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Taking stock of project value creation: A structured literature review with future directions for research and practice

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Abstract

This paper aims to take stock of what we know about project value creation and to present future directions for research and practice. We performed an explorative and unstructured literature review, which was subsequently paired with a structured literature review. We join several research areas by adopting the project value creation perspective on literature relating to benefits, value, performance, and success in projects. Our review includes 111 contributions analyzed through both an inductive and deductive approach. We find that relevant literature dates back to the early 1980s, and the still developing value-centric view has been the subject of many publications in recent years. We contribute to research on project value creation through four directions for future research: rejuvenating value management through combining value, benefits, and costs; supplementing value creation with value capture; applying a holistic approach to project, portfolio, and strategic management; and theorizing by applying independent models and frameworks.

Keywords: Projects; Value creation; Benefits management; Value management; Project success; Literature review

1. Introduction

Project management has traditionally been focused on delivering outputs, such as products (Atkinson, 1999), with a specific focus on delivering on time, on budget, and to a defined quality, which is often articulated as adhering to the 'iron triangle' (Andersen, 2008). However, this focus on product creation is problematic because delivering a product does not necessarily imply value creation for the base organization(s) (Winter and Szczepanek, 2008). In a wider view on the management of projects (Morris, 1994), we also see a shift from a sole focus on product creation to a holistic focus on both product and value creation (Winter et al., 2006a), and over the past few years scholars have paid more attention to value creation and the realization of benefits in projects (e.g., Winter et al., 2006b; Zwikael and Smyrk, 2012). Considering value in project contexts is nothing new, though; it has been done in value management (European Standard, 12973-2000, 2000; Quartermain, 2002) for many years.

The terms value and benefits are sometimes used interchangeably, and there appear to be many overlapping and ambiguous concepts such as value (Morris, 2013), benefits (Chih and Zwikael, 2015; Peppard et al., 2007), worth (Zwikael and Smyrk, 2012), success (Yu et al., 2005), and also value creation (Andersen, 2014; Winter et al., 2006a), benefits management (Ward and Daniel, 2012), and benefits realization management (Bradley, 2010). The aim of this paper is to take stock of what we know about the field of project value creation, to provide a comprehensive overview of the most salient concepts within project value creation, to present directions for future research to stimulate convergence on the terminology and conceptualization of project value creation, and provide implications for practice. We thus formulated the following research questions: (1) What are the main topics and debates in the literature on project value creation? (2) How may value and project value creation be conceptualized? and (3) How can future research expand this field of research?

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This paper is organized as follows: Section 2 describes the theoretical background for this paper, which is followed by the research approach in Section 3. We present the results of the literature analysis in Section 4 followed by the directions for future research and the implications for practice making up Section 5, while Section 6 presents the conclusion.

2. Theoretical background

Value creation is a complex and multifaceted concept that is central to management and organization literature. Value creation applies to various levels such as micro level (individual, group), mesa level (organization), and macro level (networks, industries, society) (Della Corte and Del Gaudio, 2014; Lepak et al., 2007).

There is confusion about the term, and Lepak et al. (2007) mention three important reasons for that confusion: *First*, the multidisciplinary nature of management and organization, where scholars within strategic management, organizational behavior, strategic human resource management, corporate finance, marketing, organizational psychology, and beyond address value creation differently (Barney, 2013; Della Corte and Del Gaudio, 2014; Lepak et al., 2007). *Second*, value creation refers to both content (what is value?) and process (how is value generated?) (Lepak et al., 2007: 181). *Finally*, the process of value creation is confounded with who creates value and who captures value—and scholars argue that we need to distinguish between value creation and value capture (Bowman and Ambrosini, 2000, 2010). Lepak et al. (2007: 182) define value creation in this way: "[V]alue creation depends on the relative amount of value that is subjectively realized by a target user (or buyer) who is the focus of value creation – whether individual, organization or society – and that this subjective value realization must at least translate into the user's willingness to exchange a monetary amount for the value received". It follows from this definition that there is perceived use value, subjectively assessed by the user (or buyer), and then monetary exchange value, the price paid for the use value created (Bowman and Ambrosini, 2000: 13).

We define value in this paper as the quotient of benefits/costs (alternatively satisfaction of needs/use of resources) (adapted from Morris, 2013: 83; Quartermain, 2002: 44–45–44–46), where "[v]alue is not absolute, but relative, and may be viewed differently by different parties in differing situations" (European Standard, 12973-2000, 2000: 12).

Project management literature has also dealt with value and value creation, but generally at a more operational level. Value engineering and value analysis can be traced back to the 1940s with the aim to optimize projects and processes. Value management was later established as a more generic term to focus on the overall achievement of value (Quartermain, 2002; Thiry, 2002b). The intention with value management was to optimize both benefits and costs in projects, but it very often meant reducing capital cost rather than focusing on the nominator, i.e., increasing benefits and thereby enhancing value (Morris, 2013: 83). Value management (and related terms) has its source from industrial engineering (General Electric, US Department of Defense) (SAVE International, 2007). Another concept, benefits management, emerged in the 1980s and 1990s to understand the return on investment from IT (Breese, 2012), and later diffused into mainstream program and project management as an important discipline (Association for Project Management, 2012; Office of Government Commerce, 2011). The term value creation was reinforced as part of the UK initiative to rethink project management to emphasize value creation from projects rather than solely on the delivery of products (Winter et al., 2006b). This furthermore implied that project management was associated with the strategic management thinking of value creation (e.g., Normann, 2001) and thereby subscribing to value creation as a complex, multilevel, and multifaceted concept (Lepak et al., 2007).

We will in the following briefly discuss project value creation from a content and process perspective (Lepak et al., 2007). Table 1 encapsulates the core concepts related to project value creation:

The core concepts in Table 1 relate to each other starting with the strategy initiating the project, which delivers output to an organization resulting in a change, which again delivers benefits and value. This is, however, a highly simplified and idealized presentation, and the relationships between the concepts are much more complex and reciprocally linked in real projects (e.g., Breese, 2012). Nevertheless they are presented here to emphasize the basic concepts of project value creation (the building blocks).

Table 1
Core concepts within project value creation.

Concept	Explanation
Strategy	Project value creation is highly linked to strategic management, and strategy could be seen as the art of creating value (Normann and Ramirez, 1993: 65). The strategy is enacted through portfolio management, program management, and project management (Meskendahl, 2010; Winter and Szczepanek, 2008).
Project	A project might comprise a single project or a collection of projects in the sense of a temporary organization (Bakker, 2010; Packendorff, 1995) that enables value creation (Winter and Szczepanek, 2008).
Output	Output is product creation which means "the temporary production, development, or improvement of a physical product, system or facility — and monitored and controlled against specification (quality), cost and time" (Winter et al., 2006b: 642)
Outcome/change	Outcome is the resulting change in the organization derived from using the project's output (Office of Government Commerce, 2009: 21–22)
Benefit	Benefit is the improvement resulting from a change (outcome) that is perceived as positive by one or more stakeholders (adapted from Bradley, 2010: xiii; Office of Government Commerce, 2009: 21–22).
Value	Value $\alpha \frac{\text{Benefits}}{\text{Cost}}$ The Greek alpha sign (α) is used instead of an equal sign (=) to signify that it is not a quantitative quotient between benefits and costs, but only a representation. Value is relative and viewed differently by different stakeholders (adapted from European Standard, 12973-2000, 2000; Morris, 2013: 83; Quartermain, 2002: 44–45–44–46)
Value creation	Value creation depends on the relative amount of value that is subjectively realized by a target user (or buyer) who is the focus of value creation — whether an individual, organization, or society (Lepak et al., 2007: 182)

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We will finally turn to the process of project value creation. In fact both value management (European Standard, 12973-2000, 2000; Thiry, 2002b) and benefits management (Bradley, 2010; Ward and Daniel, 2012) address the process of project value creation. However, as value management is mainly concerned with optimizing cost rather than benefit, we will focus on benefits management and briefly present it. We define benefits management as "the process of organizing and managing, such that potential benefits, arising from investment in change, are actually achieved" (Bradley, 2010: xiv). The process of planning and identifying, delivering, and realizing benefits is central to benefits management. Benefits and disbenefits are defined and planned at the beginning of the benefits management process, which may be part of creating a business case related to the strategy (Ward and Daniel, 2012). This is followed by delivering, measuring, and realizing the benefits (Bradley, 2010; Peppard et al., 2007). However, the simplistic and linear account of benefits realization advanced here downplays the complexity present in organizations and the managerial challenges facing these organizations (Breese, 2012).

Having accounted for the theoretical foundation of this paper, we will now address the research approach for the literature review that this paper presents.

3. Research approach

The literature review process for this paper was a two-part endeavor (Svejvig and Andersen, 2015): first, an explorative and unstructured part that had a number of different origins providing inputs from project management and other areas; and second, a structured review process involving searching databases using search strings and scanning the tables of contents of two journals in the field.

3.1. Part 1: explorative and unstructured literature review

The explorative search for publications on project value creation was initiated as part of a study drawing upon rethinking project management (Winter et al., 2006b). In this search, multiple research fields were encountered: benefits management (Bradley, 2010; Breese, 2012; Ward and Daniel, 2012), business value of information systems (Kohli and Grover, 2008; Schryen, 2012), business and organization value (Smyrk and Zwikael, 2011; Zwikael and Smyrk, 2012), and project success and evaluation of projects (Andersen, 2014; Andersen et al., 2006; Atkinson, 1999; Shenhar et al., 2001). A total of 28 journal articles and six books were identified as relevant to the review. The keywords from these 34 publications served as input for the search terms for the structured review process.

3.2. Part 2: structured literature review

The second part of the literature review was based on a structured and systematic approach, which applies methods inspired by both other reviews (Bakker, 2010; Schryen, 2012; Söderlund, 2011) and also literature on conducting reviews (Rowe, 2014; Tranfield et al., 2003; Vom Brocke et al., 2009; Webster and Watson, 2002). In this review, the process comprised four phases: (1) planning and scoping, (2) conceptualizing the review, (3) searching, evaluating, and selecting literature, and (4) analyzing the selected literature.

In phase 1, the scope of the review was limited to project-relevant literature that discusses value creation or benefits management, or in which either of the two concepts is central to the publication. The intention was to develop a robust corpus by combining a representative selection with exhaustive and selective coverage of pertinent project management journals.

In phase 2, the two key concepts—value creation (Winter et al., 2006a) and benefits management (Ward and Daniel, 2012)—were supplemented with benefits realization, business value, and organizational value. Other concepts such as success, evaluation, and impact were deemed too broad to produce a list of results that would be workable.

In phase 3, we had a goal of getting a relevant range, and therefore carried out the search in three databases (number of results in parentheses): Business Source Complete, EBSCO (469); ABI/Inform Global, ProQuest (1526); and ScienceDirect, Elsevier (194). The total number of results summed to 2189.

Complementing the structured search, the tables of contents of the International Journal of Project Management and the Project Management Journal were scanned in their entirety to ensure that all relevant articles were captured, even if the keywords did not match. We selected these two journals as they would allow for inquiries about the development of the field since their inauguration in the 1980s, and the International Journal of Project Management may be considered the premiere specialty journal for project management (Söderlund and Bakker, 2014: 1). As shown in Fig. 1 (inspired by Bakker, 2010), the search and selection process may be represented as three streams: first, the explorative and unstructured search; second, the structured search using search strings; and third, the scanning of two project management journals' tables of contents.

Each stream illustrated in Fig. 1 contributed through a search and selection to the final result of 111 publications to be included in the analysis. In the selection process one author made the initial rough selection leading to 166 and 74 results, respectively, after limiting the results to academic journal articles, literature reviews, conference papers and proceedings, and books and book chapters. Hereafter both authors looked into all publications in order to apply triangulation methods (Bryman, 2008: 379). The initial selection was an assessment of whether or not the publications were related to project research and value creation, while both authors evaluated based on a set of inclusion and exclusion criteria, which are outlined in Appendix A. The evaluation determining inclusion or exclusion was based on the abstract, and for some publications also the introduction and the remainder of the paper if necessary.

In phase 4, the coding process was divided into an inductive analysis and a deductive analysis. For both parts of the analysis, the software package NVivo (Bazeley, 2007) was used to document the coding.

In the deductive analysis, we initially documented the university and country of the corresponding author, and inspired by the categories suggested by Rowe (2012), the research genre

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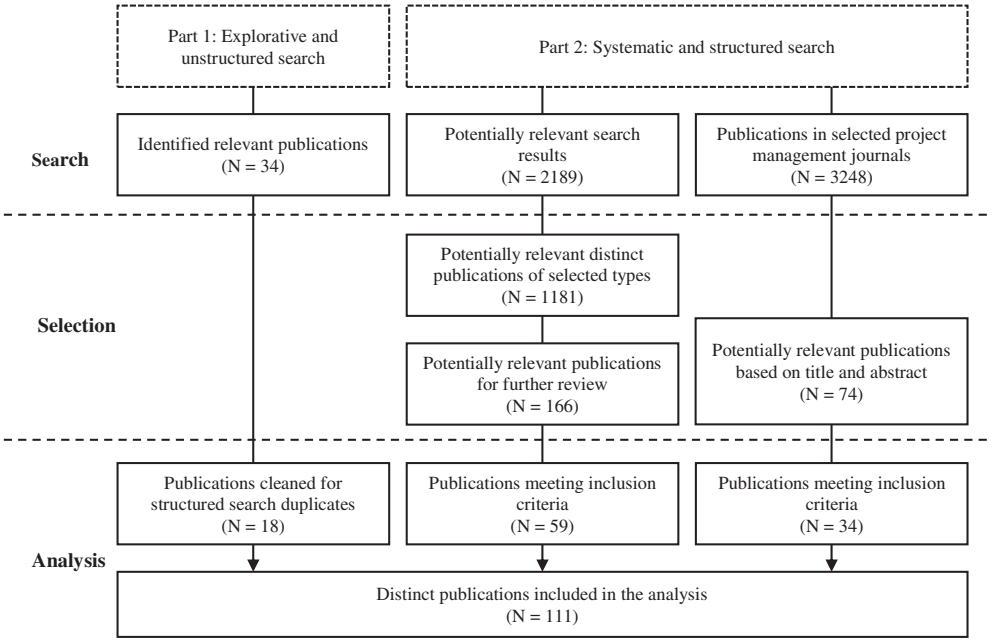

Fig. 1. Search and selection process.

was documented as empirical research, theory development, research essays and literature reviews, or the category 'other'. In the following work, based on the inductive coding, the deductive coding was supplemented by whether the publications were applying theoretical frameworks such as the resource-based view (Wernerfelt, 1984) and contingency theory (such as Thorgren et al., 2010). It was also added whether the publication itself contributed a model.

The inductive analysis was based on a grounded theory approach (Wolfswinkel et al., 2011), in which a selection of the publications was coded using open codes and selective codes. We selected 19 journal publications for coding, with the majority selected based on the average number of citations per year to equal out the longer lifetimes of some publications. Three literature reviews in the corpus were also included (Lycett et al., 2004; Melville et al., 2004; Schryen, 2012), as these represent many more studies; in addition, three recent publications (Andersen, 2014; Breese, 2012; Zwikael and Smyrk, 2012) were included due to their strong contribution to project value creation research.

One author coded the 19 publications in their entirety, while the other author coded a minor part and read selected parts of the open codes. The grounded theory coding resulted in a total of 272 open codes. Some of the codes related to more than one source such as: 'Success depends on stakeholders', which expresses stakeholders' relative perceptions of success, and 'Project as a strategic endeavor', illustrating that projects are viewed as more than the creation of outputs. Through a process of reading the list of open codes and pooling the codes into axial and selective codes, the basis for five themes was created as presented in Section 4.

Part 1 of the literature review took place from August 2013 to May 2014 in connection with related research activities, while the final assessment of relevant material overlapped the beginning of Part 2 in June 2014. Part 2 was carried out from June 2014 to May 2015.

4. Analysis of the project value creation literature

In this section we will present the findings of the analysis first by reporting on the descriptive statistical findings from the deductively driven analysis. Second, we report on the findings according to five themes that were derived from the inductively driven part of the analysis.

4.1. Descriptive results

The distribution of publications over years displays an interesting image of a field that has developed mainly over the past two decades as the distribution over time shows in Fig. 2.

We also identified an overweight of empirical research contributions in the yearly distribution, which is underlined in the small histogram showing the total count in research genres in Fig. 2—a categorization of publication types in research genres that follows Rowe (2012) in part. Besides the strong empirical focus, we note that only a few literature reviews on value creation (3) have been identified in this study.

In terms of geographical distribution, the publications contributing to this research area originate from 30 different countries around the world, based on the main author's university affiliation. A few countries stand out: the UK (31), the US (27), Australia (14), and Norway (6). Hence, it might be argued that project value creation is primarily rooted in these countries, and partially in countries throughout the rest of Europe that account for another 24 of the total 111 publications.

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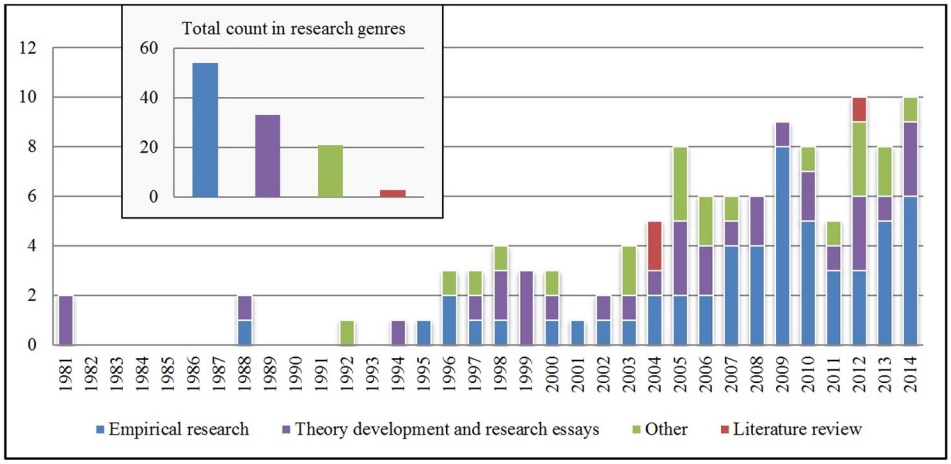

Fig. 2. Distribution of publications over time and across research genres.

4.2. Project value creation in five themes

Development of terminology accounts for changes to the terminology from the 1980s to 2014. In some of the first publications, in 1988, we find an interesting convergence in two titles that both make use of the terms *project success* and *measurement* (de Wit, 1988; Pinto and Slevin, 1988). This convergence could hint at a focus, at that time, on measuring the success of projects. Nevertheless, the content of the two publications does reveal that the recommendation for broadening the concept of project success beyond the iron triangle was already present in the 1980s. The same topic was still addressed by several scholars in the 1990s (Atkinson, 1999; Baccarini, 1999; Lim and Mohamed, 1999; Shenhar and Levy, 1997; Wateridge, 1998) and to some extent in the 2000s (Andersen et al., 2006; Shenhar et al., 2001), when the project success titles in this selection dry out and we shift attention to benefits management research.

In 1996, the Cranfield process model of benefits management was proposed in the IS/IT literature by Ward et al. (1996), followed by the active benefits realization approach (Remenyi and Sherwood-Smith, 1998). Later the benefits dependency network was suggested by Peppard et al. (2007), linking benefits closely to strategy, as similarly does the benefits realization capability model suggested by Ashurst et al. (2008). This model combines benefits realization with the resource-based view of the firm (Wernerfelt, 1984), thereby bringing competitive advantage into the discussion.

We again shift the focus a little, addressing how projects have been promoted as value-creating systems (Winter and Szczepanek, 2008; Winter et al., 2006a) in the 2000s and forward. This view draws upon both benefits management and the success of project outcomes (Andersen, 2014; Winter and Szczepanek, 2008; Winter et al., 2006a; Yu et al., 2005). Zwikael and Smyrk (2012) suggest a model that applies the organizational value of projects though still applying project outcomes. Following this model, Chih and Zwikael (2015) develop a conceptual framework for target benefit formulation, coining the term *project benefits management* and repositioning benefits management into projects, not only IS/IT investments. Both benefits management and value creation focus on the outcomes of projects, which—similar to the project success literature in the 1980s—goes beyond output focus in the iron triangle. Hence, it might be argued that the same underlying concepts concerning project success and value have been discussed for more than 25 years, though using different terms and driven by different research areas over time.

Value creation and success outlines how project success and value creation are two closely related concepts. The concept of success has been addressed widely in the literature (Andersen, 2014; Atkinson, 1999; Baccarini, 1999; Davis, 2014; de Wit, 1988; Lim and Mohamed, 1999; Obiajunwa, 2012), and there seems to be a consensus on the use of project management success as a key measure of the success of output, whereas the success of a project as a whole is more diffuse, but concerns outcomes and the base organization (Zwikael and Smyrk, 2012). In chronological order, Table 2 lists publications presenting criteria for project success.

There is considerable overlap between the parameters for output and outcome success, respectively, across the definitions in Table 2. Generally, project management success is defined in terms of adhering to cost, time, and quality (Atkinson, 1999; Lim and Mohamed, 1999; Zwikael and Smyrk, 2012). However, performance (Pinto and Slevin, 1988), efficiency, and stakeholders' perceptions of process are also considered important (Baccarini, 1999; Obiajunwa, 2012). We note the split of quality from time and budget in Shenhar et al. (2001), as they regard quality to be concerned with the impact on the customer. From the above collection of definitions, we argue that the overall success of a project is concerned with benefits, stakeholder satisfaction, or impact, which by and large have to do with the value created. Thus, we argue that the success of projects is connected to the value created. While the iron triangle is a classic and commonly applied standard for judging output success, the judgment of outcomes is more scattered, and it might suggest that research on value creation is still developing, a view that Fig. 2 might support.

Application of theoretical frameworks concerns studies applying a theoretical framework, meaning that it applies

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Table 2
Overview of project success definitions.

Literature	The project: start to end (output)	The base organization (outcome)
de Wit (1988: 169)	Project management effort: budget, schedule, technical specification. Project functionality: financial, technical, etc.	Contractors' commercial performance: short term, long term.
Pinto and Slevin (1988: 69)	Project: time, cost, performance.	Client: use, satisfaction, effectiveness.
Shenhar and Levy (1997), Shenhar et al. (2001: 712)	Project efficiency: short-term measure of how efficiently the project process is managed in relation to time and budget.	Impact on customer; business and direct success; preparing for the future.
Atkinson (1999: 341)	The iron triangle: time, cost, and quality.	The information system; benefits (stakeholder community); benefits (organizational)
Baccarini (1999: 28–29)	Effectiveness criteria: time, cost, and quality. Efficiency criteria: project process quality. Stakeholders' satisfaction with the process.	Product success: project goal, project purpose, and stakeholder satisfaction.
Lim and Mohamed (1999: 244–245)	Micro viewpoints. Completion criteria: time, cost, quality, quality, performance, and safety.	Macro viewpoints. Satisfaction criteria: owners, users, stakeholders, and general public.
Obiajunwa (2012: 371)	Management success: time, cost, quality, safety, environmental, and functional requirements. Perception of stakeholders: client/top management expectations, and participants' expectations.	Resulting benefits: performance expectations, added value, and business success.
Zwikael and Smyrk (2012: 15)	Time, cost, scope/quality, and detrimental outcomes.	Project ownership: achievement of the approved business case. Project investment: acceptability of the realized benefits.
Andersen (2014: 886)	Project management success: deliverables vs. goals.	Project success: the effects of the project; the use of deliverables vs. mission.

concepts that are independent from the research area under concern such as the resource-based view or transaction cost theory. This is what Mathiassen et al. (2012: 350) label F_I, where F is framework and $_I$ is the indication of it being independent from the research area, thereby separating it from concepts that originate in the literature of the research area of concern labeled F_A, where $_A$ indicates the area of concern. The use of theoretical frameworks in the reviewed publications appears to be rather limited. Merely ten publications make comprehensive use of independent theories, another nine make limited use of such, and 12 publications mention one or more of these theories but do not apply them. Table 3 provides an overview of the theories applied and the publications that make use of them. By comprehensive application, in the first column of Table 3, we mean that the theory is applied and has a major influence on the research or theory development as a whole, as

Table 3
Application of theoretical frameworks.

Literature	Comprehensive application	Limited application	Theory mentioned
Resource-based view Applying resources to gain competitive advantage, which are sustainable.	Ashurst et al. (2008), Melville et al. (2004)	Bernroider et al. (2014), Schryen (2012)	Breese (2012), Gregor et al. (2006), Johannessen and Olsen (2011), Kohli and Grover (2008), Reginato (2009), Serra and Kunc (2015), Smyth et al. (2010), Winter et al. (2006a), Zwikael and Smyrk (2012)
Contingency theory No best way, the solution depends on the situation.	Zwikael and Smyrk (2012), Remenyi and Sherwood-Smith (1998)	Chih and Zwikael (2015)	
Principal–agent theory The problems of incentive structures for agents and principals having asymetric information.	Wu et al. (2013)	Yu et al. (2005), Zwikael and Smyrk (2012)	
Transaction cost Costs related to making an economic exchange.	Ahola et al. (2008), Smyth et al. (2010)		Barclay and Osei-Bryson (2009), Melville et al. (2004)
Microeconomics The behavior of individuals and their decision making concerning the allocation of limited resources.		Melville et al. (2004), Schryen (2012)	
Porter's (1985) value chain	Bygballe and Jahre (2009), Johannessen and Olsen (2011), Reginato (2009)		Bannister and Remenyi (2000), Barclay and Osei-Bryson (2009), Winter et al. (2006a), Winter and Szczepanek (2008)

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in Ashurst et al. (2008), who based a capability model on the resource-based view. The second column, limited application, on the other hand, covers the narrow application of a theory or in a minor part of the publication, with no major influence on the whole, such as in Chih and Zwikael (2015), who apply contingency theory to exemplify how context might influence benefit formulation practices. Finally, in the third column, the theory is mentioned but not actually applied, as in Winter and Szczepanek (2008), who mention Porter's (1985) value chain in an overview, but apply another approach.

In total, ten of 111 publications apply independent theories comprehensively, as Table 3 shows, which we regard as rather limited. The theories that are independent of the research area may contribute new concepts and new understandings to the field. Thus, a limited application might suggest that it is a research area that is inwardly oriented, and there might be solid potential for applying theories and concepts to project value creation research similarly to the application of the resource-based view by Ashurst et al. (2008).

Stakeholders and benefits concerns the close relation between benefits and stakeholders. As presented in the second theme, success may be divided into output success and outcome success, and there is consensus that the project manager is responsible for delivery on time, at cost, and of the specified quality (Atkinson, 1999; Zwikael and Smyrk, 2012). However, our analysis shows that there is not the same level of agreement on who is responsible for realizing the benefits (Ashurst et al., 2008). Suggestions on the benefit responsibility vary from the stakeholders in the base organization (Baccarini, 1999) to the project manager (Shenhar et al., 2001), a view for which Zwikael and Smyrk (2012) find support in Malach-Pines et al. (2009). Andersen (2014) suggests that responsibility for project success should be a discussion between the project team and base organization, thus making room for negotiation. We find that these approaches to responsibility for realizing benefits and providing value extend the view of the normative benefits management process (Bradley, 2010; Ward and Daniel, 2012). Nevertheless, the focus on the actual value capture (Bowman and Ambrosini, 2000; Di Gregorio, 2013) is only addressed in four studies on project value and benefits (Ashurst et al., 2008; Chang et al., 2013; Melville et al., 2004; Zwikael and Smyrk, 2012). Lepak et al. (2007) outline that in strategic management the process side of value creation is distinguished from value capture. The value creation logic for projects (Winter and Szczepanek, 2008; Winter et al., 2006a) draws precisely on strategic management literature (Normann, 2001; Normann and Ramirez, 1993), yet value capture has hardly diffused in project management research. Chang et al. (2013) are the only ones making thorough use of value capture, which they use to explain how value is captured over time and across stakeholders over time. All stakeholders may not be known or even born at the time at which the project is undertaken (Chang et al., 2013), but still, in benefits management benefits may only be realized if managed actively (Bradley, 2010). The approach in the value capture process suggests a more open definition as any individual, organization, or society may potentially capture the value (Lepak et al., 2007), regardless of whether this is the intention or not.

In the theme *value creation models* we have identified 43 publications that propose models and frameworks related to different areas of project value creation. These publications may be divided into categories, as several of them share significant characteristics, and based on the type and nature of the models, eight categories can be defined. We list all eight categories and the publications that form each category in Table 4. The most prevalent categories are 'prioritization and appraisal', which concerns the ex-ante evaluation and selection of projects in an organization, followed by 'process and cyclic models' and the categories 'benefits management' and 'benefit hierarchies and dependencies'. In summary, many of the models proposed in this research area are related to benefits management, but there is also a major focus on project evaluation, both ex-ante and ex-post.

We have omitted books in Tables 3 and 4, as books can include many theoretical frameworks and propose several models belonging to many different categories. In concluding the presentation of results, we move on with the discussion of the results and the implications for research and practice.

5. Future directions for research and practice

Based on the analysis, we present four directions for future research on project value creation to concretely outline how the field may be moved forward. Subsequently, we elaborate on the implications for practice that our findings might suggest.

5.1. Future directions for research

We suggest four directions for future research on project value creation in Table 5 (inspired by Winter et al., 2006b). The four directions should not be regarded as an exhaustive list as we might see emerging research and trends changing the foundation for our suggestion. When we use the word *towards*, the meaning is to enhance and build on the existing foundation rather than abolish it.

5.1.1. Direction 1: value management as reduction of costs towards value management integrating value, benefits, and costs

Value creation draws clearly on benefits management research, and we may regard it as one of the driving forces in focusing projects on creating value rather than primarily focusing on the product. With value being a relation of benefits and costs, it would suggest that value management should be a management practice that integrates the two dimensions, yet the literature has treated it in a very limited way. Value management was developed in engineering projects for making optimal use of resources or for cutting costs (Morris, 2013: 83). Later it developed into project management in general, and international standards have been established (e.g., European Standard, 12973-2000, 2000). The focus today is to reduce the capital cost and in this way to increase the value of the project, as the benefit or function is maintained (e.g., Ellis et al., 2005; Green, 1994). It has also been argued that value management is stagnating (Fong, 2004), as it lacks a theoretical underpinning (Male et al., 2007), and we see potential in the thoughts of Male et

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Table 4
Overview of categories for value creation models.

Category of model(s)	Description	Literature
Value focus	Covers the nature of value creation with a focus on value and organizational performance in the project objectives.	Winter et al. (2006a), Winter and Szczepanek (2008), Zwikael and Smyrk (2012)
Prioritization and appraisal	Refers to models that help make decisions on the right projects for the organization.	Ballou and Tayi (1994), Bannister and Remenyi (2000), Felli et al. (2000), Henriksen and Røstad (2010), Lopes and Flavell (1998), Sherer (2007), Silverman (1981), Tamuno Olumide (2003)
Investment evaluation	Evaluation models for the project as an investment. These include both ex-ante and ex-post evaluation models.	Barclay and Osei-Bryson (2009), He et al. (2010), Yu et al. (2005)
Process and cyclic models	Cyclic models that deliver input for new cycles in the model itself. Process models following a number of steps, without feeding back into the process.	Brady et al. (2005), Gordon et al. (2009), Kumar and Keshan (2009), Lefley (2004), Sánchez et al. (2014), Serra and Kunc (2015), Ward et al. (1996)
Context models	Models that account for the context in which projects are situated and how this context influences the benefits derived and organizational performance.	Gregor et al. (2006), Johannessen and Olsen (2011), Melville et al. (2004), Schryen (2012)
Benefit hierarchies and dependencies	Benefits dependency networks, illustrating the underlying needed changes for project objectives and purposes and breakdown structures using benefit hierarchies.	Ahuja et al. (2009), Andersen (2014), Loader (2005), Peppard et al. (2007), Wilson et al. (2007)
Benefits management models	General models of methods for benefits management and the realization of project benefits.	Ashurst et al. (2008), Gooch (1997), Remenyi and Sherwood-Smith (1998), Sapountzis et al. (2009)
Other value creation models	A collection of models that do not share traits with more than one other model. Examples are a portfolio model, the mediating effect of ERP systems, and a model for formulating benefits.	Bernroider et al. (2014), Bygballe and Jahre (2009), Chiang and Nunez (2013), Chih and Zwikael (2015), Jonas (2010), Pinto and Slevin (1988), Ross and Vitale (2000), Thiry (2002a)

al. (2007), who suggest value to be the management style for projects as well as Gillier et al. (2015) introducing a design perspective. We suggest rejuvenating value management into an integrated management practice covering value, benefits, and costs, rather than keeping the practices separate. While value engineering may provide cheaper solutions at the same function, we could imagine how an integrated value management approach could justify more expensive solutions as more benefits may be realized at an extra cost by applying a holistic view of the project. A step towards this holistic value management approach is taken by "Management of Value" (MoV) (Office of Government Commerce, 2010), but this might be further developed, especially to integrate it with benefits management (e.g., Bradley, 2010; Breese, 2012; Chih and Zwikael, 2015; Ward and Daniel, 2012).

Table 5
Future directions for research on project value creation.

Direction 1	
From: value management currently focusing on cost management and reducing the capital cost	**Towards**: the development of an integrated approach combining benefits management and cost management into a holistic value management approach focusing on value, benefits and costs
Direction 2	
From: linear value creation processes similar to traditional value chains the industrial economy	**Towards**: developing value creation and value capture as a broader concept in project management inferring short term, longer term and emergent value
Direction 3	
From: project management and portfolio management as rather tactical and operational disciplines	**Towards**: concepts and approaches to strategic management, portfolio management, program and project management are practiced holistically and by letting value imbue the discipline
Direction 4	
From: fairly limited application of theoretical frameworks that are independent of the project value creation research field	**Towards**: the development of new models and theories by applying frameworks of independent theory e.g., resource-based view

5.1.2. Direction 2: value chain thinking towards value creation in value constellations

The essence of this direction is that value creation in today's project environments is unfit with the thinking of the industrial economy, where a party would conduct their value-adding activities before passing the product downstream to a customer. Value is rather created in complex constellations of a multitude of parties and stakeholders that co-produce value (Normann and Ramirez, 1993). In fact, we should not only regard the creation, but also the capture of value, as the two might be distinct as suggested in other research fields (Bowman and Ambrosini, 2000; Mizik and Jacobson, 2003), and applying the distinction to projects might lead to essential new insights and understandings. The distinct nature of value creation and capture was explained by Chang et al. (2013: 1140), using the Sydney Opera House: "The value of this project is captured by Australia as a nation, yet many of the current 'beneficiaries' of this project did not participate in the original value-creation process. This demonstrates the need to consider project success as an ongoing and long term (emergent) process of value creation, as compared to the traditional output measures." In distinguishing between beneficiaries, we also find the subjectivity of value essential as value differs across stakeholders, as individuals or groups of individuals subjectively perceive value (European Standard, 12973-2000, 2000). What is regarded as valuable to one stakeholder might be regarded as the opposite to

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another stakeholder (Breese, 2012: 349; Lim and Mohamed, 1999: 244). In the literature we find a strong argument for regarding customers and regarding this external stakeholder deciding success (Baccarini, 1999; Lim and Mohamed, 1999; Pinto and Slevin, 1988; Shenhar and Levy, 1997), which we see resembled in the investor evaluation of project success (Zwikael and Smyrk, 2012). However, focusing on the customer might be too simplistic, as it might cannibalize, for example, investor and employee value. The concept of value capture may facilitate a broader perspective by recognizing disparate stakeholders, and project managers should recognize the negotiation for value among stakeholders that a project entails.

5.1.3. Direction 3: from project and portfolio management with an operational focus towards projects and strategy linked in a holistic approach

Similar to Direction 2 in Table 5, strategic management plays a vital role in Direction 3, but unlike Direction 1 where we suggest an integration of practices, here we suggest linking together the practices on project, program, portfolio, and strategic management in a holistic approach. The message is that it makes sense to regard all when regarding one, as decisions about one project are likely to influence other projects, the program, and perhaps the entire strategy (Serra and Kunc, 2015); vice versa, projects are influenced by their surroundings, as Engwall puts it: "No project is an island" (2003: 789). In the holistic approach value should be central, as essentially "strategy is the art of creating value" (Normann and Ramirez, 1993: 65), and projects may be regarded as strategic weapons (Shenhar et al., 2001). We therefore turn to the management of projects rather than to the single project, and we commend the extra focus on the front-end that Morris suggests in his latest book (Morris, 2013: 62). Our reasoning is that the potential value creation of projects is limited to the ones an organization chooses to fund and run, and if the project appraisal does not regard any interrelatedness, potential value might not be considered, potentially leading to less valuable strategic decisions on the project portfolio. We may see this encountered by establishing governance structures that host these strategic discussions on projects, yet organizations should ensure a level of project maturity, which might suggest educating the base organization on managing projects and the relation to strategy.

5.1.4. Direction 4: limited application of theoretical frameworks towards new models based on independent theory

Direction 4 in Table 5 completes our outline of directions for future research, and the essence of this direction is the limited application of theories that are independent of the research field (Mathiassen et al., 2012): project value creation, which our analysis shows. The limited application of theories independent of project value creation leaves a clear potential for applying independent theories, and we find it plausible that an increased application of independent theory might enlighten the project value creation field, as we have seen in other research fields (Mathiassen et al., 2012). We also see how Ashurst et al. (2008) expand the boundaries by applying the resource-based view to benefits management. Thus, applying theories from outside the research field is a way to develop and move the field forward. Many theories could be applied, for example, institutional theory (DiMaggio and Powell, 1991; Scott, 2008), structuration theory (Giddens, 1984), or resource-based theory (Wernerfelt, 1984). In suggesting this, we are not claiming it to be easy to theorize, nor do we suggest "throwing the baby out with the bathwater" by abolishing the practical foundation. One of the goals for research is to develop theories that may be applied in practice, and one way to develop these theories is by engaging with practitioners in collaborations on theory development (Van de Ven, 2007). We have seen how the application of the resource-based view in strategic management enhanced thinking on competitive advantages (Barney, 1991). Similarly, we need to develop the project value creation research field by taking the outside view.

5.2. Implications for practice

Project value creation is highly relevant for practice, and several of the future directions for research have practical implications. We highlight the following three implications for practice. *First*, practitioners should focus on value capture in order to move beyond the fairly simplistic understanding of benefits realization that seems to be ruling at the moment. Current theories fail to comprehend the complexity of today's project environments (Breese, 2012), and practitioners may thereby be blinded to important parts of the social and political processes that may influence project value heavily. Thus, applying theories fit for the world in which the practitioners live might lead to both increased value creation and better satisfaction with the models overall. *Second*, the best practices such as PMI's PMBOK (Association for Project Management, 2012), which address mainly costs, PRINCE2 (Office of Government Commerce, 2009), and Managing Successful Programs (Office of Government Commerce, 2011) that both address benefits and costs would gain from being informed by the value management approach in MoV (Office of Government Commerce, 2010). We also see a potential for integrating the practices within MoV by applying an increasingly holistic approach to value, benefits, and cost. Subsequently, the diffusion of the integrated value management practices should be strengthened as MoV appears to be less diffused into practice than the other mentioned best practices. *Finally*, in organizations the development and execution of strategy, portfolios, programs, and project management should be changed to incorporate the integrated benefits and costs approach to value. This would suggest that projects should have a strategic link to be funded and a much stronger focus on the front end of projects, ensuring that the portfolio fits the strategy, and that synergies may arise from the collection of projects. Thus, value management and value-centered thinking should be focusing on the management of projects rather than merely project management.

6. Conclusion

The objective of this review was to take stock of project value creation and identify directions for future research on

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project value creation. We position project value creation as a research area that draws on the research fields of benefits management, strategic management, and value management, besides project management. Drawing upon a number of fields presents challenges, especially in terms of differences in wording of benefits, value, performance, and project success, which provided difficulties in creating a coherent and delimited view of the literature. This challenge might also be an indication of the need for an overview of the fields this review aims to offer, but the challenge also implies that potentially some relevant publications on project value creation might have been missed due to the scope of the search.

Conflict of interest statement

The authors have no conflicts of interest.

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Appendix A

The selection criteria for search results to be part of this review are listed in Table 6, first mentioning the inclusion and thereafter the exclusion criteria.

Table 6
Criteria for inclusion and exclusion of publications.

Concepts and contexts	Reason
Inclusion criteria	
Value creation	It is a core concept of this literature review, and we highlight the use of the term in a UK-based network on rethinking project management (e.g., Winter et al., 2006a), where value creation was identified as a potential direction for further research.
Benefits management and benefits realization	The concepts are viewed as synonymous and as dealing with increasing the project value through managing and realizing the potential benefits of a project (e.g., Baccarini and Bateup, 2008; Breese, 2012).
Project success considered broadly	Converting the limited focus of time, cost, and quality to benefits or value correspond to the value creation logic (e.g., Atkinson, 1999; Lim and Mohamed, 1999).
Strategic approach to delivery of value	Impact of organizations due to projects is also considered value that has been created (e.g., Martinsuo et al., 2012; Sánchez et al., 2014).
Project appraisal	Project appraisal was included if framed to have the intention of creating value (e.g., Lopes and Flavell, 1998).
Exclusion criteria	
The absence of project focus or project related research	A project focus is implied for the focus on project value creation. Value creation in non-project activities such as continuous improvement (e.g., Coleman et al., 2013), and the value of non-project related services (e.g., Debande, 2002) are therefore not considered in this study.
Absences of value creation characteristics	Research on applying new ways of doing work more efficiently or new theories without a value creation was excluded, also in fields adjacent to value creation such as program management (Stoshikj et al., 2014), risk management (Arrow, 2008), or portfolio management (Voss, 2012).
Project management optimization and optimization of the project process	Project value is typically not the main focus of such publications, but only a related or indirect concept (e.g., Niebecker et al., 2008).
Project success criteria studies and research on the relation of a given concept to project success	The focus on success factors and mere evaluation, as well as discussions of project success, is unrelated to the key concepts in this paper (e.g., Goparaju, 2012; Wells, 2012).
Focus on the cost dimension of value	This study focuses on the creation of value rather than the optimization of value that often happens in value management (Quartermain, 2002) and cost management (e.g., Mansour, 1994), and considered similarly is earned value management (e.g., Gowan et al., 2006; Townsend et al., 2014).

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