

## **A Customer's Possibilities to Increase the Performance of a Service Provider by Adding Value and Deepening the Partnership in Facility Management Service**

Reliable and good suppliers are an important competitive advantage for a customer and that is why the development of suppliers, improvement of performance and enhancement of customership are also in the interest of the customer. The purpose of this study is to clarify a customer's possibilities to increase the performance of a service provider and to develop the service process in FM services and thus help to improve partnership development. This research is a qualitative research. The research complements the existing generic model of supplier development towards partnership development by customer and clarifies the special features that facility management services bring to this model. The data has been gathered from interviews of customers and service providers in the facility management service sector. The result is a model of customers' possibilities to develop the performance of service providers from the viewpoint of value addition and relationship development and in that way ensure added value to the customer and the development of a long-term relationship. The results can be beneficial to customers when they develop the cooperation between the customer and the service provider toward being more strategic and more partnership focused.

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Contributors: Sillanpää, E., Junnonen, J., Sillanpää, I., Saari, A.

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### **Bibliographical note**

INT=rak,"Sillanpää, Elina"

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## **A Dual Perspective of Value in a Bundle of Product and Service**

Focusing on value creation in marketing has always been the key to success for companies. As a result, the definition, analysis and communication of value has gained importance. Companies are making an attempt to make a value proposition that is not only lucrative for the customer, but also has great returns for the company itself. Although this might sound simple on paper, since it is the basis for business logic, it is much more complicated in real life situations. With the service elements in the offering and the emergence of technologies such as smart and connected phenomenon, the business models become more innovative and more complexity is added to the analysis of value. The objective of this paper is to introduce a method for the dual perspective of value in a bundle of product and service in a smart and connected context. This method draws from the customer value and customer lifetime value concepts to offer an all-inclusive study on value. This assists companies in crafting an appealing value proposition in a cost-saving offering for a client that offers value to the company over its lifetime. This study specifically deals with the state of the arts smart and connected phenomenon and provides a view on how value works in that context. The framework created through this study serves to help the company choose a client that is of most value to the firm over the time of their cooperation. It then leads the company towards a better fabrication of the offering that is not only an attractive proposition to the client but also for the company. It gives a close insight onto where the benefit comes from and how a smart and connected bundle of products, services and relationships must be put together for maximum results in the modern age.

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### Allocating human resources to projects and services in dynamic project environments

**Purpose:** Resource allocation is challenged by dynamic environments where changes are frequent. The purpose of this paper is to identify resource allocation challenges and practices in service units that perform both project and non-project activities in dynamic environments. Its goal is to show that top-down mechanisms of project resource allocation need to be replaced by or supplemented with mechanisms that are more flexible. **Design/methodology/approach:** A qualitative comparative case study was conducted in two service units of two project-based firms. The main source of data consisted of semi-structured interviews with 17 service managers and staff members. **Findings:** This study shows that resource allocation is not necessarily a top-down process at all, and the practices are context-dependent. Two more flexible approaches are revealed – hybrid resource allocation and bottom-up resource allocation – as examples of managing resource allocation in service units that engage in projects under uncertain conditions. The results of the analysis highlight prioritisation and adapting to change and delay as the main issues that managers face in allocating resources to different types of projects and service activities in dynamic environments. **Research limitations/implications:** The two target companies chosen for the qualitative research design limit the analysis to project-based firms in a business-to-business context. Further, the viewpoint of the service unit is central to the study. Studying project resource allocation in different organisational contexts and uncovering the perspectives of product development and delivery units would offer promising directions for future research. **Practical implications:** The study reveals that in dynamic project settings such as service organisations, top-down mechanisms of resource allocation need to be accompanied by other, more flexible approaches to ensure the sufficient resourcing of projects and related services in dynamic environments. Companies need to establish practices for resource allocation changes that are caused by re-prioritising tasks and accommodating changes and delays in their project and service activities. **Originality/value:** Compared to a top-down perspective taken in previous research, the study proposes a more flexible approach for resource allocation in constantly changing environments with different project and service activities. Previous studies have focussed on resource competition between projects, placing project managers in the central role for resource allocation. By contrast, this study discusses hybrid and bottom-up resource allocation, both of which involve broader personnel engagement in resource allocation tasks, drawing on the experience of all employees.

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### A method for anticipating the disruptive nature of digitalization in the machine-building industry

The purpose of this paper is to create a technology foresight method in which the visual analogue scale is used to harness the wisdom of expert crowds, namely, industry experts, in anticipating potential disruptions in an industry. In an empirical demonstration, we investigate experts' views and perceptions of possible future disruption caused by digitalization in an established machine-building industry. We demonstrate the usability of the proposed method in detecting future worldviews of experts grouped by their position in the value chain. The results show polarized responses, with considerable clustering among groups. For example, respondents who were inclined to view digital technologies as disruptive (i.e., as changing the paradigm of value creation in machine-building) also viewed them as related more to service and business models than to products and operation. We discuss the theoretical and practical contributions of the proposed method and suggest fruitful avenues for future research.

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Contributors: Sommarberg, M., Mäkinen, S. J.

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### A methodology supporting syntactic, lexical and semantic clarification of requirements in systems engineering

Product development is a challenging activity. The process begins with a description and representation of a design problem in form of a requirements document. It involves two phases: elicitation by description in Natural Language (NL) and clarification of the description. NL implies interpretation of terms within a context to avoid later misunderstanding. The paper proposes a methodology to elicit and refine the initial needs. The elicitation is done by finding support information from several sources such as patent databases, encyclopaedias and commercial websites. The refinement supported by a

computer-based approach is done on different levels (grammar, words and context selection) to reduce the ambiguity of the requirements descriptions. The initial description is refined by an automatic questioning process. This is followed by an assisted search and selection of answers from different web-based sources. Relevant answers are selected using a similarity metric. A case study is used to demonstrate the approach.

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Contributors: Christophe, F., Mokammel, F., Coatanéa, E., Nguyen, A., Bakhouya, M., Bernard, A.

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Research output: Contribution to journal > Article > Scientific > peer-review

#### **A new governance approach for multi-firm projects: Lessons from Olkiluoto 3 and Flamanville 3 nuclear power plant projects**

We analyze governance in two contemporary nuclear power plant projects: Olkiluoto 3 (Finland) and Flamanville 3 (France). We suggest that in the governance of large multi-firm projects, any of the prevalent governance approaches that rely on market, hierarchy, or hybrid forms, is not adequate as such. This paper opens up avenues towards a novel theory of governance in large projects by adopting a project network view with multiple networked firms within a single project, and by simultaneously going beyond organizational forms that cut across the traditional firm-market dichotomy. Our analysis suggests four changes in the prevailing perspective towards the governance of large projects. First, there should be a shift from viewing multi-firm projects as hierarchical contract organizations to viewing them as supply networks characterized by a complex and networked organizational structure. Second, there should be a shift in the emphasis of the predominant modes of governance, market and hierarchy towards novel governance approaches that emphasize network-level mechanisms such as self-regulation within the project. Third, there should be a shift from viewing projects as temporary endeavors to viewing projects as short-term events or episodes embedded in the long-term sphere of shared history and expected future activities among the involved actors. Fourth, there should be a shift from the prevailing narrow view of a hierarchical project management system towards an open system view of managing in complex and challenging institutional environments.

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Contributors: Ruuska, I., Ahola, T., Artto, K., Locatelli, G., Mancini, M.

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Research output: Contribution to journal › Article › Scientific › peer-review

## Benchmarking construction industry, company and project performance by participants' evaluation

**Purpose:** The construction industry needs effective methods for gathering and utilizing performance information on industry, company and individual project levels. Such benchmarking (BM) information can be collected from project participants' bi-directional evaluations of each other's performance during construction projects. The purpose of this paper is to present the method and discuss the features of a multi-company project evaluation system as a BM tool. Also the accumulated results, based on the extensive BM database in the Finnish construction industry, are investigated.

**Design/methodology/approach:** The web-based project evaluation tool was established in 2007 as a joint research project between the Helsinki University of Technology, construction organizations and main associations widely representing the construction industry in Finland. The evaluation method is based on soft, subjective measures, such as client satisfaction and project participants' satisfaction. The empirical observations of the study are based on over 5,500 evaluations during which the BM system was used in the Finnish construction industry. **Findings:** The use of the evaluation is presented as a multi-level BM tool to evaluate the performance of different discipline groups on project, company and industry levels. The Finnish case shows an example of the industry-level performance BMs of project consultants, main contractors, sub-contractors and architects/designers. The BM categories include project management, staff, collaboration and project goal accomplishment. According to the results, the participants are satisfied with each other's performance. However, main development targets in the Finnish industry are related to risk management and managing design. Also, the development of sub-contractors' selection procedures will contribute to the performance of the industry. **Research limitations/implications:** The industry-level feedback is linked to the Finnish construction industry. Similar studies in other countries would enable international comparisons. **Practical implications:** Client satisfaction and project participants' satisfaction have been identified as one of the key factors affecting project success. With the help of mutual project evaluation, different BMs enable organizations to monitor their performance and to improve their operations in various areas. They also make it possible to position an organization's performance in comparison to the competitors and help to perceive black spots in the process on project level. As a common system for the parties in the industry, the project evaluation BM system promotes quality improvement, customer orientation and collaboration between participants. **Social implications:** Project evaluation between the project participants' enhance collaboration and mutual learning.

**Originality/value:** Multi-company project evaluation is a new and promising topic in performance measurement which holds potential for performance improvement through the utilization of network information and team dynamics. The study presents its wider utility as the basis of national, company and project BM.

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### **Benchmarking supplier development: An empirical case study of validating a framework to improve buyer-supplier relationship**

In today's dynamic business environment, firms are required to utilize efficiently and effectively all the useful resources to gain competitive advantage. Supplier development has evolved as an important strategic instrument to improve buyer supplier relationships. For that reason, this study focuses on providing the strategic significance of supplier development approaches to improve business relationships. By using qualitative research method, an integrated framework of supplier development and buyer-supplier relationship development has been tested and validated in a Finnish case company to provide empirical evidence. It particularly investigates how supplier development approaches can develop buyer-supplier relationships. The study present a set of propositions that identify significant supplier development approaches critical for the development of buyer-supplier relationships and develop a theoretical framework that specifies how these different supplier development approaches support in order to strengthen the relationships. The results are produced from an in-depth case study by implementing the proposed research framework. The findings reveal that supplier development strategies i.e., supplier incentives and direct involvements strongly effect in developing buyer-supplier relationships. Further research may focus on considering indepth investigation of trust and communication factors along with propositions developed in the study to find out general applicability in dynamic business environment. Proposed integrated framework along with propositions is a unique combination of useful solutions for tactical and strategic management's decision making and also valid for academic researchers to develop supplier development theories.

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Keywords: Buyer-supplier relationship, Case study, Strategic competitive advantage, Supplier development, Supplier management, Supply chain management

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Research output: Contribution to journal › Article › Scientific › peer-review

### **Change program management: Toward a capability for managing value-oriented, integrated multi-project change in its context**

Program management has taken its position in project management research and in public and private organizations as a successful method for managing complex, uncertain, and large-scale changes. During the past 25. years, research has evolved from programs as the conceptual extension of projects to a rich field of empirical studies reflecting the special

natures and contexts of change programs and their management, with unique theoretical foundations. To take stock of this recent history, in this article we analyze the patterns of previous empirical studies on change program management and their theoretical foundations. The goal is to identify and summarize proposals to guide forthcoming program management research. The results reveal three main themes of ongoing research: managing over the change program lifecycle, managing programs in their context, and program managers' capabilities. The roots of change program management in organization theories are apparent; structural contingency theory and information processing theories have dominated in previous empirical research, but are clearly being extended to agency, stakeholder, and actor-network theories. New research ideas are proposed for the use of programs in various types of changes, value creation and delivery through change programs, the profiles and capabilities of different actors in program management, the coexistence and interplay of multiple programs, and the complex stakeholder networks involved with change programs. When change becomes more prevalent in the organizations' dynamic contexts, there is an increasing need to develop program management toward an organizational capability for managing value-oriented, integrated, and multi-project change in complex stakeholder contexts.

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Contributors: Martinsuo, M., Hoverfält, P.

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#### **Constructing the market position of a project-based firm**

Project marketing research has shown that project-based firms (PBFs) can favorably differentiate themselves from their competitors by developing a strong functional position and a strong relational position in a specific market milieu. Combined, these two interrelated positions constitute the market position of a project-based firm, and inter-organizational relationships (IORs) between a PBF and other actors in the milieu play an important role in its development. Active development of IORs to key actors simultaneously increases the effectiveness of the focal PBF in delivering solutions to its customers (functional position) and simultaneously enables it to occupy a stronger position in the milieu linking it to its customers (relational position). We present evidence from an empirical case focusing on how an automation system supplier gradually constructed a strong market position in the Russian oil and gas industry.

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Contributors: Ahola, T., Kujala, J., Laaksonen, T., Aaltonen, K.

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Research output: Contribution to journal > Article > Scientific > peer-review

### **Enhancing the supplier's non-contractual project relationships with designers**

Project delivery involves networks of customers, contractors, sub-contractors, suppliers, and designers. Strong interorganizational relationships are considered relevant to project performance. Previous research has focused on contractual relationships in direct supply chains, with little attention to suppliers and their non-contractual relationships. This study develops and tests a framework of relationship strength and its antecedents in the non-contractual relationship between suppliers and designers as third parties in construction projects. The intent is to identify the key factors relevant to enhancing the supplier's non-contractual relationships with designers. The results reveal the supplier's activeness and technical capability as antecedents to trust, and supplier's technical capability and supplier-designer cooperation beyond project boundaries as antecedents to commitment. The different antecedents of trust and commitment imply alternative pathways for strengthening non-contractual relationships in construction projects, thereby deviating from activities in contractual relationships. Further research is proposed on other types of third parties and other antecedents of commitment.

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### **Firms' knowledge profiles: Mapping patent data with unsupervised learning**

Patent data has been an obvious choice for analysis leading to strategic technology intelligence, yet, the recent proliferation of machine learning text analysis methods is changing the status of traditional patent data analysis methods and approaches. This article discusses the benefits and constraints of machine learning approaches in industry level patent analysis, and to this end offers a demonstration of unsupervised learning based analysis of the leading telecommunication firms between 2001 and 2014 based on about 160,000 USPTO full-text patents. Data were classified using full-text descriptions with Latent Dirichlet Allocation, and latent patterns emerging through the unsupervised learning process were modelled by company and year to create an overall view of patenting within the industry, and to forecast future trends. Our results demonstrate company-specific differences in their knowledge profiles, as well as show the evolution of the knowledge profiles of industry leaders from hardware to software focussed technology strategies. The results cast also light on the dynamics of emerging and declining knowledge areas in the telecommunication industry. Our results prompt a consideration of the current status of established approaches to patent landscaping, such as key-word or technology classifications and other approaches relying on semantic labelling, in the context of novel machine learning approaches. Finally, we discuss implications for policy makers, and, in particular, for strategic management in firms.

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Contributors: Suominen, A., Toivanen, H., Seppänen, M.

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### **From the front end of projects to the back end of operations: Managing projects for value creation throughout the system lifecycle**

Morris (2013) calls for value creation for project stakeholders using project outcomes. This is an attempt to link the front end of the system lifecycle - the project phase - to the back end, i.e. the operations phase. Little is however known about how value creation occurs through developing project outcomes which have the capacity to continue value-creating activities even decades after a project is completed. We establish that projects are multi-organizational systems which transit from the project phase to the operations phase in system lifecycles, and we use the systems view to analyze value creation mechanisms within the system lifecycle. We carry out empirical research into the lifecycle of a shopping center. Four distinct value-enhancing integration mechanisms in the operations of this multi-organizational system are identified, and propositions for four new project management approaches that create value during the project and have long-term value-enhancing impacts in the operations phase are derived.

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Keywords: Integration, Management of projects, Operations phase, Project phase, System lifecycle, Value creation

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Research output: Contribution to journal › Article › Scientific › peer-review

### Going downstream in a project-based firm: Integration of distributors in the delivery of complex systems

Research on the integration of different actors in project business has centered on the upstream value chain and a project-based firm's relationship with suppliers. The downstream delivery chain also includes an integration challenge as some project-based firms use distributors to sell and deliver systems. The purpose of this paper is to highlight the importance of integrating with distributors in the delivery of complex systems. A qualitative case study was conducted in one project-based firm. Different distributor capabilities were identified and grouped into business, relational, marketing, and delivery capabilities. Different integration mechanisms were mapped at business and project levels, and divided into control-, cooperation-, and development-oriented mechanisms. The findings show that distributor capabilities related to complex system delivery develop through repetitive collaboration across projects. The stable position of distributors in the downstream value chain facilitate the use of integration mechanisms at the business level and development-oriented integration approach at the project level.

### General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Industrial and Information Management, Research group: Center for Research on Operations Projects and Services, Research group: Center for Research on Project and Service Business (CROPS)

Contributors: Momeni, K., Martinsuo, M.

Number of pages: 16

Pages: 27-42

Publication date: 2019

Peer-reviewed: Yes

Early online date: 2018

### Publication information

Journal: International Journal of Project Management

Volume: 37

Issue number: 1

ISSN (Print): 0263-7863

Ratings:

Scopus rating (2019): CiteScore 13 SJR 2.659 SNIP 3.561

Original language: English

ASJC Scopus subject areas: Business and International Management, Management of Technology and Innovation

Keywords: Capabilities, Distributor integration, Distributors, System seller

DOIs:

10.1016/j.ijproman.2018.09.007

URLs:

<http://urn.fi/URN:NBN:fi:tuni-201911296436>. Embargo ends: 1/11/21

Source: Scopus

Source ID: 85055747683

Research output: Contribution to journal › Article › Scientific › peer-review

### **Governmental stakeholder and project owner's views on the regulative framework in nuclear projects**

This article aims at increasing the understanding of a specific type of stakeholder, namely governmental stakeholders who have significant influence over projects and base their influence on a regulative framework. Various parties in nuclear projects create their own interpretations of the framework. To understand why there are differences in these interpretations, we used three institutional elements: (1) laws and rules, (2) practices, and (3) values for analysis. This article uses interview data from a nuclear industry governmental stakeholder and a project owner. The results show that interpretations are not always coherent, and the incoherencies are clearest in the practice element.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Managing digital industrial transformation (mDIT), Aalto University

Contributors: Sallinen, L., Ahola, T., Ruuska, I.

Number of pages: 15

Pages: 33-47

Publication date: Dec 2011

Peer-reviewed: Yes

#### **Publication information**

Journal: Project Management Journal

Volume: 42

Issue number: 6

ISSN (Print): 8756-9728

Ratings:

Scopus rating (2011): CiteScore 0.4 SJR 0.22 SNIP 0.667

Original language: English

ASJC Scopus subject areas: Business and International Management, Management of Technology and Innovation, Strategy and Management

Keywords: governmental stakeholder, institutional theory, nuclear project, project owner, regulative framework

DOIs:

10.1002/pmj.20270

URLs:

<http://www.scopus.com/inward/record.url?scp=81755187185&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 81755187185

Research output: Contribution to journal > Article > Scientific > peer-review

### **How governmental stakeholders influence large projects: the case of nuclear power plant projects**

**Purpose**The purpose of this paper is to increase understanding on stakeholder influence in large projects, using nuclear power plant projects and a governmental stakeholder that influences them as the empirical example. The authors focus on examining the means used by the stakeholder to influence the projects. **Design/methodology/approach**This paper adopts the descriptive single case study approach, using data from 18 semi-structured interviews. The authors interviewed experts at a governmental stakeholder organization, but in order to gain insight from outside the governmental stakeholder, they also interviewed two other organizations: an energy company, and the highest administrative ministry in the nuclear industry. **Findings**The governmental stakeholder bases its influence on regulations and laws. This paper points out the distinct means that are used by the governmental stakeholder to influence nuclear projects: means that restrain, and also means that enable and advance projects. Both types of means are used at the same time. Enabling means include, among others, allowing projects and firms to contribute to the very same regulations that control the projects. **Originality/value**Much of the earlier research emphasizes government influence as negative to projects, but this paper shows an example of a stakeholder whose influence also includes aspects that are beneficial for projects. The governmental stakeholder can also be understood as a stakeholder that combines two stakes: its own legal stake, and society's moral stake. In carrying society's stake in projects, the governmental stakeholder acts as an intermediary.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Managing digital industrial transformation (mDIT), Aalto University

Contributors: Sallinen, L., Ruuska, I., Ahola, T.

Number of pages: 18

Pages: 51-68

Publication date: 18 Jan 2013

Peer-reviewed: Yes

### Publication information

Journal: International Journal of Managing Projects in Business

Volume: 6

Issue number: 1

ISSN (Print): 1753-8378

Ratings:

Scopus rating (2013): CiteScore 2 SJR 0.27 SNIP 0.522

Original language: English

ASJC Scopus subject areas: Business and International Management, Management of Technology and Innovation, Strategy and Management

Keywords: Finland, Governmental stakeholder, Influence, Large projects, Means of influence, Nuclear energy industry, Project management, Stakeholder influence, Stakeholders

DOIs:

10.1108/17538371311291026

URLs:

<http://www.scopus.com/inward/record.url?scp=84944458307&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84944458307

Research output: Contribution to journal › Article › Scientific › peer-review

### Industrial buyers' use of references, word-of-mouth and reputation in complex buying situation

**Purpose:** The aim of this paper is to provide understanding on how the buyer can mobilize experience-based information scattered around the business network, by means of customer references, word-of-mouth and reputation, and how this facilitates the buying process. **Design/methodology/approach:** The qualitative study scrutinizes eight cases comprising buyers of knowledge intensive services and technology innovations. The paper draws on the literature on buying and purchasing, customer references, word-of-mouth and reputational information. **Findings:** The findings identify the different roles of references, word-of-mouth, collegial advice networks, and reputation, and suggest that experience-based information provides information on offerings, suppliers and the problem solving situation in complex buying per se. **Research limitations/implications:** The article's contribution is to provide a framework depicting the employment of experience-based information in complex buying, which ensues through focal and continuous buying processes. Insights from this research are broadly applicable to the contexts of knowledge intensive, innovation and solutions business. Further qualitative research should aim to form constructs and define their interrelations to be tested in subsequent quantitative research. **Originality/value:** This study generates new understanding on how buyers gather and use experience-based information to solve complex problems in buying. It contributes by merging references, word-of-mouth, collegial social networks, and reputation as sources of experience-based information, identifying information embedded in those means, and exploring how the information and means are used throughout the complex buying situation.

### General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Managing digital industrial transformation (mDIT), Turun Kauppakorkeakoulu, University of Turku

Contributors: Aarikka-Stenroos, L., Makkonen, H. S.

Number of pages: 9

Pages: 344-352

Publication date: 2014

Peer-reviewed: Yes

### Publication information

Journal: Journal of Business and Industrial Marketing

Volume: 29

Issue number: 4

ISSN (Print): 0885-8624

Ratings:

Scopus rating (2014): CiteScore 2.2 SJR 0.574 SNIP 0.835

Original language: English

ASJC Scopus subject areas: Business and International Management, Marketing

Keywords: Business-to-business marketing, Buying behaviour, Case studies

DOIs:

10.1108/JBIM-08-2013-0164

URLs:

<http://www.scopus.com/inward/record.url?scp=84898974198&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84898974198

Research output: Contribution to journal › Article › Scientific › peer-review

### **Insights for the governance of large projects: Analysis of Organization Theory and Project Management: Administering Uncertainty in Norwegian Offshore Oil by Stinchcombe and Heimer**

**Purpose**The purpose of this paper is to scrutinize the influence of the highly cited Organization Theory and Project Management on consequent project research and to highlight the key contributions of the book, how it has affected consequent project research and to identify areas that could be further explored in future research.

**Design/methodology/approach**The paper takes the form of a book review and literature analysis. **Findings**It is found that the book offers insights to elaborating the salient characteristics of large, complex and uncertain projects. It identifies the underlying theories and concepts to improve our understanding of the three main issues: the sources of uncertainty in large engineering intensive projects; management and governance approaches utilized to tackle uncertainty; and project routines and innovation. Some of these insights have later been acknowledged by project scholars focusing topics such as project governance and the management of uncertainty in projects. **Practical implications**The book offers several insights and lessons to scholars and practitioners working with large engineering intensive projects. **Originality/value**The contribution of the book is not used to its full potential in project research. The paper's identification of the book's key insights should be useful for both scholars and practitioners.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Managing digital industrial transformation (mDIT), School of Science, Aalto University, Imperial College, London, 24.8.2012

Contributors: Ahola, T., Davies, A.

Number of pages: 19

Pages: 661-679

Publication date: 7 Sep 2012

Peer-reviewed: Yes

#### **Publication information**

Journal: International Journal of Managing Projects in Business

Volume: 5

Issue number: 4

ISSN (Print): 1753-8378

Ratings:

Scopus rating (2012): CiteScore 2.4 SJR 0.368 SNIP 0.744

Original language: English

ASJC Scopus subject areas: Business and International Management, Management of Technology and Innovation, Strategy and Management

Keywords: Governance, Offshore, Oil industry, Project governance, Project management, Uncertainty management

DOIs:

10.1108/17538371211268979

URLs:

<http://www.scopus.com/inward/record.url?scp=84955155685&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84955155685

Research output: Contribution to journal › Article › Scientific › peer-review

### **Integrating services into solution offerings in the sales work of project-based firms**

Project marketing and sales are the key activities at the front-end of solution delivery projects. Effective sales are a prerequisite for successful solution delivery in project-based firms, but little is known about the requirements for sales practices, particularly when the firm integrates services into solution offerings. The purposes of this study are to explore the integration of services into the sales of solutions and identify the needs and practices of service-related sales in project-based firms. The implications of integrating services into the solution offering are discussed based on a qualitative interview-based case study in two engineering industry firms. The findings suggest the use of business-level integration practices to facilitate the integration of sales and services at the project level. The results also indicate the importance of cooperation-oriented practices during a project in both interpersonal and group collaboration. The findings highlight the role of integrative people to manage collaboration and information flows at the front-end of projects. The findings contribute to the evidence on the requirements of sales work in integrating services with solutions by showing the complementarity of system and cross-functional integration in service-related solution selling as well as the work of integrative people in overcoming problems arising from the increased solution orientation in project-based firms.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Industrial Engineering and Management, Research group: Center for Research on Project and Service Business (CROPS)

Contributors: Momeni, K., Martinsuo, M.  
Number of pages: 12  
Pages: 956-967  
Publication date: 1 Nov 2019  
Peer-reviewed: Yes

#### Publication information

Journal: International Journal of Project Management  
Volume: 37  
Issue number: 8  
ISSN (Print): 0263-7863  
Ratings:

Scopus rating (2019): CiteScore 13 SJR 2.659 SNIP 3.561

Original language: English

ASJC Scopus subject areas: Business and International Management, Management of Technology and Innovation

Keywords: Project business, Project sales, Project-based firm, Solution selling

DOIs:

10.1016/j.ijproman.2019.09.004

Source: Scopus

Source ID: 85074448205

Research output: Contribution to journal › Article › Scientific › peer-review

#### Knowledge Management for Open Innovation: Comparing Research Results Between SMEs and Large Companies

Knowledge co-creation and effective knowledge sharing boost innovativeness in companies. However, rapidly developing technologies and constant changes in the business environment challenge the companies' practices for knowledge management (KM). The purpose of this paper is to compare the key KM practices and their effect on open innovation between the small-and medium-sized companies (SMEs) and the large companies, and as empirical focus, comparing them through quantitative survey and complementary qualitative interviews. The results indicate that large companies are more externally open to innovate than SMEs and the large companies also value open dialog and knowledge sharing more. Whereas, SMEs seem to rely more on developing their internal practices to support innovativeness. In the both company sizes technology is used rather poorly to support access to open data and networks. The identified factors provide insights for developing KM practices that support open innovation in varying sizes of companies.

#### General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Industrial and Information Management, Research group: Business Ecosystems, Networks and Innovations

Contributors: Väyrynen, H., Helander, N., Vasell, T.

Publication date: 1 Jun 2017

Peer-reviewed: Yes

#### Publication information

Journal: International Journal of Innovation Management

Volume: 21

Issue number: 5

Article number: 1740004

ISSN (Print): 1363-9196

Ratings:

Scopus rating (2017): CiteScore 1.3 SJR 0.341 SNIP 0.577

Original language: English

ASJC Scopus subject areas: Business and International Management, Strategy and Management, Management of Technology and Innovation

Keywords: innovation, Knowledge management, large companies, network, openness, small and medium-sized enterprises

DOIs:

10.1142/S1363919617400047

Source: Scopus

Source ID: 85020720005

Research output: Contribution to journal › Article › Scientific › peer-review

#### Lifecycle view of managing different changes in projects

Purpose: A project contractor can promote the success of a delivery project by planning the project well and following a project management methodology (PMM). However, various changes typically take place, requiring changes to the project plan and actions that deviate from the firm's established PMM. The purpose of this paper is to explore different types of changes and change management activities over the lifecycle of delivery projects. Design/methodology/approach: A

qualitative single case study design was used. In total, 17 semi-structured interviews were carried out during a delivery project in a medium-sized engineering company that delivers complex systems to industrial customers. Findings: Both plan-related changes and deviations from the PMM were mapped throughout the project lifecycle. Various internal and external sources of change were identified. An illustrative example of the interconnectedness of the changes reveals the potential escalation of changes over the project lifecycle. Managers and project personnel engage in different change management activities and improvisation to create alternative paths, re-plan, catch up, and optimize project performance after changes. Research limitations/implications: The empirical study is limited to a single case study setting and a single industry. The findings draw attention to the interconnectedness and potential escalation effect of changes over the lifecycle of the project, and the need for integrated change management and improvisation actions. Practical implications: Efficient change management and improvisation at the early phase of a delivery project can potentially mitigate negative change incidents in later project phases. Changes are not only the project manager's concern; project personnel's skilled change responses are also helpful. The findings emphasize the importance of the project customer as a source of changes in delivery projects, meaning that customer relationship management throughout the project lifecycle is needed for successful change management. Originality/value: The study offers increased understanding of changes and change management throughout the project lifecycle. The results show evidence of plan-related and methodology-related changes and their interconnections, thereby proposing a lifecycle view of integrated change management and improvisation in projects.

### General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Research group: Center for Research on Project and Service Business (CROPS), Industrial and Information Management, Research group: Center for Research on Operations Projects and Services

Contributors: Vuorinen, L., Martinsuo, M. M.

Pages: 120-143

Publication date: May 2019

Peer-reviewed: Yes

Early online date: 6 Jul 2018

### Publication information

Journal: International Journal of Managing Projects in Business

Volume: 12

Issue number: 1

ISSN (Print): 1753-8378

Ratings:

Scopus rating (2019): CiteScore 3.2 SJR 0.835 SNIP 1.419

Original language: English

ASJC Scopus subject areas: Business and International Management, Strategy and Management

Keywords: Change management, Improvisation

Electronic versions:

Lifecycle view of managing different changes in projects 2019

DOIs:

10.1108/IJMPB-11-2017-0135

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202001271576>

Source: Scopus

Source ID: 85049600067

Research output: Contribution to journal > Article > Scientific > peer-review

### Management of project portfolios: Relationships of project portfolios with their contexts

Firms create and manage project portfolios to implement and renew their strategies. With the dominant contingency theory view, studies have primarily focused on project portfolios and their internal management whilst acknowledging that different practices are needed in different contexts. A strategic view of managing project portfolios, however, requires adopting a stronger external orientation, both within and outside of the firm. In this paper, we call for research on the management of project portfolios. We investigate the relationship between project portfolios and their context based on four theoretical alternatives: institutional theory, stakeholder theory, resource dependence theory, and sensemaking theory. The results offer explanations to the mechanisms connecting project portfolios with their context, call for a reformulation of portfolio success, and propose a new research agenda to revitalize the study of managing project portfolios in their contexts.

### General information

Publication status: E-pub ahead of print

MoE publication type: A1 Journal article-refereed

Organisations: Industrial Engineering and Management, Copenhagen Business School

Contributors: Martinsuo, M., Geraldi, J.

Publication date: 13 Mar 2020

Peer-reviewed: Yes

### Publication information

Journal: International Journal of Project Management

ISSN (Print): 0263-7863

Original language: English

ASJC Scopus subject areas: Business and International Management, Management of Technology and Innovation

Keywords: External context, Project portfolio, Project portfolio management, Strategy, Theory

DOIs:

10.1016/j.ijproman.2020.02.002

Source: Scopus

Source ID: 85081911765

Research output: Contribution to journal > Article > Scientific > peer-review

### Manufacturing relocation abroad and back: empirical evidence from the Nordic countries

Businesses have increasingly engaged in various forms of cross-border transfers of activities. Much production, knowledge and work has been moved offshore from developed economies to achieve better competitiveness. However, recent research has begun to report about an opposite movement, i.e., backshoring of business activities. This research paper reports empirical survey results, exploring and explaining manufacturing relocation from and to three Nordic countries. The purpose was to investigate manufacturing firms' practices of pursuing different manufacturing globalisation strategies in terms of why, what types of companies, and where questions, and in the context of manufacturing relocation activities originating from Denmark, Finland, and Sweden. Both offshoring and backshoring of manufacturing are also analysed from the perspective of changes in ownership, i.e., the extent to which outsourcing or insourcing are related to manufacturing relocation.

### General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Industrial and Information Management, Lund University, Department of Industrial Management and Logistics, University of Southern Denmark, Entrepreneurship and Relationship Management

Contributors: Heikkilä, J., Nenonen, S., Olhager, J., Stenoft, J.

Number of pages: 20

Pages: 221-240

Publication date: 2018

Peer-reviewed: Yes

### Publication information

Journal: WORLD REVIEW OF INTERMODAL TRANSPORTATION RESEARCH

Volume: 7

Issue number: 3

ISSN (Print): 1749-4729

Ratings:

Scopus rating (2018): CiteScore 0.6 SJR 0.17 SNIP 0.545

Original language: English

ASJC Scopus subject areas: Business and International Management, Decision Sciences (miscellaneous)

Keywords: manufacturing; offshoring; outsourcing; backshoring; insourcing; reshoring; relocation; rightshoring; survey; Nordic countries; production

Electronic versions:

WRITR Final page proofs. Embargo ended: 13/07/19

DOIs:

10.1504/WRITR.2018.093563

URLs:

<http://urn.fi/URN:NBN:fi:ty-201808062050>. Embargo ended: 13/07/19

Research output: Contribution to journal > Article > Scientific > peer-review

### Modelling structure of customer satisfaction with construction

**Purpose** – The purpose of this paper is to build a tested model and framework for describing the structure and factors influencing customer satisfaction in the construction industry. **Design/methodology/approach** – The paper introduces a structural equation model illustrating the interdependencies of the factors influencing customer satisfaction. Data for the model are based on 831 assessments obtained from project customers with regard to the successfulness of the project. **Findings** – The results show that customer satisfaction in construction is a complex phenomenon in which various factors have a different impact on the quality as perceived by the customer. Management and factors related to skills have a different impact on the factors describing the end result and methods of the project. According to this study, the contractor's ability to cooperate is divided into two directions: managing changes and communication. The result



emphasises the significance of communication in project production. In order to improve their level of service, the contractors should focus on developing and improving their central processes. With regard to customer satisfaction, this stresses the significance of the entire selection of services and products the contractor offers. Originality/value – Customer satisfaction has become a significant tool for measuring performance alongside the traditional, harder measurement tools. Although the demands of customer-orientation and customer satisfaction have been acknowledged in the field, little attention has been paid to development of customer satisfaction and the factors involved.

#### **General information**

Publication status: Published  
MoE publication type: A1 Journal article-refereed  
Organisations: Aalto University  
Contributors: Kärnä, S., Junnonen, J. M., Sorvala, V. M.  
Number of pages: 17  
Pages: 111-127  
Publication date: 1 May 2009  
Peer-reviewed: Yes

#### **Publication information**

Journal: Journal of Facilities Management  
Volume: 7  
Issue number: 2  
ISSN (Print): 1472-5967  
Ratings:  
Scopus rating (2009): SJR 0.34 SNIP 0.862  
Original language: English  
ASJC Scopus subject areas: Business and International Management, Strategy and Management, Management of Technology and Innovation  
Keywords: Construction industry, Customer relations, Customer satisfaction, Customer services quality, Performance measures  
DOIs:  
10.1108/14725960910952505  
Source: Scopus  
Source ID: 85015512355  
Research output: [Contribution to journal](#) > [Article](#) > [Scientific](#) > [peer-review](#)

#### **Network level knowledge sharing: Leveraging Riege's model of knowledge barriers**

This paper identifies the key knowledge barriers typical for inter-organisational relationships and networks. Riege's well-known model of knowledge barriers classifies barriers as individual, organisational and technological level hindrances, but leaves out the network level in particular. Based on a review of the top five knowledge management journals, this paper leverages Riege's model to apply it at the network level. The added network-level barriers are geographical distance, cognitive proximity, strength of relationship and lack of intermediary. The literature review also revealed knowledge-specific barriers, i.e., ambiguity, complexity, stickiness, tacitness and knowledge protection, as the critical knowledge barriers in inter-organisational co-operations. By revealing the typical knowledge barriers at the network level, this paper develops knowledge management practices for networks. Managers responsible for network development and management in general need such practices, as knowledge sharing has been recognised as a key source of competitiveness and simultaneously one of the main challenges faced in networks.

#### **General information**

Publication status: Published  
MoE publication type: A1 Journal article-refereed  
Organisations: Industrial and Information Management  
Contributors: Vuori, V., Helander, N., Mäenpää, S.  
Publication date: 2019  
Peer-reviewed: Yes  
Early online date: 28 Dec 2018

#### **Publication information**

Journal: Knowledge Management Research and Practice  
ISSN (Print): 1477-8238  
Ratings:  
Scopus rating (2019): CiteScore 3.6 SJR 0.462 SNIP 1.063  
Original language: English  
ASJC Scopus subject areas: Management Information Systems, Business and International Management, Library and Information Sciences, Management of Technology and Innovation  
Keywords: inter-organisational, knowledge barriers, knowledge management, Knowledge sharing, networks

Electronic versions:

Network level knowledge sharing. Embargo ended: 28/12/19

DOIs:

10.1080/14778238.2018.1557999

URLs:

<http://urn.fi/URN:NBN:fi:tuni-201910033683>. Embargo ended: 28/12/19

Source: Scopus

Source ID: 85059334911

Research output: [Contribution to journal](#) > [Article](#) > [Scientific](#) > [peer-review](#)

### **Network visualisations of knowledge assets: Their value and user experiences for innovation development**

This paper explores the value of network visualisations for presenting complex knowledge assets to executive decision-makers in order to develop culturally relevant insights for programme development. The value is first addressed with an analysis of network visualisation process called 'Ostinato', an operational context in relation to cognitive fit as a theoretical context. Then, value is explored with an analysis using taxonomy of interactive dynamics for visual analytics. Furthermore, evaluating the usability of visualisation is conducted in the context of the Parisian ecosystem, with board members using network visualisations to explore complex multi-layered knowledge about relationships among key executives, companies and financing organisations. All findings support the argument that value of knowledge assets in problem-solving performance depends on both format of the data and nature of the task. Furthermore, the findings support the importance of continual involvement and interaction between data analysts and decision-makers; they highlight the importance of considering knowledge assets as value drivers that can support knowledge-based innovation.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Industrial and Information Management, mediaX and H\*STAR Stanford University Stanford, VTT Technical Research Centre of Finland

Contributors: Russell, M. G., Still, K., Huhtamäki, J.

Number of pages: 22

Pages: 221-242

Publication date: 2017

Peer-reviewed: Yes

#### **Publication information**

Journal: International Journal of Management and Enterprise Development

Volume: 16

Issue number: 3

ISSN (Print): 1468-4330

Ratings:

Scopus rating (2017): CiteScore 0.7 SJR 0.164 SNIP 0.281

Original language: English

ASJC Scopus subject areas: Business and International Management, Management Science and Operations Research

Keywords: Ecosystem, Innovation development, Network visualisation, User experience, Visual analysis tool, Visual analytics

Electronic versions:

Post-print

DOIs:

10.1504/IJMED.2017.085053

URLs:

<http://urn.fi/URN:NBN:fi:tty-201712222492>

Source: Scopus

Source ID: 85024102416

Research output: [Contribution to journal](#) > [Article](#) > [Scientific](#) > [peer-review](#)

### **Nordic workplace concept development from office as a city to city as an office**

Purpose: The purpose of this paper is to describe, discuss and analyze forerunner cases from three different decades in workplace concept development in Sweden and Finland and discuss the transformation over time to better facilitate management of office development and disseminate Nordic experiences. Design/methodology/approach: The reflecting paper is discussing the development of workplace concepts. It is based on case studies collected from 1980s to the new millennium. The reflection is based on the perspective of Nordic culture. The characteristics of the Nordic culture used in the paper are low power distance and individualism. Findings: The evolution from "office as a city" to "city as an office" has taken place in both countries and Nordic cultural values have provided fruitful platform for them. However, the layer of organizational culture in the studied workplaces also has an impact on the development and implication of the concepts. Research limitations/implications: The selection of case studies is limited to two Nordic countries only. The comparison of

all five Nordic countries could increase the understanding of Nordic culture and similarities and differences between the countries. The study could be deepened by a more thorough literature review including not only Nordic but also European cases. Practical implications: The dilemma of management when designing workspaces for the changing world is in that individuals increasingly choose where to work, when, with whom and how. Facilitating that freedom of choice is a balancing act in modern workspace design where people is a scarcer resource than space. It requires an active management that sees their facilities as a part of their system not as a costly box top put it in. Social implications: Easy access seems to be the key to the workspace of the future when decision power shifts from organizations to individuals. Simultaneously, individuals need to take more and more responsibility and action to get their job done: the cases illustrate how this has been done and that the integration and interaction between office concepts and office work will need to be on business agendas. Originality/value: The perspective of Nordic workplace concept development from 1980s provide the material for future development, without an understanding of the past one cannot understand the future.

#### **General information**

Publication status: Published  
MoE publication type: A1 Journal article-refereed  
Organisations: Civil Engineering, Chalmers University of Technology  
Contributors: Nenonen, S. P., Lindahl, G.  
Number of pages: 15  
Pages: 302-316  
Publication date: 2017  
Peer-reviewed: Yes

#### **Publication information**

Journal: Journal of Facilities Management  
Volume: 15  
Issue number: 3  
ISSN (Print): 1472-5967  
Ratings:  
Scopus rating (2017): CiteScore 1.8 SJR 0.33 SNIP 0.809  
Original language: English  
ASJC Scopus subject areas: Strategy and Management, Management of Technology and Innovation, Business and International Management  
Keywords: Coworking, Culture, Forerunner, Nordic, Workplace concepts, Workplace management  
DOIs:  
10.1108/JFM-10-2016-0043  
Source: Scopus  
Source ID: 85023613767  
Research output: Contribution to journal › Article › Scientific › peer-review

#### **Offshoring versus backshoring: Empirically derived bundles of relocation drivers, and their relationship with benefits**

This paper describes an empirically derived classification of the various factors that influence offshoring and backshoring decisions based on data from 275 offshoring and 160 backshoring projects. The study developed one set of factor bundles for offshoring and another set of such bundles for backshoring; these sets were then compared, and their relationships with post-relocation benefits were analyzed. These benefits were also grouped into bundles based on the empirical relationships. This research contributes an empirically derived classification scheme of decision factors for both offshoring and backshoring as well as an analysis of the relationships between decision factors and benefits for each type of relocation direction.

#### **General information**

Publication status: Published  
MoE publication type: A1 Journal article-refereed  
Organisations: Industrial and Information Management, Research group: Operations and Supply Chain Group (OSCG), Lund University, Department of Industrial Management and Logistics, University of Southern Denmark, Entrepreneurship and Relationship Management  
Contributors: Johansson, M., Olhager, J., Heikkilä, J., Stentoft, J.  
Number of pages: 9  
Publication date: Jun 2019  
Peer-reviewed: Yes  
Early online date: 2018

#### **Publication information**

Journal: Journal of Purchasing & Supply Management  
Volume: 25  
Issue number: 3  
ISSN (Print): 1478-4092

Ratings:

Scopus rating (2019): CiteScore 6.4 SJR 1.473 SNIP 1.885

Original language: English

ASJC Scopus subject areas: Business and International Management, Decision Sciences (miscellaneous)

Keywords: Decision-making, Empirical research, Manufacturing relocation, Rightshoring, Survey

DOIs:

10.1016/j.pursup.2018.07.003

Research output: Contribution to journal › Article › Scientific › peer-review

### **Organisational hybridity and fluidity: deriving new strategies for dynamic knowledge management**

This article discusses the dynamics of knowledge management in the specific contexts of hybridity and organisational fluidity. The aim is to recognise areas in which knowledge management theory and practice need to be rethought and subsequently develop a new kind of strategic thinking. The article argues that dominant knowledge management approaches see and analyse the world from the perspective of an individual organisation, which hinders the development of new approaches. We consider that knowledge-based value creation takes place “betwixt and between” organisations and that we need new ways of conceptualising the phenomenon. Hence, we suggest that hybridity-oriented and individualistic knowledge strategies serve as mental models that could broaden the scope of knowledge management by offering a new type of interpretation framework for understanding and analysing how knowledge can be turned into value.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Information and Knowledge Management, Research group: Business Data Research Group, University of Eastern Finland

Contributors: Laihonon, H., Huhtamäki, J.

Number of pages: 13

Publication date: 2020

Peer-reviewed: Yes

#### **Publication information**

Journal: Knowledge Management Research and Practice

ISSN (Print): 1477-8238

Original language: English

ASJC Scopus subject areas: Management Information Systems, Business and International Management, Library and Information Sciences, Management of Technology and Innovation

Keywords: institutional logics, knowledge strategy, organisational fluidity, Organisational hybridity

Electronic versions:

Organisational hybridity and fluidity 2020

DOIs:

10.1080/14778238.2020.1794993

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202008216586>

Source: Scopus

Source ID: 85088863622

Research output: Contribution to journal › Article › Scientific › peer-review

### **Practical difficulties encountered in attempting to implement a partnering approach**

Purpose – The purpose of this paper is to present practical difficulties in attempting to implement a partnering approach. Design/methodology/approach – The paper comprises empirical evidence from case studies in Norway and Canada and an extensive literature review on partnering. Findings – The authors identified a lack of shared understanding of key partnering concepts, missing initial effort to establish shared ground rules, communication difficulties in inter-organizational relationships and unclear (perceived) roles and responsibilities. In existing partnering literature, a large number of construction studies have identified conceptual partnering models. However, studies that describe partnering models to take these practical difficulties into account have not been found and the paper develops a practical model that outlines the phases of a typical partnering effort. Research limitations/implications – Partnering has both a legal/contractual side and a management/collaboration side. This paper looks at the management and collaboration aspects of partnering only. Practical implications – The paper will be a very useful source of information and advice for project managers who are attempting to implement partnering in projects. Originality/value – The paper presents organizational challenges and difficulties in attempting to implement partnering and a practical model which takes these difficulties into account.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Managing digital industrial transformation (mDIT), Norwegian Univ. of Sci. and Technol., Project Business Research Group, Aalto University, University of Calgary

Contributors: Aarseth, W., Andersen, B., Ahola, T., Jergeas, G.  
Number of pages: 19  
Pages: 266-284  
Publication date: 30 Mar 2012  
Peer-reviewed: Yes

#### Publication information

Journal: International Journal of Managing Projects in Business

Volume: 5

Issue number: 2

ISSN (Print): 1753-8378

Ratings:

Scopus rating (2012): CiteScore 2.4 SJR 0.368 SNIP 0.744

Original language: English

ASJC Scopus subject areas: Business and International Management, Management of Technology and Innovation, Strategy and Management

Keywords: Canada, Collaboration in projects, Conflict management, Norway, Organizations, Partnering model, Partnership, Project management, Stakeholder management, Stakeholders

DOIs:

10.1108/17538371211214941

URLs:

<http://www.scopus.com/inward/record.url?scp=84889561768&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84889561768

Research output: Contribution to journal > Article > Scientific > peer-review

#### Program integration in multi-project change programs: agency in integration practice

Multi-project change programs pursue challenging goals and may suffer from uncertainty and conflicting interests. To achieve their goals, such programs need integration both with the parent organization and between projects. There is a need for knowledge on how program actors implement integration. This study pursues new knowledge on program actors' agency in program integration in the context of multi-project change programs. Two case programs in different contexts were explored, to map their integration mechanisms and program actors' integration activities during the program lifecycle. The results reveal five integration tasks, the program-specific use of integration mechanisms, differences in the integration approach between the two programs, and the parent organization's input at the program front end in defining the program's requisite autonomy. The organization's maturity in project-based organizing, the program and project managers' competence, and the autonomy enabled at the program front end are shown to define the programs' integration practice.

#### General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Industrial and Information Management, Research group: Center for Research on Operations Projects and Services

Contributors: Vuorinen, L., Martinsuo, M.

Number of pages: 17

Pages: 583-599

Publication date: 1 May 2018

Peer-reviewed: Yes

#### Publication information

Journal: International Journal of Project Management

Volume: 36

Issue number: 4

ISSN (Print): 0263-7863

Ratings:

Scopus rating (2018): CiteScore 10.9 SJR 2.203 SNIP 2.901

Original language: English

ASJC Scopus subject areas: Business and International Management, Management of Technology and Innovation

Keywords: Change program, Integration, Program management

DOIs:

10.1016/j.ijproman.2018.02.003

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202001271572>. Embargo ends: 25/02/21

Source: Scopus

Source ID: 85042398105

### **Project change stakeholder communication**

This action-based qualitative case study explores how the project communication routines affect stakeholder engagement during change management process and evolve project culture. With an inductive design, this research studies change communication practices in two different case contexts. The results underline the fact that an effective communication ensures stakeholder participation in the change management processes through teamwork and empowerment, whereas lacking communication routines lead to a rational and straightforward project culture where task performance and efficiency are preferred over stakeholder involvement. Theoretical results suggest that project communication planning requires more attention on the know-how of stakeholders than the current stakeholder evaluation models instruct.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Civil Engineering, Research group: Digitalization in the real estate and construction sector, University of Vaasa (UVA)

Contributors: Butt, A., Naaranoja, M., Savolainen, J.

Number of pages: 17

Pages: 1579-1595

Publication date: 1 Nov 2016

Peer-reviewed: Yes

#### **Publication information**

Journal: International Journal of Project Management

Volume: 34

Issue number: 8

ISSN (Print): 0263-7863

Ratings:

Scopus rating (2016): CiteScore 7.3 SJR 1.434 SNIP 2.872

Original language: English

ASJC Scopus subject areas: Business and International Management, Management, Monitoring, Policy and Law, Management of Technology and Innovation

Keywords: Action research, Change management, Communication management, Project culture, Project management, Stakeholder know-how, Stakeholders

DOIs:

10.1016/j.ijproman.2016.08.010

Source: Scopus

Source ID: 84988039617

Research output: Contribution to journal › Article › Scientific › peer-review

### **Project Is as Project Does: Emerging Microactivities and Play Ontology**

The purpose of the article is to further develop the processual approach in project management theorizing. The article introduces Gadamer's (2004) play ontology as a novel perspective used to describe microactivities in a project environment. Play ontology refers to the back-and-forth movements of seemingly mundane microactivities as they unfold during a project. The findings of the study suggest that sensitivity to the microactivities allows considering dissonant or indecisive events as vital and constructive project elements. Play ontology offers new ways for conceptualizing a project as a process: as something that emerges through practical activities as a dynamic and complex phenomenon.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Civil Engineering, Tampere University

Contributors: Salovaara, P., Savolainen, J., Ropo, A.

Publication date: 2020

Peer-reviewed: Yes

#### **Publication information**

Journal: Project Management Journal

Volume: 51

Issue number: 1

ISSN (Print): 8756-9728

Original language: English

ASJC Scopus subject areas: Business and International Management, Strategy and Management, Management of Technology and Innovation

Keywords: construction project, emerging microactivities, play ontology, process ontology, project-as-practice, vibrant movements

DOIs:

10.1177/8756972819894101

#### **Bibliographical note**

dupl=51710068

Source: Scopus

Source ID: 85078606574

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Promoting project team coordination in repetitive projects**

Interdependencies within and between project teams and changes occurring throughout a project's lifecycle create a need for project team coordination. The existing research on project team coordination has mostly focused on large or innovative projects. In addition, the existing research has focused mostly on the ways project team coordination takes place in different projects, with less focus on how beneficial circumstances for coordination are created or promoted. This study contributes to these knowledge gaps by studying how a standardized project management methodology introduced by a parent organization can promote project team coordination in repetitive projects. An embedded single-case study design with qualitative interview-based data collection was followed. The case firm introduced a management framework in its service centers to promote project team coordination in repetitive maintenance projects. The interviewees perceived improvements in communication, visibility of project and portfolio status information, and information sharing. The improvements were enabled by two coordination mechanisms of the management framework: regular meetings and visual whiteboards. The perceived improvements were considered beneficial for project team coordination, both within and between project teams.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Industrial Engineering and Management, Research group: Center for Research on Project and Service Business (CROPS)

Contributors: Vuorinen, L., Martinsuo, M.

Number of pages: 16

Pages: 162-177

Publication date: 2019

Peer-reviewed: Yes

#### **Publication information**

Journal: Journal of Modern Project Management

Volume: 7

Issue number: 1

ISSN (Print): 2317-3963

Ratings:

Scopus rating (2019): CiteScore 0.7 SJR 0.179 SNIP 0.305

Original language: English

ASJC Scopus subject areas: Business and International Management, Strategy and Management, Management of Technology and Innovation

Keywords: Coordination, Maintenance projects, Repetitive projects

DOIs:

10.19255/JMPM01910

Source: Scopus

Source ID: 85072396412

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Purchasing category management: providing integration between purchasing and other business functions**

Organising the purchasing and supply management (PSM) function has been changing due to the increasingly strategic role of the function requiring integration with other business functions and the entire supply chain. One solution is to organise PSM into categories, a common practice in today's manufacturing organisations. In this paper we explore how purchasing category management (PCM) affects cross-functional integration. We analysed purchasing category management practices through in-depth case-studies in four manufacturing firms in two types of industry. Our research contributes to the purchasing and supply management research in two ways. First, it addresses the role of purchasing category management in organising PSM in large manufacturing companies. Second, it elaborates on purchasing categories providing integration between purchasing and other business functions, suggesting how different mechanisms are needed for different contexts.

### General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Industrial and Information Management, Research group: Cost Management Center, Chalmers University of Technology, Aalto Univ Sch Sci, Aalto University, Ind Engr & Management

Contributors: Heikkilä, J., Kaipia, R., Ojala, M.

Number of pages: 18

Pages: 533-550

Publication date: 2018

Peer-reviewed: Yes

### Publication information

Journal: International Journal of Procurement Management

Volume: 11

Issue number: 5

ISSN (Print): 1753-8432

Ratings:

Scopus rating (2018): CiteScore 1.8 SJR 0.333 SNIP 0.66

Original language: English

ASJC Scopus subject areas: Decision Sciences (miscellaneous), Business and International Management

Keywords: purchasing; procurement; supply management; purchasing category; category management; purchasing category management; PCM; organisation; integration; organisational integration; cross-functional integration; case research

Electronic versions:

X HEIKKILA\_153631 final-final proofs 11092017. Embargo ended: 30/09/19

DOIs:

10.1504/IJPM.2018.10014393

URLs:

<http://urn.fi/URN:NBN:fi:tyy-201808102059>. Embargo ended: 30/09/19

Research output: Contribution to journal > Article > Scientific > peer-review

### Purchasing strategies and value creation in industrial turnkey projects

This paper evaluates how turnkey project deliveries create value for their customers and how the purchasing strategy of the buyer affects value creation. Literature focusing on the distinguishing characteristics of turnkey projects and the different strategies available for purchasing them is reviewed. The concept of customer value is opened up and divided into value elements, benefits and sacrifices, which jointly determine the extent of value realized for the customer. Value elements discussed in existing literature are categorized and contrasted to empirical findings of a case study conducted in the Finnish marine industry. According to our findings, several short-term and long-term value elements are emphasized in the delivery of complex and bespoke turnkey projects for industrial customers. Further, the selection of the purchasing strategy affects the creation of value for the buyer. More specifically, competitive tendering-based strategies emphasize short-term value creation while purchasing strategies relying on a close interorganizational relationship between the buyer and the seller emphasize long-term value creation. Our findings illustrate that if the project marketing process of the seller and the purchasing strategy of the buyer are well aligned, value creation can be further facilitated.

### General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Aalto University, Abo Akad Univ, Abo Akademi University, Dept Phys

Contributors: Ahola, T., Laitinen, E., Kujala, J., Wikström, K.

Number of pages: 8

Pages: 87-94

Publication date: Jan 2008

Peer-reviewed: Yes

### Publication information

Journal: International Journal of Project Management

Volume: 26

Issue number: 1

ISSN (Print): 0263-7863

Ratings:

Scopus rating (2008): SJR 0.989 SNIP 1.384

Original language: English

ASJC Scopus subject areas: Business and International Management, Management of Technology and Innovation

Keywords: Purchasing of projects, Turnkey projects, Value

DOIs:



10.1016/j.ijproman.2007.08.008

URLs:

<http://www.scopus.com/inward/record.url?scp=37849029845&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 37849029845

Research output: Contribution to journal > Article > Scientific > peer-review

### **Reconciling digital transformation and knowledge protection: A research agenda**

Digital transformation revolutionises the way people work not only in office settings but also in physical work settings such as manufacturing or construction. New ways of combining digital and physical innovations and intensified inter-organisational collaborations are key characteristics for success. Knowledge sharing becomes increasingly important, but its inter-organisational nature and the blurring of organisational boundaries create new challenges for the protection of knowledge. Existing research on knowledge protection mostly focuses on single organisations or on dyadic relationships. Complex sharing arrangements and especially sharing in networks has received little attention so far. This paper presents a literature review, integrating the perspectives of the base domains of knowledge, strategy, innovation, and information security management with the goal to identify knowledge protection requirements in the era of digital transformation. Five avenues for future research on knowledge protection to support organisations coping with challenges imposed by digital transformation are presented.

### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Industrial and Information Management, Research group: Knowledge and Learning Research Center, Graz University of Technology, University of Innsbruck

Contributors: Ilvonen, I., Thalmann, S., Manhart, M., Sillaber, C.

Number of pages: 10

Pages: 235-244

Publication date: 3 Apr 2018

Peer-reviewed: Yes

### **Publication information**

Journal: Knowledge Management Research and Practice

Volume: 16

Issue number: 2

ISSN (Print): 1477-8238

Ratings:

Scopus rating (2018): CiteScore 2.5 SJR 0.396 SNIP 0.915

Original language: English

ASJC Scopus subject areas: Management Information Systems, Business and International Management, Library and Information Sciences, Management of Technology and Innovation

Keywords: computer-integrated manufacturing, digital transformation, industry 4.0, knowledge management, Knowledge protection, knowledge sharing, literature review, networks

DOIs:

10.1080/14778238.2018.1445427

Source: Scopus

Source ID: 85046538923

Research output: Contribution to journal > Article > Scientific > peer-review

### **Remote monitoring in industrial services: need-to-have instead of nice-to-have**

**Purpose:** The purpose of this paper is to better understand the efficient use of remote monitoring systems (RMS) to create business value for industrial services in manufacturing firms. A business view to RMS is a key prerequisite for the successful application of the Internet of Things (IoT) in industrial services. **Design/methodology/approach:** A qualitative multiple-case study was conducted in six engineering companies. The main source of data was semi-structured interviews with 16 managers. **Findings:** The findings highlight the role of RMS in enabling manufacturing firms to collect data from customers to complement their limited knowledge about their customers. The study demonstrates the business value of using RMS in industrial services and the necessity of capturing the business value through advanced IT technologies. **Research limitations/implications:** The qualitative research design and choice of six target companies limit the findings to business-to-business manufacturing firms. Further, the focus is on the manager's viewpoint. The findings imply new business value through an efficient use of RMS to complement direct customer contact. **Practical implications:** The study draws attention to the skilled use of advanced RMS and information and communication technology as a prerequisite for the successful application of the IoT in manufacturing firms that provide services for complex solutions and customers dispersed globally. **Originality/value:** The research shows that using information collected through RMS is an important factor in creating business value in a manufacturing firm's customer relationships. The study contributes by integrating RMS into the customer information collection process to increase the amount, validity and quality of data.

### General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Industrial and Information Management, Research group: Center for Research on Operations Projects and Services

Contributors: Momeni, K., Martinsuo, M.

Number of pages: 12

Pages: 792-803

Publication date: 2 Jul 2018

Peer-reviewed: Yes

### Publication information

Journal: Journal of Business and Industrial Marketing

Volume: 33

Issue number: 6

ISSN (Print): 0885-8624

Ratings:

Scopus rating (2018): CiteScore 3 SJR 0.768 SNIP 1.001

Original language: English

ASJC Scopus subject areas: Business and International Management, Marketing

Keywords: Customer information, Internet of things, Remote monitoring systems, Services

Electronic versions:

Accepted version\_Remote monitoring in industrial services

DOIs:

10.1108/JBIM-10-2015-0187

URLs:

<http://urn.fi/URN:NBN:fi:tuni-201912026494>

Source: Scopus

Source ID: 85053290741

Research output: Contribution to journal › Article › Scientific › peer-review

### Replacing centralised waste and sanitation infrastructure with local treatment and nutrient recycling: Expert opinions in the context of urban planning

Solutions for resource scarcity should be sought from urban waste management and sanitation, which are characterised by central plants and long networks. The socio-technical transition to more sustainable infrastructure is expected to include partial decentralisation based on local conditions. This paper focuses on drivers, barriers and enablers in implementing a decentralised circular system in a new residential area (Tampere, Finland). In the alternative system, biowaste and feces are treated in a local biogas plant, and nutrient and energy output are utilised within the area. This research aims to understand what kind of urban planning enables alternative infrastructure, as well as the characteristics of an innovation capable of making a breakthrough. Seventeen infrastructure planning experts were interviewed, then assembled to re-develop ideas arising from the interviews. Based on these qualitatively analysed data, 11 factors which help the adoption of the alternative system were formulated. The results indicate that sustainability transition can be facilitated through impartial urban planning that allows the early participation of actors and improved communications. Additionally, studying the impact of alternative solutions and city guidance according to environmental policy aims may enhance transition. Innovation success factors include suitable locations, competent partners, mature technology and visible local benefits.

### General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Chemistry and Bioengineering, Research group: Industrial Bioengineering and Applied Organic Chemistry

Contributors: Särkilahti, M., Kinnunen, V., Kettunen, R., Jokinen, A., Rintala, J.

Pages: 195-204

Publication date: 2017

Peer-reviewed: Yes

Early online date: 21 Feb 2017

### Publication information

Journal: Technological Forecasting and Social Change

Volume: 118

ISSN (Print): 0040-1625

Ratings:

Scopus rating (2017): CiteScore 5.8 SJR 1.38 SNIP 1.744

Original language: English

ASJC Scopus subject areas: Business and International Management, Applied Psychology, Management of Technology and Innovation

Keywords: Alternative sanitation, Biogas, Nutrient recycling, Socio-technical transition, Tampere, Urban land-use planning  
DOIs:

10.1016/j.techfore.2017.02.020

Source: Scopus

Source ID: 85013157702

Research output: Contribution to journal › Article › Scientific › peer-review

### **Stages of User Engagement on Social Commerce Platforms: Analysis with the Navigational Clickstream Data**

Social commerce platforms have gained prominence in e-commerce, as social media has become an integral part of users' online activities. Therefore, firms have been either developing or utilizing social commerce platforms to increase user engagement by adding social shopping facility onto their electronic commerce platforms. However, managing user engagement and user interaction becomes complex when e-commerce platforms are transformed into social commerce platforms. In this study, we operationalize four distinct stages of the social commerce platform, namely, social identification, social interaction, social shopping, and transaction based on salience theory. Using clickstream data, we empirically measure user engagement in these four states by modeling users' incidence and time spent. Drawing from the PageRank algorithm, we capture the importance of ranking and distance on user engagement. The model also accounts for the effects of situational variables such as weekend; holiday; time of day; and user characteristics, such as gender and social media setting. Our results suggest that ranking and distance have significant effects on users' incidence as well as time spent on social commerce platforms. The insights from this study can be helpful in designing the social commerce platform effectively using only the customers' path navigational clickstream data from the parent social commerce platform.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Information and Knowledge Management, Aalto University

Contributors: Kumar, A., Salo, J., Li, H.

Number of pages: 33

Pages: 179-211

Publication date: 3 Apr 2019

Peer-reviewed: Yes

#### **Publication information**

Journal: INTERNATIONAL JOURNAL OF ELECTRONIC COMMERCE

Volume: 23

Issue number: 2

ISSN (Print): 1086-4415

Ratings:

Scopus rating (2019): CiteScore 4.2 SJR 1.028 SNIP 1.305

Original language: English

ASJC Scopus subject areas: Business and International Management, Economics and Econometrics

Keywords: Clickstream data, Dijkstra's shortest path algorithm, hierarchical Bayesian method, multivariate type-2 Tobit, online communities, online platforms, online shopping, PageRank algorithm, social commerce platforms

DOIs:

10.1080/10864415.2018.1564550

Source: Scopus

Source ID: 85063574164

Research output: Contribution to journal › Article › Scientific › peer-review

### **Sustainable project management through project control in infrastructure projects**

Sustainability is becoming increasingly important in the delivery of projects as stakeholders require ethicality, eco-friendliness, and economic efficiency during a project's life cycle. Previous studies focused on the environmental aspects of sustainability in project deliverables, whereas less attention has been directed at sustainable project management during project delivery. The goal of this study is to identify the control practices that a project organization uses for sustainable project management. A qualitative single-case study was conducted on a large infrastructure project in which a road tunnel was constructed in a highly demanding environment, involving multiple stakeholders in an alliance contract. The results reveal that sustainable project management is implemented using not only indicators but a holistic control package in which control mechanisms are used differently for different sustainability dimensions. Internal project control is complemented with sustainable project governance, linking the project to its external stakeholders and regulations. The alliance contract activates the partners to exploit innovation opportunities and, thus, promotes economic, environmental, and social sustainability.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Industrial and Information Management, Research group: Center for Research on Operations Projects and Services

Contributors: Kivilä, J., Martinsuo, M., Vuorinen, L.

Pages: 1167 – 1183

Publication date: Aug 2017

Peer-reviewed: Yes

Early online date: 1 Mar 2017

### Publication information

Journal: International Journal of Project Management

Volume: 35

Issue number: 6

ISSN (Print): 0263-7863

Ratings:

Scopus rating (2017): CiteScore 9.1 SJR 1.463 SNIP 2.795

Original language: English

ASJC Scopus subject areas: Business and International Management, Management, Monitoring, Policy and Law, Management of Technology and Innovation

Keywords: Alliance, Project control, Public-private partnership (PPP), Sustainability, Sustainability indicators, Sustainable project management

Electronic versions:

Sustainable project management through project control 2017. Embargo ended: 1/03/20

DOIs:

10.1016/j.ijproman.2017.02.009

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202001271575>. Embargo ended: 1/03/20

Source: Scopus

Source ID: 85014064572

Research output: Contribution to journal › Article › Scientific › peer-review

### The adoption of green initiatives in logistics service providers—a strategic perspective

Logistics service providers (LSPs) have started to transform their operations and strategy to be more effective from a green perspective. One concern that is of particular interest of LSPs is how to create organisational green awareness and translate this into practice in their operations. The purpose of this paper is to investigate the roles of green strategic commitment and organisation in LSPs' adoption of green initiatives. The data for this study were collected through a questionnaire survey, investigating a sample of LSPs operating in the Swedish, Finnish and Italian markets. From the literature analysis, a set of testable hypotheses was developed. The results indicate that there are relationships between the nature, as well as the scope, of functional involvement and the green strategic priority. The results further suggest that the inclusion of environmental consideration in the overall business strategy is positively related to the involvement and coordination of multiple functions as well as existence of a separate environmental function.

### General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Civil Engineering, Business Wellness Center, Centro S3, Linköping University, Aston University

Contributors: Isaksson, K., Evangelista, P., Hüge-Brodin, M., Liimatainen, H., Sweeney, E.

Number of pages: 16

Pages: 349-364

Publication date: 2017

Peer-reviewed: Yes

### Publication information

Journal: International Journal of Business and Systems Research

Volume: 11

Issue number: 4

ISSN (Print): 1751-200X

Ratings:

Scopus rating (2017): CiteScore 0.4 SJR 0.104 SNIP 0.079

Original language: English

ASJC Scopus subject areas: Management Information Systems, Business and International Management, Strategy and Management

Keywords: Environmental sustainability initiatives, Functional involvement, Green strategic priority, Logistics service providers, LSPs, Questionnaire survey.

DOIs:

10.1504/IJBSR.2017.087096

Source: Scopus

Source ID: 85031279182

Research output: Contribution to journal > Article > Scientific > peer-review

### **The dynamics of repairing multi-project control practice: a project governance viewpoint**

This paper examines the development of enabling control practice, within flexible project governance. Enabling control would interactively help reach the objectives set for multi-project new product development (NPD) management and, especially support the different managerial actors involved. Previous research does not adequately cover the dynamics and interplay between different managerial actors in developing management control for multi-project NPD. This paper responds to the question: How can actors interactively repair multi-project control practice within project governance? The paper takes advantage of a longitudinal action research endeavor (2009-2014), featuring research interventions on developing project control in subsequent NPD projects. The researchers collected empirical data from 130 documented project meetings, workshops, and interactions, and the data were qualitatively analyzed to identify critical steps in multi-project control practice repair. First, as a contribution to the project management literature, we show how the repair effort, as organizational interplay, may effectively, and temporarily or permanently repair inoperative NPD control practice in subsequent projects. Second, we contribute to the literature on enabling control by showing how repairing multi-project control system can be a starting point for centralized control repair, requiring commitment from different management levels. Third, by bridging the two research areas, we identify possibilities for further research.

### **General information**

Publication status: E-pub ahead of print

MoE publication type: A1 Journal article-refereed

Organisations: Industrial Engineering and Management, Research group: Cost Management Center, Aalto University

Contributors: Laine, T., Korhonen, T., Suomala, P.

Number of pages: 14

Publication date: 2020

Peer-reviewed: Yes

### **Publication information**

Journal: International Journal of Project Management

ISSN (Print): 0263-7863

Original language: English

ASJC Scopus subject areas: Business and International Management, Management of Technology and Innovation

Keywords: Action research, Control, Enabling control, Interventionist research, Management accounting, Multi-project management, New product development, Project governance, Repair

DOIs:

10.1016/j.ijproman.2020.06.010

### **Bibliographical note**

EXT="Suomala, Petri"

Source: Scopus

Source ID: 85087686683

Research output: Contribution to journal > Article > Scientific > peer-review

### **The impact of workplaces and self-management practices on the productivity of knowledge workers**

Purpose: This paper aims to explore the impact of workplaces, which support concentration and communication, and self-management practices on individual and team productivity. The underlying hypothesis is that the impact of these variables on the two levels of productivity (individual and team) and the two dimensions of productivity (quantity and quality) may be different. Design/methodology/approach: The paper is based on survey data from 998 Finnish knowledge workers. Factor analysis was used to test the dimensions of the conceptual model. Insights into the impact of workplaces for concentration and communications and self-management practices on productivity were obtained by multiple-regression analyses.

Findings: The findings show that self-management practices have a larger impact on the quality and quantity of individual output and the quantity of team output than workplaces for communication and concentration. Improving self-management skills is key to increase all productivity dimensions and in particular the quality of the output. Practical implications: This paper contributes to a better understanding of the impact of workplace characteristics and self-management practices on different levels and dimensions of productivity. It offers valuable lessons for managers, as they are able to recognize how productivity can be approached from several perspectives. Different dimensions can be enhanced using different workplace settings. For example, the quantitative output of employees can be increased by adding more space for concentration, while quantitative team productivity can be increased by providing appropriate space for collaboration. An important means to enhance a higher quality of the output is to improve self-management skills. The findings also suggest that collaboration between different disciplines – corporate management, corporate real estate management, human resource management and IT – is needed to optimize individual and team productivity. Originality/value: This paper explores work environment experiences of Finnish office workers and connects both workplace appraisal and work practices to perceived productivity support, on individual level and team level. It also adds insights into the different

impacts on quantity and quality.

#### General information

Publication status: Published  
MoE publication type: A1 Journal article-refereed  
Organisations: Industrial and Information Management, Delft University of Technology  
Contributors: Palvalin, M., van der Voordt, T., Jylhä, T.  
Number of pages: 16  
Pages: 423-438  
Publication date: 2017  
Peer-reviewed: Yes

#### Publication information

Journal: Journal of Facilities Management  
Volume: 15  
Issue number: 4  
ISSN (Print): 1472-5967  
Ratings:  
Scopus rating (2017): CiteScore 1.8 SJR 0.33 SNIP 0.809  
Original language: English  
ASJC Scopus subject areas: Strategy and Management, Management of Technology and Innovation, Business and International Management  
Keywords: Knowledge workers, Office, Productivity, Self-management, Workplace, Workplace management  
Electronic versions:  
The Impact of Workplaces and Self-management Practices on the Productivity of Knowledge Workers  
DOIs:  
10.1108/JFM-03-2017-0010  
URLs:  
<http://urn.fi/URN:NBN:fi:tty-201712012290>  
Source: Scopus  
Source ID: 85029871250  
Research output: Contribution to journal › Article › Scientific › peer-review

#### The Management of Values in Project Business: Adjusting Beliefs to Transform Project Practices and Outcomes

Project value is an important topic of debate in project studies, and previous research has identified challenges in value management. This article reveals the challenges of subjectivity, dynamics, and tensions stemming from multistakeholder involvement and competing values over the project life cycle. This research seeks solutions to the management of values by exploring values as beliefs to supplement their treatment as worth. Management of values is portrayed as an exercise in sensemaking, negotiation, and co-creation when adjusting beliefs to transform project practices and outcomes. A research agenda is proposed to cover the social and behavioral aspects of values in project studies.

#### General information

Publication status: Published  
MoE publication type: A1 Journal article-refereed  
Organisations: Industrial Engineering and Management, Research group: Center for Research on Project and Service Business (CROPS)  
Contributors: Martinsuo, M.  
Number of pages: 11  
Pages: 389-399  
Publication date: Jun 2020  
Peer-reviewed: Yes

#### Publication information

Journal: Project Management Journal  
Volume: 51  
Issue number: 4  
ISSN (Print): 8756-9728  
Original language: English  
ASJC Scopus subject areas: Business and International Management, Strategy and Management, Management of Technology and Innovation  
Keywords: belief, project value, value management, values, worth  
Electronic versions:  
The Management of Values in Project 2020  
DOIs:

10.1177/8756972820927890

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202008076409>

Source: Scopus

Source ID: 85085988113

Research output: Contribution to journal > Article > Scientific > peer-review

### **The use of social media for knowledge acquisition and dissemination in B2B companies: an empirical study of Finnish technology industries**

Scholars and practitioners of knowledge management have paid increasing attention to the adoption of social media in business-to-business (B2B) setting for knowledge sharing; however, both the theoretical and empirical research in this domain are quite fragmented. The aim of this research is to deepen the understanding about the B2B companies' awareness of the potentials of social media in improving their absorptive capacity and, consequently, if and how such companies deploy knowledge strategies based on social media adoption. We carried out an empirical survey of Finnish technology companies operating purely in B2B markets. Results highlight that social media adoption is still in a preliminary stage of development. Companies show a lack of awareness of the potentials of social media as a means for external knowledge acquisition and internal dissemination. Results suggest a strong need of a structured approach to the adoption of social media to overcome cultural and organisational barriers.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Industrial and Information Management, CNR-NANOTEC & University of Calabria, University of Gloucestershire, Department of Business Administration, Örebro University, Jyväskylän yliopisto, Smart services research unit

Contributors: Ammirato, S., Felicetti, A. M., Della Gala, M., Aramo-Immonen, H., Jussila, J. J., Kärkkäinen, H.

Publication date: 2019

Peer-reviewed: Yes

Early online date: 2018

#### **Publication information**

Journal: Knowledge Management Research and Practice

Volume: 17

Issue number: 1

ISSN (Print): 1477-8238

Ratings:

Scopus rating (2019): CiteScore 3.6 SJR 0.462 SNIP 1.063

Original language: English

ASJC Scopus subject areas: Management Information Systems, Business and International Management, Library and Information Sciences, Management of Technology and Innovation

Keywords: absorptive capacity, empirical study, Finnish B2B companies, knowledge strategy, Social media

DOIs:

10.1080/14778238.2018.1541779

#### **Bibliographical note**

EXT="Jussila, Jari J."

EXT="Felicetti, Alberto Michele"

Source: Scopus

Source ID: 85057537581

Research output: Contribution to journal > Article > Scientific > peer-review

### **The value of customer satisfaction surveys for project-based organizations: symbolic, technical, or none**

In this paper a framework for assessing the role and value of collecting information related to customer satisfaction is presented. This paper aims to reduce the gap in the knowledge concerning the value and role of customer satisfaction surveys by using a theoretical background of institutional theory and a cognitive model of organizational culture. The framework is presented in the context of measuring customer satisfaction in a project-based organization. In the empirical part of the study, the value and role of implementing customer satisfaction surveys in two case organizations is analyzed. Based on these two cases, our research findings suggest that the use of customer satisfaction surveys does not create technical benefits in project-based organizations, but implies that these surveys, however, may provide some symbolic value.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Industrial Engineering and Management, Aalto University, Helsinki University of Technology  
Contributors: Kujala, J., Ahola, T.  
Number of pages: 6  
Pages: 404-409  
Publication date: Jul 2005  
Peer-reviewed: Yes

#### **Publication information**

Journal: International Journal of Project Management

Volume: 23

Issue number: 5

ISSN (Print): 0263-7863

Ratings:

Scopus rating (2005): SJR 1.094 SNIP 1.667

Original language: English

ASJC Scopus subject areas: Business and International Management, Management of Technology and Innovation

Keywords: Customer satisfaction measurement, Implementation, Institutional theory, Organizational culture, Project-based management, Value

DOIs:

10.1016/j.ijproman.2005.01.002

URLs:

<http://www.scopus.com/inward/record.url?scp=21444438281&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 21444438281

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Understanding tariff designs and consumer behaviour to employ electric vehicles for secondary purposes in the United Kingdom**

Electric Vehicle (EV) uptake has increased rapidly in the recent years. The rate of EV use is likely to increase in the future as well. At this point, the topic of using EVs for secondary purposes other than mobility and transport is getting more popular. This paper outlines the importance of tariff designs and EV consumer behaviour in achieving the business models such as Vehicle-to-Grid (V2G) and Vehicle-to-Home (V2H). We took the United Kingdom (UK) as a case study country to demonstrate how crucial electricity tariffs and consumer behaviour are.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Industrial Engineering and Management, University of Cambridge

Contributors: Küfeoğlu, S., Melchiorre, D. A., Kotilainen, K.

Number of pages: 6

Pages: 1-6

Publication date: 1 Jul 2019

Peer-reviewed: Yes

#### **Publication information**

Journal: ELECTRICITY JOURNAL

Volume: 32

Issue number: 6

ISSN (Print): 1040-6190

Ratings:

Scopus rating (2019): CiteScore 2.7 SJR 0.616 SNIP 0.825

Original language: English

ASJC Scopus subject areas: Business and International Management, Energy (miscellaneous), Management of Technology and Innovation, Law

Keywords: Electric vehicle, Tariff, V2G, V2H

DOIs:

10.1016/j.tej.2019.05.011

Source: Scopus

Source ID: 85066131134

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Understanding the complexity of mobility as a service**

#### **General information**



Publication status: Published  
MoE publication type: A1 Journal article-refereed  
Organisations: Research group: Transport Research Centre Verne, Civil Engineering, Aalto University  
Contributors: Liimatainen, H., Mladenović, M. N.  
Pages: 1-2  
Publication date: Jun 2018  
Peer-reviewed: Yes

#### **Publication information**

Journal: Research in Transportation Business and Management

Volume: 27

ISSN (Print): 2210-5395

Ratings:

Scopus rating (2018): CiteScore 4.4 SJR 0.902 SNIP 1.308

Original language: English

ASJC Scopus subject areas: Decision Sciences(all), Business and International Management, Transportation, Economics, Econometrics and Finance (miscellaneous), Tourism, Leisure and Hospitality Management, Strategy and Management, Management Science and Operations Research

DOIs:

10.1016/j.rtbm.2018.12.004

Source: Scopus

Source ID: 85059062273

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Use of services to support the business of a project-based firm**

Project-based firms that have traditionally focused on product-centric project deliveries as their core business are increasingly complementing their deliveries with different types of service offerings to create customer specific solutions. Such deliveries frequently encompass the design and delivery of a fully operational system with additional components such as maintenance and optimization of system during its life cycle. From the perspective of customer value, solution deliveries can be divided into three elements: core project delivery, facilitating service products that are mandatory for use of the core project delivery and supporting service products that create additional value for the customer. In this paper we aim to increase the understanding on the impact of the addition of different types of services such as consultation, conceptual design, feasibility studies, training, maintenance, operation support, and production optimization may have on the business of a project-based firm. We analyze their contribution from five distinct perspectives: strategic, marketing and sales, project implementation, learning and innovation and financial. We carried out an empirical multi-case study within three large-sized project-based firms representing different industries. The results indicate that services play a versatile role in supporting the business of project-based firms - a role which goes beyond simply ensuring the short term profitability of the firm. Furthermore, delivering a specific service, such as consultation or process optimization, may often contribute favorably to more than one of the five perspectives analyzed in this study.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Managing digital industrial transformation (mDIT), Univ of Oulu, School of Science, Aalto University

Contributors: Kujala, J., Ahola, T., Huikuri, S.

Number of pages: 13

Pages: 177-189

Publication date: 2013

Peer-reviewed: Yes

#### **Publication information**

Journal: International Journal of Project Management

Volume: 31

Issue number: 2

ISSN (Print): 0263-7863

Ratings:

Scopus rating (2013): CiteScore 4.9 SJR 1.226 SNIP 2.737

Original language: English

ASJC Scopus subject areas: Business and International Management, Management, Monitoring, Policy and Law, Management of Technology and Innovation

Keywords: Project, Project business, Project life cycle, Project-based firm, Service dominant logic, Services

DOIs:

10.1016/j.ijproman.2012.07.007

URLs:

<http://www.scopus.com/inward/record.url?scp=84870752983&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84870752983

Research output: Contribution to journal › Article › Scientific › peer-review

### **Using social media to leverage and develop dynamic capabilities for innovation**

Social media are essentially changing the way firms communicate, create and collaborate in and for innovation. In this special issue introductory article, we take stock of the robust multi-faceted nature of research and practice at the intersection of social media (SM) and innovation. We introduce the nine papers included in this special issue and highlight the rich variety of their contribution with reference to our organising framework. Diagnosing from a strategic perspective, we position SM strategy in and for innovation as an overlapping interaction between dynamic capabilities (sensing, seizing, reconfiguration) and the level of stakeholder engagement (macro, meso, micro). We explain how each interaction holds distinctive synergy in an open and collaborative innovation process. This organising framework shows how the malleable nature of SM creates opportunities for firms to engage widely distributed knowledge sources, enhance innovation capabilities and empower internal human resources towards an open and collaborative culture. Yet, we warn that all is not as rosy as it seems and a purposeful and coherent strategy that delivers distinctive 'co-ownership' experiences is quintessential ingredient to realise profits from SM use in innovation.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Contributors: Mention, A., Barlatier, P. J., Josserand, E.

Number of pages: 9

Pages: 242-250

Publication date: Jul 2019

Peer-reviewed: Yes

#### **Publication information**

Journal: Technological Forecasting and Social Change

Volume: 144

ISSN (Print): 0040-1625

Ratings:

Scopus rating (2019): CiteScore 8.7 SJR 1.815 SNIP 2.617

Original language: English

ASJC Scopus subject areas: Business and International Management, Applied Psychology, Management of Technology and Innovation

Keywords: Crowdsourcing, R&D, Innovation communities, Open innovation, Organisational capabilities, Social media

DOIs:

10.1016/j.techfore.2019.03.003

#### **Bibliographical note**

INT=IEMA, "Mention, Anne-Laure"

Source: Scopus

Source ID: 85063272253

Research output: Contribution to journal › Article › Scientific › peer-review

### **Utilizing management accounting information for decision-making: Limitations stemming from the process structure and the actors involved**

**Purpose:** To be utilized effectively in decision-making processes, management accounting (MA) information should fit the business context and at the same time reflect the roles, responsibilities and values of the actors taking part in the decision-making. This study aims to investigate the limitations for MA information utilization in decision-making. In particular, this study explores limitations stemming from the decision-making process structure and the involvement of several managerial actors. **Design/methodology/approach:** An exploratory case study of an energy company and its customer company illustrates the current challenges in providing and integrating MA information into decision-making. The analysis is focused on the analytical and actor-based features of the decision-making and thus the limitations for MA information utilization. As a part of the broader research process, the researchers facilitated a meeting in the customer company, where the actors relevant to investment decisions discussed the current limitations in utilizing MA information. **Findings:** Analytical and actor-based features may take different forms in the decision-making. Some relevant MA information may not be included in an organization's decision-making process structure that allows merely conventional, yet analytical, decision alternatives. At the same time, certain actors' viewpoints (such as sustainability metrics) can be excluded from the process without considering the logic behind the exclusion. This case study identifies the following limitations, largely related to insufficient actor-based features in the decision-making: managers may lack expertise in the use of MA tools, managerial interaction may lack reflection on taken-for-granted assumptions, different managers may appreciate different scope, content and timing of MA information and the process structure can ignore the required managerial viewpoints. **Research limitations/implications:** This study demonstrates that both the decision-making process structure and the needs of the several actors involved may lead to limitations for MA information utilization. Although many limitations stemmed

from the insufficient actor-based orientation in the case study, introducing new MA analyses and extending the validity of analytical approaches may also help overcome some of the limitations. Further research should address possibilities to integrate different actors' viewpoints with MA information already in the decision-making process structure, find ways to introduce MA information on unconventional decision alternatives and enable reflection among and about relevant actors with respect to decision-making. These means could lead to more effective utilization of MA information for decision-making and, consequently, economically viable decisions. Originality/value: This study addresses the limitations in MA information utilization by combining the viewpoints of analytical decision-making processes and reflective actors, and thus unveils possibilities for enhancing MA practice.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Industrial and Information Management, Research group: Cost Management Center, Teaching and Learning Services

Contributors: Saukkonen, N., Laine, T., Suomala, P.

Number of pages: 25

Pages: 181-205

Publication date: 28 May 2018

Peer-reviewed: Yes

#### **Publication information**

Journal: Qualitative Research in Accounting and Management

Volume: 15

Issue number: 2

ISSN (Print): 1176-6093

Ratings:

Scopus rating (2018): CiteScore 2.5 SJR 0.442 SNIP 0.959

Original language: English

ASJC Scopus subject areas: Business and International Management, Accounting

Keywords: Actors, Analytical and actor-based decision-making, Decision-making process, Limitations, Management accounting information, Reflection

Electronic versions:

Utilizing management accounting information 2018

DOIs:

10.1108/QRAM-01-2017-0007

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202002132041>

Source: Scopus

Source ID: 85047667930

Research output: Contribution to journal › Article › Scientific › peer-review

#### **What is product lifecycle management (PLM) maturity? Analysis of current PLM maturity models**

Product lifecycle management (PLM) implementation and adoption involves extensive changes in both intra- and inter-organizational practices. Various maturity approaches, for instance based on CMM (Capability maturity modeling) principles, can be used to make the implementation of PLM a better approachable and a more carefully planned and coordinated process. However, there are a number of different types of current approaches which can be thought to fall under the concept of PLM maturity. The aim of this paper is to investigate and analyze the various existing PLM maturity approaches to get an organized picture of the current models and their main background presumptions, goals and restrictions. Thus, we aim to facilitate their proper selection and use to facilitate the implementation of PLM.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Information Management and Logistics, Research group: Novi, Lappeeranta University of Technology

Contributors: Kärkkäinen, H., Silventoinen, A.

Number of pages: 8

Pages: 96-103

Publication date: 1 Jan 2016

Peer-reviewed: Yes

#### **Publication information**

Journal: Journal of Modern Project Management

Volume: 3

Issue number: 3

ISSN (Print): 2317-3963

Ratings:

Scopus rating (2016): CiteScore 0.5 SJR 0.333 SNIP 0.217

Original language: English

ASJC Scopus subject areas: Strategy and Management, Management of Technology and Innovation, Business and International Management

Keywords: Comparison, Maturity approaches, Maturity models, Product lifecycle management, State-of-the-art

URLs:

<http://www.scopus.com/inward/record.url?scp=84956607265&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84956607265

Research output: Contribution to journal › Article › Scientific › peer-review

### **What is project governance and what are its origins?**

Although there is an ever-increasing discussion on governance in recent project research, the concept of project governance and its main origins remains ambiguous. In this paper, we examine project governance literature and contrast it to general governance literature published outside the domain of project research. Our analysis revealed the existence of two distinct and relatively independent streams of research. One of these streams addresses project governance as a phenomenon external to any specific project, while the other views project governance as internal to a specific project. Our results further indicate that while project governance literature bases most of its argumentation on established project research it also, to a significant extent, draws from the transaction cost economics literature. Based on our findings, we argue that there exists considerable potential for bridging project governance literature and general governance literature further.

### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Managing digital industrial transformation (mDIT), School of Science, Aalto University, Univ of Oulu

Contributors: Ahola, T., Ruuska, I., Artto, K., Kujala, J.

Number of pages: 12

Pages: 1321-1332

Publication date: 1 Nov 2014

Peer-reviewed: Yes

### **Publication information**

Journal: International Journal of Project Management

Volume: 32

Issue number: 8

ISSN (Print): 0263-7863

Ratings:

Scopus rating (2014): CiteScore 5.2 SJR 1.411 SNIP 2.893

Original language: English

ASJC Scopus subject areas: Business and International Management, Management of Technology and Innovation, Management, Monitoring, Policy and Law

Keywords: Governance, Literature analysis, Project governance

DOIs:

[10.1016/j.ijproman.2013.09.005](https://doi.org/10.1016/j.ijproman.2013.09.005)

URLs:

<http://www.scopus.com/inward/record.url?scp=84908052013&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84908052013

Research output: Contribution to journal › Article › Scientific › peer-review

### **Winner does not take all: Selective attention and local bias in platform-based markets**

We model how macro-level dynamics of platform competition emerge from micro-level interactions among consumers. We problematize the prevailing winner-take-all hypothesis and argue that instead of assuming that consumers value the general connectivity of an entire network, they are selectively attentive and locally biased. We contrast several alternative agent-based models with differing sets of assumptions regarding consumer agents' behavior and compare their predictions with empirical data from the competition between Sony's PlayStation 3 and Microsoft's Xbox 360. The results show that only when consumers are assumed to be selectively attentive and locally biased is it possible to explain real-life market sharing between the given platforms. In effect, it is shown how a late-entrant platform can get adopted by most consumers in the market, despite the fact that an early entrant has greater initial installed base, greater pool of complementary products, and lower initial price.

### General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Industrial and Information Management, Research group: MAT Intelligent Information Systems Laboratory, Lappeenranta University of Technology, Swedish School of Economics and Business Administration

Contributors: Huotari, P., Järvi, K., Kortelainen, S., Huhtamäki, J.

Number of pages: 14

Pages: 313-326

Publication date: 1 Jan 2017

Peer-reviewed: Yes

### Publication information

Journal: Technological Forecasting and Social Change

Volume: 114

ISSN (Print): 0040-1625

Ratings:

Scopus rating (2017): CiteScore 5.8 SJR 1.38 SNIP 1.744

Original language: English

ASJC Scopus subject areas: Business and International Management, Applied Psychology, Management of Technology and Innovation

Keywords: Adoption behavior, Agent-based modeling, Complementarities, Network effects, Platform competition, Simulation

Electronic versions:

TFSC\_winner\_does\_not\_take\_all\_author\_version. Embargo ended: 9/12/18

DOIs:

10.1016/j.techfore.2016.08.028

URLs:

<http://urn.fi/URN:NBN:fi:ty-201907011922>

Source: Scopus

Source ID: 84994079296

Research output: Contribution to journal > Article > Scientific > peer-review

### Cost consciousness: Conceptual development from a management accounting perspective

**Purpose** - This paper aims to take note of the need to better understand cost consciousness from a management accounting perspective and serves as an exploratory study striving to analyze how the notion has been addressed by management accounting scholars. **Design/methodology/approach** - This paper presents the findings of a thorough literature review identifying the drivers, interpretations, definitions and results which management accounting scholars have associated with cost consciousness. **Findings** - This paper has synthesized the definitions and interpretations by considering their conceptual broadness and the subjects that cost consciousness characterizes. In addition, various potential drivers of cost consciousness have been identified where management control systems play a major role. Also, this paper summarizes both the positive and negative outcomes which scholars seem to expect from an increase of cost consciousness. **Research limitations/implications** - Given that no prior work has focused on the conceptual development of cost consciousness, it was necessary to infer most of the interpretations, drivers and results which management accounting scholars have associated to the cost consciousness notion. **Originality/value** - Cost consciousness is a concept that appears in hundreds of peer-reviewed articles on management accounting. However, only a handful of management accounting scholars have defined or evaluated this concept to a certain degree. As a result, what management accountants believe cost consciousness to be, how it is driven and what result may be expected from it, is nowhere to be found in any synthesized manner. The findings of this paper develop the concept of cost consciousness by illuminating the common use of the construct across various disciplines.

### General information

Publication status: Published

MoE publication type: A2 Review article in a scientific journal

Organisations: Department of Industrial Management, Research group: Cost Management Center, Managing digital industrial transformation (mDIT), University of Jyväskylä

Contributors: Velasquez, S., Suomala, P., Järvenpää, M.

Number of pages: 32

Pages: 55-86

Publication date: 20 Apr 2015

Peer-reviewed: Yes

### Publication information

Journal: Qualitative Research in Accounting and Management

Volume: 12

Issue number: 1

ISSN (Print): 1176-6093

Ratings:

Scopus rating (2015): CiteScore 2 SJR 0.275 SNIP 0.798

Original language: English

ASJC Scopus subject areas: Accounting, Business and International Management

Keywords: Cost consciousness, Literature review, Management accounting

DOIs:

10.1108/QRAM-07-2013-0029

URLs:

<http://www.scopus.com/inward/record.url?scp=84928727397&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84928727397

Research output: Contribution to journal › Review Article › Scientific › peer-review

### **Editorial: Actors, practices, and strategy connections in multi-project management**

#### **General information**

Publication status: Accepted/In press

MoE publication type: B1 Article in a scientific magazine

Organisations: Industrial Engineering and Management, Copenhagen Business School, Surface and Corrosion Science, Alliance Manchester Business School

Contributors: Martinsuo, M., Geraldi, J., Gustavsson, T. K., Lampel, J.

Publication date: 2020

Peer-reviewed: No

#### **Publication information**

Journal: International Journal of Project Management

ISSN (Print): 0263-7863

Original language: English

ASJC Scopus subject areas: Business and International Management, Management of Technology and Innovation

DOIs:

10.1016/j.ijproman.2020.07.001

Source: Scopus

Source ID: 85087711863

Research output: Contribution to journal › Editorial › Scientific

### **Editorial: The basics of writing a paper for the International Journal of Project Management**

#### **General information**

Publication status: Published

MoE publication type: B1 Article in a scientific magazine

Organisations: Industrial Engineering and Management, Research group: Center for Research on Project and Service Business (CROPS), WU Vienna University of Economics and Business

Contributors: Martinsuo, M. (ed.), Huemann, M.

Number of pages: 3

Pages: 340-342

Publication date: Sep 2020

Peer-reviewed: No

#### **Publication information**

Journal: International Journal of Project Management

Volume: 38

Issue number: 6

ISSN (Print): 0263-7863

Original language: English

ASJC Scopus subject areas: Business and International Management, Management of Technology and Innovation

DOIs:

10.1016/j.ijproman.2020.08.001

Source: Scopus

Source ID: 85089378555

Research output: Contribution to journal › Editorial › Scientific

### **Project-based and temporary organizing: Reconnecting and rediscovering**

In recent years, the linkages between project management and organization theory have become stronger. In an attempt to address this development, this paper analyzes the research on temporary and project-based organizing. It especially discusses the development associated with the EGOS sub-themes on project organizing and the potential avenues for future research. The paper also summarizes the key findings from the included papers in the special issue on project-based and temporary organizing, which is based on papers from the EGOS conference in 2013. One key argument is that project organizing needs to develop along three lines: new empirical contexts, new theoretical/conceptual issues, and new research methodologies.

#### **General information**

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: BI Norwegian Business School, University of Quebec at Montreal (UQAM), Aalto University

Contributors: Söderlund, J., Hobbs, B., Ahola, T.

Number of pages: 6

Pages: 1085-1090

Publication date: 2014

Peer-reviewed: Yes

#### **Publication information**

Journal: International Journal of Project Management

Volume: 32

Issue number: 7

ISSN (Print): 0263-7863

Ratings:

Scopus rating (2014): CiteScore 5.2 SJR 1.411 SNIP 2.893

Original language: English

ASJC Scopus subject areas: Business and International Management, Management, Monitoring, Policy and Law, Management of Technology and Innovation

DOIs:

10.1016/j.ijproman.2014.06.008

URLs:

<http://www.scopus.com/inward/record.url?scp=84940229964&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84940229964

Research output: Contribution to journal › Editorial › Scientific › peer-review

### **Special Issue: Accounting and Innovation**

#### **General information**

Publication status: Published

MoE publication type: C2 Edited books

Organisations: Research group: Cost Management Center, Industrial and Information Management, Nova School of Business and Economics, Universidade Nova de Lisboa

Contributors: Major, M., Suomala, P., Laine, T.

Number of pages: 279

Pages: 154

Publication date: 21 Jun 2018

Peer-reviewed: Yes

#### **Publication information**

Journal: Qualitative Research in Accounting and Management

Volume: 15

Issue number: 2

ISSN (Print): 1176-6093

Ratings:

Scopus rating (2018): CiteScore 2.5 SJR 0.442 SNIP 0.959

Original language: English

ASJC Scopus subject areas: Business and International Management, Accounting

Research output: Contribution to journal › Special issue › Scientific › peer-review

### **Possible impacts of increasing maximum truck weight: Finland case study**

#### **General information**

Publication status: Published

MoE publication type: A3 Part of a book or another research book

Organisations: Department of Information Management and Logistics, Research group: Transport Research Centre Verne

Contributors: Nykänen, L., Liimatainen, H.

Number of pages: 13

Pages: 121-133

Publication date: May 2016

#### Host publication information

Title of host publication: Towards innovative freight and logistics : Research for innovative transports set

Volume: 2

Place of publication: Great Britain

Publisher: Wiley-ISTE

Editors: Blanquart, C., Clausen, U., Jacob, B.

ISBN (Print): 978-1-78630-027-0

ASJC Scopus subject areas: Business and International Management, Environmental Engineering

Keywords: Freight logistics, Energy efficiency

URLs:

<http://www.iste.co.uk/index.php?p=a&ACTION=View&id=977>

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

#### Applying SCRUM in an OSS development process: An empirical evaluation

Open Source Software development often resembles Agile models. In this paper, we report about our experience in using SCRUM for the development of an Open Source Software Java tool. With this work, we aim at answering the following research questions: 1) is it possible to switch successfully to the SCRUM methodology in an ongoing Open Source Software development process? 2) is it possible to apply SCRUM when the developers are geographically distributed? 3) does SCRUM help improve the quality of the product and the productivity of the process? We answer to these questions by identifying a set of measures and by comparing the data we collected before and after the introduction of SCRUM. The results seem to show that SCRUM can be introduced and used in an ongoing geographically distributed Open Source Software process and that it helps control the development process better.

#### General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Università degli Studi Dell'Insubria, Former organisation of the author

Contributors: Lavazza, L., Morasca, S., Taibi, D., Tosi, D.

Number of pages: 13

Pages: 147-159

Publication date: 2010

#### Host publication information

Title of host publication: Agile Processes in Software Engineering and Extreme Programming - 11th International Conference, XP 2010, Proceedings

Volume: 48 LNBIP

Publisher: Springer Verlag

ISBN (Print): 9783642130533

#### Publication series

Name: Lecture Notes in Business Information Processing

Volume: 48 LNBIP

ISSN (Print): 1865-1348

ASJC Scopus subject areas: Control and Systems Engineering, Management Information Systems, Business and International Management, Information Systems, Modelling and Simulation, Information Systems and Management

Keywords: Agile methods, Open-source software, OSS, Process improvement evaluation, SCRUM

DOIs:

10.1007/978-3-642-13054-0\_11

URLs:

<http://www.scopus.com/inward/record.url?scp=84876211466&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84876211466

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### Characterizing trustworthy digital rights exporting

Digital Rights Management (DRM) is an important business enabler for digital content industry. Rights exporting is one of the crucial tasks in providing the interoperability of DRM. Trustworthy rights exporting is required by both the end users



and the DRM systems. We propose a set of principles for trustworthy rights exporting by analysing the characteristic of rights exporting. Based on the principles, we provide some suggestions on how trustworthy rights exporting should be performed.

#### **General information**

Publication status: Published  
MoE publication type: A4 Article in a conference publication  
Organisations: Research Community on Data-to-Decision (D2D)  
Contributors: Lu, W., Zhang, Z., Nummenmaa, J.  
Number of pages: 11  
Pages: 85-95  
Publication date: 2012

#### **Host publication information**

Title of host publication: Perspectives in Business Informatics Research - 11th International Conference, BIR 2012, Proceedings  
Volume: 128 LNBIP  
Publisher: Springer Verlag  
ISBN (Print): 9783642332807

#### **Publication series**

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Volume: 128 LNBIP  
ISSN (Print): 18651348  
ASJC Scopus subject areas: Control and Systems Engineering, Management Information Systems, Business and International Management, Information Systems, Modelling and Simulation, Information Systems and Management  
Keywords: Digital Rights Management (DRM), DRM interoperability, rights exporting  
DOIs:  
10.1007/978-3-642-33281-4\_7  
URLs:  
<http://www.scopus.com/inward/record.url?scp=84867732410&partnerID=8YFLogxK> (Link to publication in Scopus)  
Source: Scopus  
Source ID: 84867732410  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Client-Side Cornucopia: Comparing the Built-In Application Architecture Models in the Web Browser**

The programming capabilities of the Web can be viewed as an afterthought, designed originally by non-programmers for relatively simple scripting tasks. This has resulted in cornucopia of partially overlapping options for building applications. Depending on one's viewpoint, a generic standards-compatible web browser supports three, four or five built-in application rendering and programming models. In this paper, we give an overview and comparison of these built-in client-side web application architectures in light of the established software engineering principles. We also reflect on our earlier work in this area, and provide an expanded discussion of the current situation. In conclusion, while the dominance of the base HTML/CSS/JS technologies cannot be ignored, we expect Web Components and WebGL to gain more popularity as the world moves towards increasingly complex web applications, including systems supporting virtual and augmented reality.

#### **General information**

Publication status: Published  
MoE publication type: A4 Article in a conference publication  
Organisations: Computing Sciences, Bell Labs, University of Helsinki, Università della Svizzera Italiana  
Contributors: Taivalsaari, A., Mikkonen, T., Pautasso, C., Systä, K.  
Number of pages: 24  
Pages: 1-24  
Publication date: 2019

#### **Host publication information**

Title of host publication: Web Information Systems and Technologies - 14th International Conference, WEBIST 2018, Revised Selected Papers  
Publisher: Springer  
Editors: Escalona, M. J., Domínguez Mayo, F., Majchrzak, T. A., Monfort, V.  
ISBN (Print): 9783030353292

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ISSN (Print): 1865-1348  
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ASJC Scopus subject areas: Management Information Systems, Control and Systems Engineering, Business and International Management, Information Systems, Modelling and Simulation, Information Systems and Management  
Keywords: Rendering engines, Single page web applications, Web application architectures, Web browser, Web Components, Web programming, Web rendering

DOIs:

10.1007/978-3-030-35330-8\_1

#### **Bibliographical note**

EXT="Taivalaari, Antero"

EXT="Mikkonen, Tommi"

jufoid=71106

Source: Scopus

Source ID: 85079096366

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Comparing requirements decomposition within the Scrum, Scrum with Kanban, XP, and Banana development processes**

Context: Eliciting requirements from customers is a complex task. In Agile processes, the customer talks directly with the development team and often reports requirements in an unstructured way. The requirements elicitation process is up to the developers, who split it into user stories by means of different techniques. Objective: We aim to compare the requirements decomposition process of an unstructured process and three Agile processes, namely XP, Scrum, and Scrum with Kanban. Method: We conducted a multiple case study with a replication design, based on the project idea of an entrepreneur, a designer with no experience in software development. Four teams developed the project independently, using four different development processes. The requirements were elicited by the teams from the entrepreneur, who acted as product owner and was available to talk with the four groups during the project. Results: The teams decomposed the requirements using different techniques, based on the selected development process. Conclusion: Scrum with Kanban and XP resulted in the most effective processes from different points of view. Unexpectedly, decomposition techniques commonly adopted in traditional processes are still used in Agile processes, which may reduce project agility and performance. Therefore, we believe that decomposition techniques need to be addressed to a greater extent, both from the practitioners' and the research points of view.

#### **General information**

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Free University of Bolzano-Bozen, University of Oulu, Former organisation of the author

Contributors: Taibi, D., Lenarduzzi, V., Janes, A., Liukkunen, K., Ahmad, M. O.

Number of pages: 16

Pages: 68-83

Publication date: 2017

#### **Host publication information**

Title of host publication: Agile Processes in Software Engineering and Extreme Programming - 18th International Conference, XP 2017, Proceedings

Publisher: Springer Verlag

ISBN (Print): 9783319576329

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ASJC Scopus subject areas: Control and Systems Engineering, Management Information Systems, Business and International Management, Information Systems, Modelling and Simulation, Information Systems and Management

DOIs:

10.1007/978-3-319-57633-6\_5

#### **Bibliographical note**

jufoid=71106

Source: Scopus

Source ID: 85018722175

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Data Vault Mappings to Dimensional Model Using Schema Matching**

In data warehousing, business driven development defines data requirements to fulfill reporting needs. A data warehouse stores current and historical data in one single place. Data warehouse architecture consists of several layers and each has its own purpose. A staging layer is a data storage area to assist data loadings, a data vault modelled layer is the persistent storage that integrates data and stores the history, whereas publish layer presents data using a vocabulary that is familiar to the information users. By following the process which is driven by business requirements and starts with

publish layer structure, this creates a situation where manual work requires a specialist, who knows the data vault model. Our goal is to reduce the number of entities that can be selected in a transformation so that the individual developer does not need to know the whole solution, but can focus on a subset of entities (partial schema). In this paper, we present two different schema matchers, one based on attribute names, and another based on data flow mapping information. Schema matching based on data flow mappings is a novel addition to current schema matching literature. Through the example of Northwind, we show how these two different matchers affect the formation of a partial schema for transformation source entities. Based on our experiment with Northwind we conclude that combining schema matching algorithms produces correct entities in the partial schema.

#### **General information**

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Computing Sciences, Solita Ltd., Tampere University of Applied Sciences

Contributors: Puonti, M., Raitalaakso, T.

Number of pages: 10

Pages: 55-64

Publication date: 1 Jan 2019

#### **Host publication information**

Title of host publication: Research and Practical Issues of Enterprise Information Systems - 13th IFIP WG 8.9 International Conference, CONFENIS 2019, Proceedings

Publisher: Springer

Editors: Doucek, P., Basl, J., Pavlicek, A., Tjoa, A. M., Detter, K., Raffai, M.

ISBN (Print): 9783030376314

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ASJC Scopus subject areas: Management Information Systems, Control and Systems Engineering, Business and International Management, Information Systems, Modelling and Simulation, Information Systems and Management

Keywords: Data flow, Data vault, Data warehouse, Dimensional model, Schema matching

DOIs:

10.1007/978-3-030-37632-1\_5

#### **Bibliographical note**

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Source: Scopus

Source ID: 85077495040

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Ecosystems Here, There, and Everywhere — A Barometrical Analysis of the Roots of ‘Software Ecosystem’**

This study structures the ecosystem literature by using a bibliometrical approach in analysing theoretical roots of ecosystem studies. Several disciplines, such as innovation, management and software studies have established own streams in the ecosystem research. This paper reports the results of analysing 601 articles from the Thomson Reuters Web of Science database, and identifies ten separate research communities which have established their own thematic ecosystem disciplines. We show that five sub-communities have emerged inside the field of software ecosystems. The software ecosystem literature draws its theoretical background from (1) technical, (2) research methodology, (3) business, (4) management, and (5) strategy oriented disciplines. The results pave the way for future research by illustrating the existing and missing links and directions in the field of the software ecosystem.

#### **General information**

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations, VTT Technical Research Centre of Finland, University of Turku

Contributors: Suominen, A., Hyrynsalmi, S., Seppänen, M.

Number of pages: 15

Pages: 32-46

Publication date: 2016

#### **Host publication information**

Title of host publication: Software Business : 7th International Conference, ICSOB 2016, Ljubljana, Slovenia, June 13-14, 2016, Proceedings

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ASJC Scopus subject areas: Business and International Management, Management Information Systems, Modelling and Simulation, Information Systems, Information Systems and Management, Control and Systems Engineering

Keywords: Bibliometric, Business ecosystem, Software ecosystem

DOIs:

10.1007/978-3-319-40515-5\_3

#### Bibliographical note

JUF0ID=71106

EXT="Hyrynsalmi, Sami"

Source: Scopus

Source ID: 84976639801

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### Eeny, Meeny, Miny, Mo...: A multiple case study on selecting a technique for user-interaction data collecting

Today, software teams can deploy new software versions to users at an increasing speed – even continuously. Although this has enabled faster responding to changing customer needs than ever before, the speed of automated customer feedback gathering has not yet blossomed out at the same level. For these purposes, the automated collecting of quantitative data about how users interact with systems can provide software teams with an interesting alternative. When starting such a process, however, teams are faced immediately with difficult decision making: What kind of technique should be used for collecting user-interaction data? In this paper, we describe the reasons for choosing specific collecting techniques in three cases and refine a previously designed selection framework based on their data. The study is a part of on-going design science research and was conducted using case study methods. A few distinct criteria which practitioners valued the most arose from the results.

#### General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pervasive Computing

Contributors: Suonsyrjä, S.

Number of pages: 16

Pages: 52-67

Publication date: 2017

#### Host publication information

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ASJC Scopus subject areas: Control and Systems Engineering, Management Information Systems, Business and International Management, Information Systems, Modelling and Simulation, Information Systems and Management

Keywords: Agile software development, Multiple case study, Software data collecting, User-interaction data

Electronic versions:

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DOIs:

10.1007/978-3-319-57633-6\_4

URLs:

<http://urn.fi/URN:NBN:fi:tty-201706051581>

#### Bibliographical note

JUF0ID=71106

Source: Scopus

Source ID: 85018700923

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Functional size measures and effort estimation in agile development: A replicated study**

To help developers during the Scrum planning poker, in our previous work we ran a case study on a Moonlight Scrum process to understand if it is possible to introduce functional size metrics to improve estimation accuracy and to measure the accuracy of expert-based estimation. The results of this original study showed that expert-based estimations are more accurate than those obtained by means of models, calculated with functional size measures. To validate the results and to extend them to plain Scrum processes, we replicated the original study twice, applying an exact replication to two plain Scrum development processes. The results of this replicated study show that the accuracy of the effort estimated by the developers is very accurate and higher than that obtained through functional size measures. In particular, SiFP and IFPUG Function Points, have low predictive power and are thus not help to improve the estimation accuracy in Scrum.

#### **General information**

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Organisations: Pervasive Computing, University of Cagliari  
Contributors: Lenarduzzi, V., Lunesu, I., Matta, M., Taibi, D.  
Number of pages: 12  
Pages: 105-116  
Publication date: 2015

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Publisher: Springer-Verlag Berlin Heidelberg  
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ASJC Scopus subject areas: Management Information Systems, Control and Systems Engineering, Business and International Management, Information Systems, Modelling and Simulation, Information Systems and Management  
DOIs:  
10.1007/978-3-319-18612-2\_9  
URLs:  
<http://www.scopus.com/inward/record.url?scp=84942790957&partnerID=8YFLogxK> (Link to publication in Scopus)  
Source: Scopus  
Source ID: 84942790957  
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Lean software startup – an experience report from an entrepreneurial software business course**

This paper offers blueprints for and reports upon three years experience from teaching the university course “Lean Software Startup” for information technology and economics students. The course aims to give a learning experience on ideation/innovation and subsequent product and business development using the lean startup method. The course educates the students in software business, entrepreneurship, teamwork and the lean startup method. The paper describes the pedagogical design and practical implementation of the course in sufficient detail to serve as an example of how entrepreneurship and business issues can be integrated into a software engineering curriculum. The course is evaluated through learning diaries and a questionnaire, as well as the primary teacher’s learnings in the three course instances. We also examine the course in the context of CDIO and show its connection points to this broader engineering education framework. Finally we discuss the challenges and opportunities of engaging students with different backgrounds in a hands-on entrepreneurial software business course.

#### **General information**

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MoE publication type: A4 Article in a conference publication  
Organisations: Managing digital industrial transformation (mDIT), University of Turku, Department of Information Technology  
Contributors: Järvi, A., Taajamaa, V., Hyrynsalmi, S.  
Number of pages: 15  
Pages: 230-244  
Publication date: 2015

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ISBN (Electronic): 9783319195926

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ISSN (Print): 18651348

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Keywords: CDIO, Education, Lean startup, Software business, Software entrepreneurship

DOIs:

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Source: Scopus

Source ID: 84937425636

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### Minimum viable user experience: A framework for supporting product design in startups

Startups operate with small resources in time pressure. Thus, building minimal product versions to test and validate ideas has emerged as a way to avoid wasteful creation of complicated products which may be proven unsuccessful in the markets. Often, design of these early product versions needs to be done fast and with little advance information from end-users. In this paper we introduce the Minimum Viable User eXperience (MVUX) that aims at providing users a good enough user experience already in the early, minimal versions of the product. MVUX enables communication of the envisioned product value, gathering of meaningful feedback, and it can promote positive word of mouth. To understand what MVUX consists of, we conducted an interview study with 17 entrepreneurs from 12 small startups. The main elements of MVUX recognized are Attractiveness, Approachability, Professionalism, and Selling the Idea. We present the structured framework and elements' contributing qualities.

#### General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Pervasive Computing, Research area: User experience

Contributors: Hokkanen, L., Kuusinen, K., Väänänen, K.

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Pages: 66-78

Publication date: 2016

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ISBN (Print): 9783319335148

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#### Bibliographical note

jufoid=71106

Source: Scopus

Source ID: 84971538959

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### OP2A: How to improve the quality of the web portal of open source software products

Open Source Software (OSS) communities do not often invest in marketing strategies to promote their products in a competitive way. Even the home pages of the web portals of well-known OSS products show technicalities and details that

are not relevant for a fast and effective evaluation of the product's qualities. So, final users and even developers who are interested in evaluating and potentially adopting an OSS product are often negatively impressed by the quality perception they have from the web portal of the product and turn to proprietary software solutions or fail to adopt OSS that may be useful in their activities. In this paper, we define OP2A, an evaluation model and we derive a checklist that OSS developers and web masters can use to design (or improve) their web portals with all the contents that are expected to be of interest for OSS final users. We exemplify the use of the model by applying it to the Apache Tomcat web portal and we apply the model to 47 web sites of well-known OSS products to highlight the current deficiencies that characterize these web portals.

#### **General information**

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MoE publication type: A4 Article in a conference publication  
Organisations: Università degli Studi Dell'Insubria  
Contributors: Lavazza, L., Morasca, S., Taibi, D., Tosi, D.  
Number of pages: 14  
Pages: 149-162  
Publication date: 2011

#### **Host publication information**

Title of host publication: Web Information Systems and Technologies - 7th International Conference, WEBIST 2011, Revised Selected Papers  
Publisher: Springer Verlag  
ISBN (Print): 9783642280818

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ASJC Scopus subject areas: Control and Systems Engineering, Management Information Systems, Business and International Management, Information Systems, Modelling and Simulation, Information Systems and Management  
Keywords: Open source software, Quality perception, Web portal quality model, Web portals quality assessment  
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10.1007/978-3-642-28082-5-11  
Source: Scopus  
Source ID: 84870372815  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Passive condition pre-enforcement for rights exporting**

Condition pre-enforcement is one of the known methods for rights adaptation. Related to the integration of the rights exporting process, we identify issues introduced by condition pre-enforcement and potential risks of granting unexpected rights when exporting rights back and forth. We propose a solution to these problems in a form of a new algorithm called Passive Condition Pre-enforcement (PCP), and discuss the impact of PCP to the existing process of rights exporting.

#### **General information**

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MoE publication type: A4 Article in a conference publication  
Organisations: Research Community on Data-to-Decision (D2D)  
Contributors: Lu, W., Nummenmaa, J., Zhang, Z.  
Number of pages: 14  
Pages: 241-254  
Publication date: 2015

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ASJC Scopus subject areas: Control and Systems Engineering, Management Information Systems, Business and International Management, Information Systems, Modelling and Simulation, Information Systems and Management  
Keywords: Condition pre-enforcement, Digital rights management, DRM interoperability, Rights exporting

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Source: Scopus

Source ID: 84951287731

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Prioritizing corrective maintenance activities for android applications: An industrial case study on android crash reports**

Context: Unhandled code exceptions are often the cause of a drop in the number of users. In the highly competitive market of Android apps, users commonly stop using applications when they find some problem generated by unhandled exceptions. This is often reflected in a negative comment in the Google Play Store and developers are usually not able to reproduce the issue reported by the end users because of a lack of information. Objective: In this work, we present an industrial case study aimed at prioritizing the removal of bugs related to uncaught exceptions. Therefore, we (1) analyzed crash reports of an Android application developed by a public transportation company, (2) classified uncaught exceptions that caused the crashes; (3) prioritized the exceptions according to their impact on users. Results: The analysis of the exceptions showed that seven exceptions generated 70% of the overall errors and that it was possible to solve more than 50% of the exceptions-related issues by fixing just six Java classes. Moreover, as a side result, we discovered that the exceptions were highly correlated with two code smells, namely "Spaghetti Code" and "Swiss Army Knife". The results of this study helped the company understand how to better focus their limited maintenance effort. Additionally, the adopted process can be beneficial for any Android developer in understanding how to prioritize the maintenance effort.

### **General information**

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pervasive Computing, Free University of Bolzano-Bozen, SASAbus

Contributors: Lenarduzzi, V., Stan, A. C., Taibi, D., Venters, G., Windegger, M.

Number of pages: 11

Pages: 133-143

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Keywords: Continuous monitoring, Software quality, Technical debt

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### **Bibliographical note**

EXT="Lenarduzzi, Valentina"

jufoid=71106

Source: Scopus

Source ID: 85041125663

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Revenue models of application developers in android market ecosystem**

Mobile application ecosystems have growth rapidly in the past few years. Increasing number of startups and established developers are alike offering their products in different marketplaces such as Android Market and Apple App Store. In this paper, we are studying revenue models used in Android Market. For analysis, we gathered the data of 351,601 applications from their public pages at the marketplace. From these, a random sample of 100 applications was used in a qualitative study of revenue streams. The results indicate that a part of the marketplace can be explained with traditional models but free applications use complex revenue models. Basing on the qualitative analysis, we identified four general business strategy categories for further studies.

### **General information**



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MoE publication type: A4 Article in a conference publication

Organisations: Managing digital industrial transformation (mDIT), Turku Centre for Computer Science, Business and Innovation Development (BID), University of Turku

Contributors: Hyrynsalmi, S., Suominen, A., Mäkilä, T., Järvi, A., Knuutila, T.

Number of pages: 14

Pages: 209-222

Publication date: 2012

#### Host publication information

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Publisher: Springer Verlag

ISBN (Print): 9783642307454

#### Publication series

Name: Lecture Notes in Business Information Processing

Volume: 114

ISSN (Print): 1865-1348

ASJC Scopus subject areas: Business, Management and Accounting(all), Modelling and Simulation, Information Systems and Management, Information Systems, Management Information Systems, Business and International Management, Control and Systems Engineering

Keywords: Android Market, business model, Mobile ecosystem, revenue model

DOIs:

10.1007/978-3-642-30746-1\_17

Source: Scopus

Source ID: 84864211787

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### Software vulnerability life cycles and the age of software products: An empirical assertion with operating system products

This empirical paper examines whether the age of software products can explain the turnaround between the release of security advisories and the publication vulnerability information. Building on the theoretical rationale of vulnerability life cycle modeling, this assertion is examined with an empirical sample that covers operating system releases from Microsoft and two Linux vendors. Estimation is carried out with a linear regression model. The results indicate that the age of the observed Microsoft products does not affect the turnaround times, and only feeble statistical relationships are present for the examined Linux releases. With this negative result, the paper contributes to the vulnerability life cycle modeling research by presenting and rejecting one theoretically motivated and previously unexplored question. The rejection is also a positive result; there is no reason for users to fear that the turnaround times would significantly lengthen as operating system releases age.

#### General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: University of Turku, Department of Information Technology

Contributors: Ruohonen, J., Hyrynsalmi, S., Leppänen, V.

Number of pages: 12

Pages: 207-218

Publication date: 2016

#### Host publication information

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Publisher: Springer Verlag

ISBN (Print): 9783319395630

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ASJC Scopus subject areas: Business and International Management, Management Information Systems, Modelling and Simulation, Information Systems, Information Systems and Management, Control and Systems Engineering

Keywords: Linux, Microsoft, Negative result, Operating system, Security patching

DOIs:

10.1007/978-3-319-39564-7-20

Source: Scopus

Source ID: 84976644100

### **Technostress and social networking services: Uncovering strains and their underlying stressors**

Numerous users of social networking sites and services (SNS) suffer from technostress and its various strains that hinder well-being. Despite a growing research interest on technostress, the extant studies have not explained what kinds of various strains can SNS use create and how can these strains be traced back to different stressors. To address this gap in research, we employed a qualitative approach by narrative interviews. As a contribution, our findings introduce four SNS strains (concentration problems, sleep problems, identity problems, and social relation problems) and explain how they link with different underlying SNS stressors. As practical implications, the findings of this study can help technostressed users to identify their SNS strains, understand how they are created, and increase their possibilities to avoid the strains in the future.

#### **General information**

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Industrial and Information Management, Jyväskylän yliopisto

Contributors: Salo, M., Pirkkalainen, H., Koskelainen, T.

Number of pages: 13

Pages: 41-53

Publication date: 2017

#### **Host publication information**

Title of host publication: Nordic Contributions in IS Research - 8th Scandinavian Conference on Information Systems, SCIS 2017, Proceedings

Publisher: Springer Verlag

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ASJC Scopus subject areas: Control and Systems Engineering, Management Information Systems, Business and International Management, Information Systems, Modelling and Simulation, Information Systems and Management

Keywords: Social networking services, Social networking sites, Strains, Stressors, Technostress

DOIs:

10.1007/978-3-319-64695-4\_4

#### **Bibliographical note**

jufoid=71106

Source: Scopus

Source ID: 85028352668

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Timely report production from WWW data sources**

In business intelligence, reporting is perceived by users as the most important area. Here, we present a case study of data integration for reporting within the World Health Organization (WHO). WHO produces Communicable Disease Epidemiological Profiles for emergency affected countries. Given the nature of emergencies, the production of these reports should be timely. In order to automate the production of the reports, we have introduced a method of integrating data from multiple sources by using the RDF (Resource Description Framework) format. The model of the data is described using an RDF ontology, making validation of the data from multiple sources possible. However, since RDF is highly technical, we have designed a graphical tool for the end user. The tool can be used to configure the data sources of a given report. After this, data for the report is generated from the sources. Finally, templates are used to generate the reports.

#### **General information**

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Research Community on Data-to-Decision (D2D), European Organization for Nuclear Research, Helsinki Institute of Physics, World Health Organization Avenue Appia 20

Contributors: Niinimäki, M., Niemi, T., Martin, S., Nummenmaa, J., Thanisch, P.

Number of pages: 12

Pages: 184-195

Publication date: 2012

#### **Host publication information**

Title of host publication: Workshops on Business Informatics Research, BIR 2011 International Workshops and Doctoral Consortium, Revised Selected Papers  
Volume: 106 LNBIP  
Publisher: Springer Verlag  
ISBN (Print): 9783642292309

#### **Publication series**

Name: Lecture Notes in Business Information Processing

Volume: 106 LNBIP

ISSN (Print): 18651348

ASJC Scopus subject areas: Business and International Management, Management Information Systems, Control and Systems Engineering, Information Systems and Management, Information Systems, Modelling and Simulation, Business, Management and Accounting(all)

Keywords: Data integration, OLAP, ontology, RDF, XML

DOIs:

10.1007/978-3-642-29231-6-15

URLs:

<http://www.scopus.com/inward/record.url?scp=84879722808&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84879722808

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **To network or not to network? Analysis of the Finnish software industry-A networking approach**

The purpose of this paper is to study the role of networking in the development and present situation of Finnish software companies. Although the target of interest of this study is Finland, the conclusions can also to some extent be applied to other countries with mature software industries. In Finland there is uniquely wide longitudinal material on the software business available; the software industry survey is an annual study targeted for the branch, which has already been repeated for 18 consecutive years. The study shows that networking has been a key trend in the industry and also a driver for internationalization, but as it has not been identified very well in networking literature concerning the software industry, there is a clear need for further examination of software industry networks.

#### **General information**

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pori Department, Department of Information Management and Logistics, Research group: Novi, Research group: Software Engineering and Intelligent Systems

Contributors: Yrjönkoski, K., Helander, N., Jaakkola, H.

Number of pages: 11

Pages: 124-134

Publication date: 2016

#### **Host publication information**

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Publisher: Springer Verlag

ISBN (Print): 9783319405148

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ASJC Scopus subject areas: Business and International Management, Management Information Systems, Modelling and Simulation, Information Systems and Management, Control and Systems Engineering

Keywords: Networks, Software business

DOIs:

10.1007/978-3-319-40515-5\_9

#### **Bibliographical note**

JUFID=71106

Source: Scopus

Source ID: 84976620429

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Towards a lean approach to reduce code smells injection: An empirical study**

Software Quality Assurance is a complex and time-expensive task. In this study we want to observe how agile developers react to just-in-time metrics about the code smells they introduce, and how the metrics influence the quality of the output.

#### **General information**

Publication status: Published  
MoE publication type: A4 Article in a conference publication  
Organisations: Free University of Bolzano-Bozen  
Contributors: Taibi, D., Janes, A., Lenarduzzi, V.  
Publication date: 2016

#### **Host publication information**

Title of host publication: Agile Processes in Software Engineering and Extreme Programming - 17th International Conference, XP 2016, Proceedings  
Publisher: Springer Verlag  
ISBN (Print): 9783319335148

#### **Publication series**

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Volume: 251  
ISSN (Print): 1865-1348  
ASJC Scopus subject areas: Control and Systems Engineering, Management Information Systems, Business and International Management, Information Systems, Modelling and Simulation, Information Systems and Management  
DOIs:  
10.1007/978-3-319-33515-5\_30  
Source: Scopus  
Source ID: 84971570803  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Using the entity-attribute-value model for olap cube construction**

When utilising multidimensional OLAP (On-Line Analytic Processing) analysis models in Business Intelligence analysis, it is common that the users need to add new, unanticipated dimensions to the OLAP cube. In a conventional implementation, this would imply frequent re-designs of the cube's dimensions. We present an alternative method for the addition of new dimensions. Interestingly, the same design method can also be used to import EAV (Entity-Attribute-Value) tables into a cube. EAV tables have earlier been used to represent extremely sparse data in applications such as biomedical databases. Though space-efficient, EAV-representation can be awkward to query. Our EAV-to-OLAP cube methodology has an advantage of managing many-to-many relationships in a natural manner. Simple theoretical analysis shows that the methodology is efficient in space consumption. We demonstrate the efficiency of our approach in terms of the speed of OLAP cube re-processing when importing EAV-style data, comparing the performance of our cube design method with the performance of the conventional cube design.

#### **General information**

Publication status: Published  
MoE publication type: A4 Article in a conference publication  
Organisations: Research Community on Data-to-Decision (D2D), Helsinki Institute of Physics, European Organization for Nuclear Research  
Contributors: Thanisch, P., Niemi, T., Niinimaki, M., Nummenmaa, J.  
Number of pages: 14  
Pages: 59-72  
Publication date: 2011

#### **Host publication information**

Title of host publication: Perspectives in Business Informatics Research - 10th International Conference, BIR 2011, Proceedings  
Volume: 90 LNBIP  
Publisher: Springer Verlag  
ISBN (Print): 9783642245107

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ISSN (Print): 18651348  
ASJC Scopus subject areas: Business, Management and Accounting(all), Information Systems and Management, Information Systems, Management Information Systems, Business and International Management, Control and Systems Engineering, Modelling and Simulation  
Keywords: dimensions, EAV, OLAP

DOIs:

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URLs:

<http://www.scopus.com/inward/record.url?scp=80054106590&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 80054106590

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **UX work in startups: Current practices and future needs**

Startups are creating innovative new products and services while seeking fast growth with little resources. The capability to produce software products with good user experience (UX) can help the startup to gain positive attention and revenue. Practices and needs for UX design in startups are not well understood. Research can provide insight on how to design UX with little resources as well as to gaps about what kind of better practices should be developed. In this paper we describe the results of an interview study with eight startups operating in Finland. Current UX practices, challenges and needs for the future were investigated. The results show that personal networks have a significant role in helping startups gain professional UX advice as well as user feedback when designing for UX. When scaling up startups expect usage data and analytics to guide them towards better UX design.

### **General information**

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Pervasive Computing, Research area: User experience, Augmented Human Activities (AHA)

Contributors: Hokkanen, L., Väänänen-Vainio-Mattila, K.

Number of pages: 12

Pages: 81-92

Publication date: 2015

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ISBN (Print): 9783319186115

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ISSN (Print): 1865-1348

ASJC Scopus subject areas: Business and International Management, Management Information Systems, Modelling and Simulation, Information Systems, Information Systems and Management, Control and Systems Engineering

Keywords: Lean, Startup, User experience

Electronic versions:

UX Work in Startups 2015

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<http://urn.fi/URN:NBN:fi:tuni-202004153264>

Source: Scopus

Source ID: 84942786975

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Wealthy, healthy and/or happy —what does 'ecosystem health' stand for?**

The health of a software ecosystem is argued to be a key indicator of well-being, longevity and performance of a network of companies. In this paper, we address what scientific literature actually means with the concept of 'ecosystem health' by selecting relevant articles with systematic literature review. Based on the final set of 38 papers, we found that despite a common base, the term has been used to depict a wide range of hoped characteristics of a software ecosystem. However, the number of studies addressing the topic is shown to grow while empirical studies are still rare. Thus, further studies should aim to standardize the terminology and concepts in order to create a common base for future work. Further work is needed also to develop early indicators that warn and guides companies on problems with their ecosystems.

### **General information**

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations, Managing digital industrial transformation (mDIT), VTT Technical Research Centre of Finland, University of Turku, University of Turku, Turku School of Economics, Department of Management and Entrepreneurship, Innovation and Knowledge Economy, VTT Technical Research Centre of Finland

Contributors: Hyrynsalmi, S., Seppänen, M., Nokkala, T., Suominen, A., Järvi, A.

Number of pages: 16

Pages: 272-287

Publication date: 2015

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Volume: 210

ISSN (Print): 1865-1348

ASJC Scopus subject areas: Business and International Management, Management Information Systems, Modelling and Simulation, Information Systems and Management, Control and Systems Engineering

Keywords: Business ecosystem, Ecosystem health, Software ecosystem, Systematic literature study

DOIs:

10.1007/978-3-319-19593-3\_24

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<http://www.scopus.com/inward/record.url?scp=84937434086&partnerID=8YFLogxK> (Link to publication in Scopus)

### Bibliographical note

EXT="Hyrynsalmi, Sami"

Source: Scopus

Source ID: 84937434086

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### Global footprint of Nordic manufacturing firms: An explorative archive study

**Purpose** A growing research trend has recently focused on movements of manufacturing across regional boundaries through offshoring, backshoring, reshoring and nearshoring. This approach depicts only a partial picture of what is going on in terms of global manufacturing strategies. More attention is required to understanding the various forms of building the global manufacturing footprints of firms in different manufacturing industries under different contingencies. The purpose of this paper is to compare the direct capital expenditures of large Nordic manufacturing firms in various parts of the world to other forms of building global presence, i.e. R&D expenditures and acquisitions and divestments. **Design/methodology/approach** We used archival research to study the different globalisation patterns of 40 large Nordic manufacturing firms, over the period of 2005-2017. Ten largest manufacturing firms were included from each of the four Nordic countries, i.e. Denmark, Finland, Norway and Sweden. The sources of data included LexisNexis news database, company financials and EU R&D scoreboard. For each of the 40 manufacturing firms included in the study, over the 12-year analysis period, data was collected to compare the direct capital expenditure, R&D expenditure, and acquisitions and divestments. **Findings** The research results indicate considerable differences in the way manufacturing firms develop their global footprints. Comparisons are made to highlight differences across industries. Illustrative case studies are provided and future research proposals given to enrich existing research on globalisation of Nordic manufacturing.

### General information

Publication status: Published

Organisations: Industrial and Information Management, Tampere University of Technology, Industrial and Information Management

Contributors: Heikkilä, J., Virtanen, A.

Number of pages: 3

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ASJC Scopus subject areas: Business and International Management, Decision Sciences (miscellaneous)

Keywords: manufacturing, globalization, strategy, global footprint, explorative research

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Research output: Other conference contribution › Paper, poster or abstract › Scientific