, this ineffective knowledge accumulation hampers much needed progress with IS champion research and subsequent improvements to IS practice. More specifically, research has yet to clearly identify IS champions' potential distinctiveness. We need to understand bespoke IS champion features to enable IS practice to optimize and derive potential benefits from their involvement. We address that knowledge gap in this paper. As such, our works serves as a one-stop foundation and guide for researchers wishing to

research IS champions given the current lack of such a resource. We now outline the paper's three primary contributions.

In Section 1, we argue that, in addition to their individual characteristics, one could potentially derive distinctive IS champion features from the organizational contexts they function in and the information/technological innovations they promote. We combine these three aspects to form a simple classification scheme that proposes the eight distinctive IS champion features in Figure 5.

We drew the distinctive IS champion features from the thematic analysis and offer it as our first contribution. We did so mainly via triangulating findings but also considered individual papers' research rigor. While we could have added more potential distinctive features to the list, we felt most confident about these eight features due to the strong evidence that supported them. Importantly, by referring to these features as distinctive, we do not suggest that only IS champions have them; indeed, –champions in other domains may have them as well. However, only IS champions likely possess the distinctive features in combination. Practically speaking, one could use these features to recognize IS champions.

In terms of individual characteristics (independent of organizational context or focal technology), we found strong support for IS champions as innovative, creative, and dynamic individuals. For example, we identified that, as a technology-specific feature, they have in-depth knowledge about the focal information technology. We identified three distinctive features at the intersection of individual and organizational factors that relate to how champions influence others inside and external to the organization, how they understand the organizational strategy, and their preference to work collaboratively instead of on their own. We combine elements of all three factors to forward three final distinctive features that relate to their diverse career experiences, their deliberate linking of organizational strategy and the IS innovation as a key championing task, and their involvement in all phases of the innovation process and subsequent technology diffusion.

From a research perspective, a set of distinctive features such as these will assist researchers to be more precise with identifying IS champions and, thereby, strengthen research rigour. It also assists researchers in setting research priorities—each Figure 5 proposition represents a significant research agenda item deserving priority attention. More deeply understanding distinctive IS champion features will be very valuable to practitioners who seek to optimise champions' role and impact on IS practice. From the perspective of organizational practices, we need to seek IS champion-specific knowledge to more effectively identify, develop, deploy, and support these key individuals. Such knowledge could contribute to IS innovation success and, consequently, benefit organizations.

As our second contribution, we refine Roure's (1999) definition by factoring in the IS champion distinctive factors that we outline in Figure 5. We propose three amendments. First, we argue in Section 1 that one could make "innovation" in Roure's definition more specific by referring to "socio-technical innovation". We propose that doing so would more accurately reflect the nature of IS and, therefore, make the definition more precise. Second, following from the socio-technical nature of IS innovations, we propose the definition of IS champions should more accurately capture the non-technical aspects that are seminal to successful IS innovation; namely, the assimilation thereof into the organization. Further, one could make "critical stages" in Roure's definition more specific by referring to "critical innovation and diffusion stages". Third, it became evident from the thematic analysis that IS champions target not only top management for support and resources but also all relevant organization stakeholders and even external stakeholders whose support might contribute to the success of the innovation. As such, one could make "top management" in Roure's definition more accurate by referring to "all stakeholders". We combine these ideas to forward our second contribution—an improved and more evidence-based definition for IS champions:

> *Any individual who makes a decisive contribution to the socio-technical innovation by actively and enthusiastically promoting its progress through critical innovation and diffusion stages in order to obtain resources and active support from all stakeholders.*

The first two contributions focus on the knowledge gap about the distinctiveness of IS champions. As such, they cut across the three research questions that we pose in Section 1. We now briefly return to those questions individually in order to conclude with an IS champion research agenda as our third contribution.

To start with, we brought a perspective on the IS champion research process into focus by asking how IS champions are researched and by whom. We needed this process angle to better understand the

reliability and rigor of knowledge created thus far. We found multiple disciplines with an interest in IS champions. In particular, the diversity of theories that we identified in the sources evidenced the unique perspectives and competencies that researchers from diverse disciplines have used. However, this diversity came at a price: little incremental knowledge accumulation and theory building occurred due to the relatively isolated manner in which authors conducted their studies.

In contrast to this theoretical diversity, we found a lack of variety of research philosophies: a positivist monoculturalism prevailed among the reviewed studies. Here, we point out opportunities to enrich and advance IS champion knowledge by increasing diversity. We also explicate the value of alternative philosophies such as interpretivism, critical social theory, and critical realism.

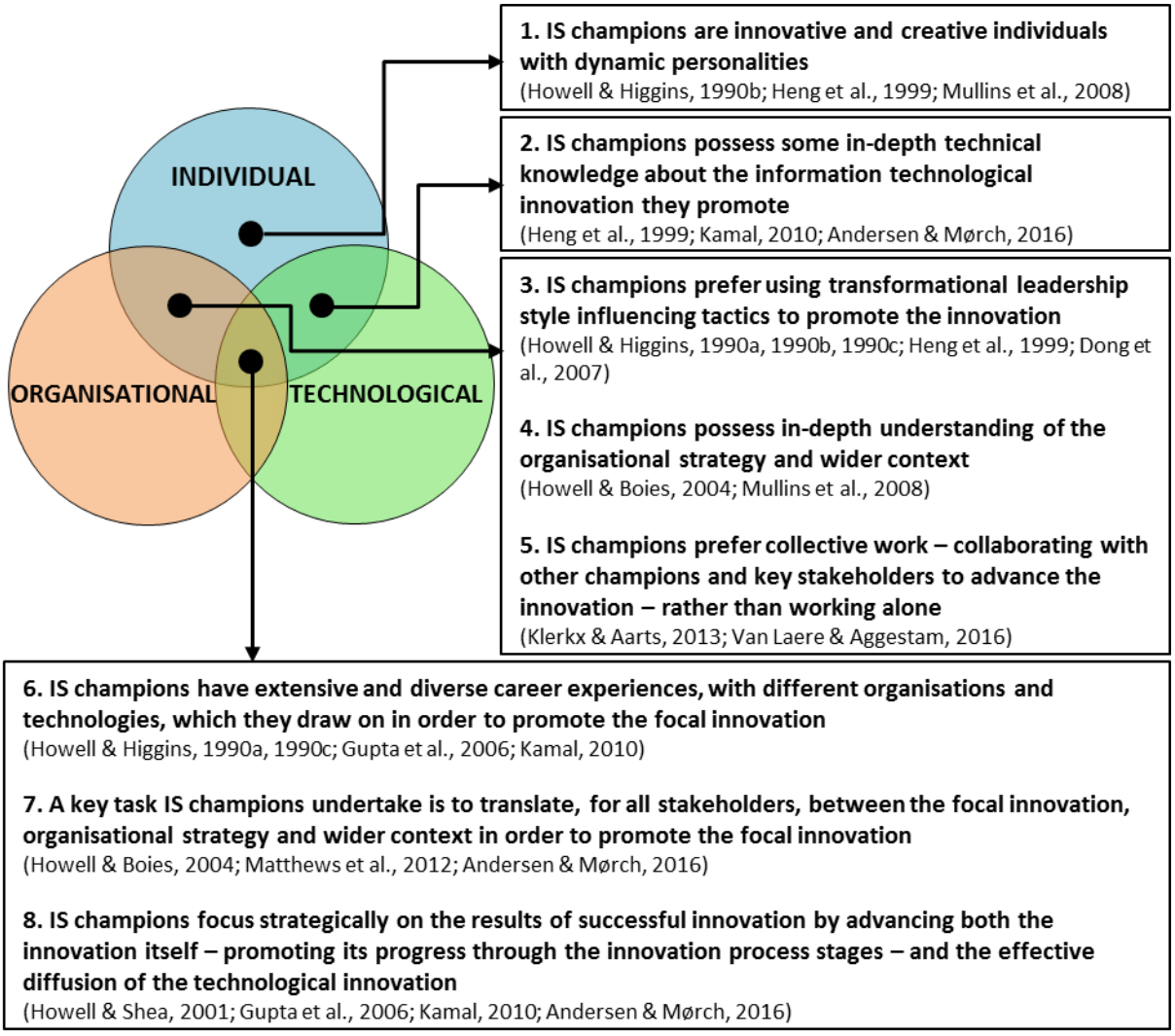

Figure 5. Propositions about IS Champion Distinctive Features

We surmise that authors have tended to bring research approaches and practices from their home disciplines and establish links back to those sources but omitted meaningful engagement with existing IS champion work, which includes with sources from other disciplines. The prevalence of this approach to IS champion research amounts to reinventing the wheel with every new research project; almost every study began from scratch and, thereby, forfeited the benefits of building on prior work. We offer 14 recommendations about champion research approaches and practices to help researchers unlock the full potential of multi- and inter-disciplinary IS champion studies, which includes the discrete features we discuss in this paper.

Second, we brought a thematic perspective into focus by asking what research has so far said about IS champions and what their potentially unique characteristics might be. We found answering this question a

challenge: only 22 papers from the IS and innovation literature met the review criteria. Thus, we acknowledge limitations from this small size in an overall sense and also in what it has prevented; for example, we could not provide a clear sense of changes in ideas over time.

Due to the relative immaturity of research in this discipline, the findings have limited depth. Even in this small collection, though, we found some sense of continuity and connection: a few later papers in the review cited earlier ones and used their evidence. Howell represents a key node and foundation in that she co-authored nearly half of the innovation papers. And all the themes had multiple paper contributions.

Beyond those themes and the Figure 5 distinctive features we draw from it and at an even more generalized level, three descriptive constructs cut across the literature and help refine our sense of who IS champions are and what they do:

1) **IS champions focus on results***:* they are not distracted by operational issues and short-term obstacles but have a strategic vision about successful project outcomes and even beyond.
2) **IS champions focus on relationships:** they actively engage with various stakeholders to promote ideas, rally support, and build consensus.
3) **IS champions focus on resources:** they actively identify and mobilize the tangible and intangible resources needed to advance the project.

With this broad conceptualization of IS champions around results, relationships and resources and the seven thematic areas, we present the necessary scaffolding to advance research.

Third, we asked what future research on IS champions might prioritize. From what present thus far, one might be tempted to answer "anything and everything"—throughout the paper, we offer 14 recommendations to advance the process of IS champion research and outline 27 different future research directions and could have included more. These numbers arose due to the formative nature of the discipline. Nonetheless, in an attempt to give a clearer sense of future research priorities, we turn to the tri-part criteria that one often uses to judge research quality: rigor, originality, and significance (Johnston, 2008; Paul, 2008).

First, researchers should prioritize rigor in future IS champion research. While we acknowledge the subjective nature of rigor as a value assessment of research quality, we posit that IS champion research can significantly advance in terms of the cross-cutting norms of good research (thoroughness, transparency, consistency). Persuasive opportunities revealed in our analysis include:

- Deeper and more meaningful engagement with prior IS champion research in order to optimize the incremental accumulation of knowledge.
- Explicitly discussing research design decisions by clarifying the underpinning philosophical assumptions of the study and clearly justifying methodological decisions, data sources, methods, and analytical procedures.
- Demonstrating congruency from start to end in the research value chain—from research philosophy, the role of theory, methodologies, methods and data sources to the resulting knowledge contributions.

Second, future IS champion research should seek to make **original** knowledge contributions. On the one hand, researchers can accomplish originality via adopting novel and unique research approaches and practices: we suggest a range of promising philosophies, theories, research strategies, methodologies, and methods in this paper. Such diversification at the research process-level holds the potential to both strengthen and expand existing IS champion knowledge. On the other hand, researchers can accomplish originality on the thematic level: we show many knowledge gaps about IS champions, and channeling research attention in those directions could result in very interesting new insights about champions and their roles in IS projects. New and perhaps more significant IS champion distinctive features would be valuable original contributions to aim for.

Third and perhaps most important, we suggest researchers prioritize IS champion research that has **significance**. An obvious starting point would be to focus on explaining and further exploring unique aspects of championing IS innovations; we offer the eight distinctive features we propose as significant research themes. IS practice would be more effectively advanced by actioning bespoke IS champion knowledge compared to generic knowledge about championing in other domains. We propose prioritizing a sharp-shooter approach over a shotgun approach. Further, we identify a plethora of research opportunities in the penultimate section, many of which could be very interesting, but the anticipated

practical impact of gaining such knowledge might not be immediately clear. Guided by the need to directly impact the success of IS projects in practice, we recommend researchers prioritize the following five issues:

- **Identification and development of champions**: while opinions and research about the origin of champions continue, organizations need to actually develop effective champions . How can one identify potentially successful IS champions? How can one cultivate and develop champions?
- **Champions and results**: what exact visions do IS champions hold, and to what extent do they align with the strategic interests of organizations? How important are champions to the bottom-line results of the organizations that they work for?
- **Champions and relationships**: which are the most important relationships for IS champions? How do they go about building and maintaining those relationships?
- **Champions and resources**: given resource acquisition is central to champions' work, how do IS champions identify and mobilize resources? What are the implications of champions' resource orientation for IS projects and organizations?
- **Contingency**: how do answers to all the above questions vary by type of technology, by type of organization, by type of organizational environment, and so on?

Existing research represents a broad foundation of knowledge, but the most actionable knowledge would draw on the bespoke features of these key individuals. We summarize that rigor, originality, and significance should be guiding lights when prioritizing future research on IS champions.

To conclude we return to Donald Schön (1963, p. 84) who recognized the importance and significance of champions: "Where radical innovation is concerned, the emergence of a champion is required…. The new idea either finds a champion or dies". Today we might rework his words into: "Where major IS innovation is concerned, the presence of an IS champion is required…. The new IS innovation either finds a champion or dies". Above all, these words emphasize why research into IS champions should advance.

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Appendix A: Data-extraction Form

1

Serial No.	
Date Captured	
Capturer	

Champions of IS Innovations SLR: 1990-2017 Data Capturing Instrument

Source: _____

A Bibliographic Data

A_1 Full Reference: *(Record all bibliographic data such as Authors, Year, Title, Publication Name, Volume Number, Issue, Publisher, Edition, etc. Author/s detail in Section **A_3**)*						
A_2 Disciplinary Classification:	Information Systems	☐	Innovation	☐		
A_3 Type of publication:	Conference Proceedings	☐	PhD Dissertation	☐	Journal Article	☐
	Other:					

A_4 Author/s + Disciplinary Background* *(either explicit, or implied from author's departmental location)**:***	***Surname + Initials*** *(In order)*	***Category***
	A_4_1	
	A_4_2	
	A_4_3	
	A_4_4	
	A_4_5	
	A_4_6	
	A_4_7	
	A_4_8	

Rating categories:

- ***IS****=info. systems/info. Mgmt.*
- ***I****=innovation*
- ***COMS****=communication science*
- ***PA****=public admin.*
- ***PS****=political science/policy*
- ***G****=governance or government*
- ***SS****=other social science*
- ***M****=mgmt/business school*
- ***DS****=development studies*
- ***ST****=statistics*
- ***P****=practitioner*
- ***CS****=computer science/informatics*
- ***A****=general academic*
- ***L****=law*
- ***LIS****=library/info. studies*
- ***NGO*** *(could be non-profit consulting)*
- ***EB****=e-business*
- ***U****=unclear*
- ***LG****=linguistics*
- ***R****=researcher (non-univ-based)*

A_5 Citation of Paper

How much has this article been cited in the Google Scholar query?

Number of Citations: [ ]

** So we can see who are researching Champions*

2

B Research Philosophy

Is there any explicit statement of research philosophy; particularly related to positivism, interpretive research, critical research, or critical realism? Can some implied research philosophy be ascertained from the approach taken, or from statements about objectivity or subjectivity of certain factors?

(Select [X] **ONE** Category and indicate [X] if explicitly stated in source)

- [ ] ***B_1 Positivistic*** *(Explicit [ ])*
  Treats key phenomena as if they are real and objective (and can be measured, and have cause-effect relations). Either explicitly acknowledged or clearly demonstrated.
- [ ] ***B_2 Weak Positivistic*** *(Explicit [ ])*
  Treat just a few phenomenon as if they are real (or objective) but not clear whether these are seen as objective or what their meaning is or it does not ascribe cause or mixes some positivism with some notion of construction or inter-subjectivity of meaning, or relativism.
- [ ] ***B_3 Interpretive*** *(Explicit [ ])*
  Treat access to reality (given or socially constructed) as subjective and only experienced through social constructions such as language, consciousness and shared meanings (AKA Myers). Either explicitly acknowledged or clearly demonstrated.
- [ ] ***B_4 Critical Research*** *(Explicit [ ])*
  Focuses on the oppositions, conflicts and contradictions in contemporary society, and seeks to be emancipatory (AKA Myers).
- [ ] ***B_5 Critical Realism*** *(Explicit [ ])*
  A phenomenon is treated as real (perhaps also with some underlying cause-effect), but as having several different meanings and interpretations that people can put on it.
- [ ] ***B_6 Not Explicitly Stated or Implied***

C Theory Base

Does the author make explicit use of any particular theory, or model, or framework?

(Select [X] **ONE**)

- [ ] ***C_1 TYPE I. ANALYSIS – Says what is. The theory does not extend beyond analysis and description. No causal relationships among phenomena are specified and no predictions made.***
- [ ] ***C_2 TYPE II. EXPLANATION) – Says what is, how, why, when, and where. The theory provides explanations but does not aim to predict with any precision. There are no testable propositions.***
- [ ] ***C_3 TYPE III. PREDICTION – Says what is and what will be. The theory provides predictions and has testable propositions but does not have well-developed justificatory causal explanations.***
- [ ] ***C_4 TYPE IV. EXPLANATION AND PREDICTION – Says what is, how, why, when, where and what will be. Provides predictions and have both testable propositions and causal explanations.***
- [ ] ***C_5 TYPE V. DESIGN AND ACTION - Says how to do something. The theory gives explicit prescriptions for constructing an artefact.***

If Present, specify:

3

D Research Approach

What kind of approach (explicit or implicit) has been used to the relation and ordering of data and theory?

(Select [X] **ONE**)

- ☐ ***D_1 Quasi-hypothetico-deductive*** *(no explicit recognition, but approximates to setting out some statement and then testing it with data)*
- ☐ ***D_2 Hypothetico-deductive*** *(does set out some hypothesis/statement for testing)*
- ☐ ***D_3 Deductive*** *(sets out some theory/concept for testing without making it quite as explicit as a hypothesis)*
- ☐ ***D_4 Quasi-inductive*** *(no explicit recognition, but approximates to starting with data and building towards some idea or statement)*
- ☐ ***D_5 Inductive*** *(begins grounded in data and then draws conceptual inferences at the level of at least a mid-level theory model)*
- ☐ ***D_6 Quasi inductive followed by hypothetico-deductive***
- ☐ ***D_7 Quasi hypothetico-deductive followed by inductive***

E..Research Strategies / Methodologies

(Select [X] as per instructions for each section)

E_1 Methods Section in Paper

Is there an explicit section on method (could be headed 'research method' or 'methodology' or 'empirical study' or similar)?

Y	N
☐	☐

E_2 Methods Statement

Is there an explicit identification of a research method / data sources for the paper?

Y	N
☐	☐

E_3 Research Strategy

What was the main research strategy used in the paper?
List ONE that apply best to the research strategy followed in the source.

		Yes
E_3_1	***Speculation/Commentary*** (Research that derives from thinly supported arguments or opinions with little or no empirical evidence)	☐
E_3_2	***Archival Research*** (Research that is based mainly on the review of existing non-academic literature)	☐
E_3_3	***Literature Analysis*** (Research that critiques, analyses, and extends existing literature and attempts to build new groundwork)	☐
E_3_4	***Case Studies*** (A single or multiple instances of studying a phenomenon in an organisation over a logical time frame)	☐
E_3_5	***Survey Research*** (Research that uses predefined and structured questionnaires to capture data from individuals.)	☐
E_3_6	***Experiment*** (Research in organizational setting or simulated environment that manipulates and controls the various experimental variables and subjects)	☐
E_3_7	***Secondary Data Analysis*** (A study that utilizes existing organizational and business data, e.g., financial reports, archival data, published statistics)	☐
E_3_8	***Content Analysis*** (A method of analysis in which text is systematically examined by identifying and grouping themes and coding, classifying and developing categories)	☐
E_3_9	***Ethnography*** (Describing the culture of an individual or group and understanding a way of life from the narrative point of view.)	☐

4

E_3_10 ***Action Research*** (The process of actively participating in an organization change situation whilst conducting research) ☐

E_3_11 **Field Study** (Study of single or multiple and related processes/ phenomena in single or multiple organizations) ☐

E_4 General Methods

What was the main research method used in the paper?
*List **ALL** that apply. Use Project Experience category where not any explicit research method, just their own experience. Provide an indication of the sample / size [N].*

Yes

E_4_1 Web site content evaluation/analysis N= [ ] ☐

E_4_2 Web usage analysis (automatic) N= [ ] ☐

E_4_3 Questionnaire N= [ ] ☐

E_4_4 No statement or indication of how data was gathered ☐

E_4_5 Document analysis ☐

E_4_6 Interviews N= [ ] ☐

E_4_7 Observations N= [ ] ☐

E_4_8 Visits (less structured than observations) N= [ ] ☐

E_4_9 Project experience (worked on the project itself) – a kind of action research/participant-observation but weaker ☐

E_4_10 Experiments N= [ ] ☐

E_4_11 Discussion Analysis N= [ ] ☐

E_4_12 Delphi Study N= [ ] ☐

E_5 Quantitative/Qualitative Nature of Research Method

Has the author used a quantitative method or qualitative method, or a combination?
*Select [X] **ONE** of the following categories that is the best fit.*

Yes

E_5_1 ***Qualitative*** (e.g. action research, field survey (case study or ethnography)) ☐

E_5_2 ***Quantitative Weak*** (e.g. scoring a pilot sample of Web sites against criteria) ☐

E_5_3 ***Quantitative Strong (***statistics and significant sample (e.g. a survey or experiment)) ☐

E_5_4 ***Mixed with Quantitative Weak*** (often quant is rating scales) ☐

E_5_5 ***Mixed with Quantitative Strong*** (with Quantitative Strong-type stats) ☐

E_6 Time Profile of Research Method

Do they use a cross-sectional or longitudinal approach? Time profiling relates to the way data was gathered, not to the background section or to the presentation of data.
*Select [X] **ONE** of the following categories that is the best fit.*

Yes

E_6_1 Cross-sectional: just related to a single time period (though may give some background of trends) ☐

E_6_2 Trend: main element includes some kind of a history ☐

E_6_3 Longitudinal – uses time as an important factor for study ☐

5

F Content Analysis

(Select [X] as per instructions for each section)

F_1 Champion Identification

Provide a brief description of how the champions were identified for the study. Use the following concepts in the description: Nomination by someone else (e.g. peers, managers, executives, etc.); Self-nomination; Triangulation; Identified by researcher through interviews / observations / document review; Use of a predefined definition; Appointed; Not clear how they were identified.

F_2 Thematic Area/s

Select [X] ***ONE*** *or* ***MORE*** *of the following thematic areas which the paper focusses on. The key knowledge contribution must be identified by reviewing the research questions, hypotheses and findings (i.e. what the researcher sets out to analyse).*

		Yes
F_2_1	***Champion Origin*** (an analytic objective of the paper is to explore or explain where champions come from and how they originate)	☐
F_2_2	***Competencies & Identities*** (an analytic objective of the paper is to explore or explain the characteristics of champions – their skills, attributes, knowledge, worldviews and identities)	☐
F_2_3	***Role & Activities*** (an analytic objective of the paper is to explore or explain *what* champions do within organisations or projects and *how* they do it)	☐
F_2_4	***Relationships & Influence*** (an analytic objective of the paper is to explore or explain the relational nature of champions – relationships, networks, & interaction with other stakeholders)	☐
F_2_5	***Resource Identification & Mobilisation*** (an analytic objective of the paper is to explore or explain how the role and activities of champions in terms of identifying and mobilisation resources)	☐
F_2_6	***Impact on Projects / Organisations*** (an analytic objective of the paper is to explore or explain the impact of champions, positive or negative, in organisations and/or the various phases of projects)	☐
F_2_7	***Champion Support / Development*** (an analytic objective of the paper is to explore or explain how the incidence of champions, their influence and impact, can be optimised)	☐

G General Comments and Observations about Research Quality

Appendix B: Summary of Extracted Data

ID	Paper	Citations	Research philosophy	Research approach	Research strategy	Methods	Qualitative / quantitative nature	Time profile
1	Howell & Higgins (1990a)	235	Weak positivistic	Quasi-Inductive	Field Study	In-depth interviews (N = 25).	Qualitative	Single period
2	Howell & Higgins (1990b)	1112	Positivistic	Hypothetic-deductive	Field study	Mixed methods: questionnaires (N = 50) and structured interviews (N = 156) with matched pairs of champions and non-champions (N = 25).	Mixed: Strong Quantitative	Single period
3	Howell & Higgins (1990c)	66	Positivistic	Hypothetic-deductive	Content analysis	Structured interviews (N = 153); matched pairs of champions and non-champions (N = 25).	Mixed: strong quantitative	Single period
4	Beath (1991)	376	Weak positivistic	Hypothetic-deductive	Field study	Mixed methods: semi-structured interviews with IT champions (N = 15) and managers (N = 27); follow-up survey.	Mixed: weak quantitative	Single period
5	Shane (1994)	111	Positivistic	Hypothetic-deductive	Survey research	Questionnaire: N = 4405, 68 countries, 43 organizations. Comparative study: championing vs. non-championing behavior.	Quantitative	Single period
6	Beechler (1996)	0	Positivistic	Hypothetic-deductive	Survey research	Questionnaire: N = 678 managers in eight Japanese firms.	Quantitative	Single period
7	Heng et al (1999)	30	Interpretive	Deductive then inductive	Field study	Unstructured interviews (N = 10 champions).	Qualitative	Single period
8	Howell & Shea (2001)	166	Positivistic	Hypothetic-deductive	Survey research	Mixed methods: structured interviews with champions followed by questionnaires (N = 47); survey of innovation team members (N = 216); follow-up survey (N = 47).	Mixed: strong quantitative	Longitudinal
9	Esteves & Pastor (2002)	19	Weak positivistic	Deductive then inductive	Survey research	Questionnaire (N = 23) Web survey format.	Mixed: weak quantitative	Single Period
10	Howell & Boies (2004)	134	Positivistic	Deductive then inductive	Content analysis	Structured interviews (N = 153); 19 matched pairs of champions and non-champions.	Mixed: strong quantitative	Single period
11	Gupta et al (2006)	15	Weak positivistic	Deductive then inductive	Single case study	Multiple methods: semi-structured interviews (N = 8), secondary data, notes from observations.	Qualitative	Longitudinal
12	Lefley (2006)	10	Weak positivistic	Quasi-hypothetic-deductive	Single case study	Delphi. FAP documentation and contributions of appraisal team members, including the champion.	Weak Quantitative	Single Period
13	Dong et al. (2007)	8	Positivistic	Hypothetic-deductive	Survey research	Questionnaire (N = 138 users), 5 organizations.	Quantitative	Single period
14	Mullins et al. (2008)	10	Positivistic	Hypothetic-deductive	Survey research	Questionnaire: originally N = 169; follow-up N = 70.	Quantitative	Longitudinal
15	Kelley & Lee (2010)	14	Positivistic	Deductive then inductive	Survey research	Questionnaire – N = 89 innovation project champions from three multi-national Korean Companies.	Quantitative	Single period
16	Kamal (2010)	1	Interpretive	Quasi-hypothetico-deductive	Multiple case study	Multiple methods: structured and semi-structured interviews with champions at four local government initiatives; doc analysis.	Qualitative	Single period
17	Negoita et al. (2012)	0	Weak Positivistic	Deductive then inductive	Multiple case study	Semi-structured interviews (N = 87); five cases.	Qualitative	Single period
18	Matthews et al. (2012)	0	Unclear	Quasi-inductive	Single case study	Semi-structured interviews with design champions; two participants.	Qualitative	Longitudinal
19	Klerkx & Aarts (2013)	4	Weak positivistic	Deductive then inductive	Multiple case study	Multiple methods: document analysis (N = 1); semi-structured interviews (N = 78); observations (N = 10); 3 cases.	Qualitative	Trend: historic element
20	Andersen & Mørch (2016)	0	Weak positivistic	Deductive then inductive	Single case study	Mixed methods: SNA based on website content; discussion analysis (topics: 19747; participants: 269280).	Mixed: weak quantitative	Single period
21	Lefley et al (2016)	0	Positivistic	Hypothetic-deductive	Survey research	Questionnaire (N = 152); 81 Czech Republic + 71 UK.	Quantitative	Single period

ID	Paper	Citations	Research philosophy	Research approach	Research strategy	Methods	Qualitative / quantitative nature	Time profile
22	Van Laere & Aggestam (2016)	0	Weak positivistic	Inductive	single case study	Multiple methods: exploratory interview (N = 1); Participant observations (N > 100).	Qualitative	Trend: historic element

About the Authors

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