

Benefits of Enterprise System Use

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Overview

- **Motivation for the work**
- **Extant research & limitations**
- **Our research objectives**
- **Exp-Ben Framework**
- **Illustrative cases**
- **Summary and future work**

Introduction and Motivation: Issues for Practice

- Identifying, managing and realising benefits and obtaining value from investments in enterprise systems is an **ongoing challenge** for research and practice.
- Survey of 625 CFO's identified that “achieving the expected benefits from IT investments” is second most critical issue for organisations of all sizes and most **critical issue for large organisations (greater than \$1 billion in revenue)** (CSC, 2008, p: 14).
- Return on IT investments remains an issue **with 43% of respondents reporting low, negative or unknown returns** (CSC, 2008, p: 17)
- Failure to identify ERP benefits may be partly related to the **level of information available** to monitor performance
- **Information quality** was the most critical issue identified in the survey (CSC, 2008, p3; p14) and **enterprise performance management (EPM)** is seen as a significant challenge flowing on from this.

Introduction and Motivation: Issue for Scholarly Research

- Identifying and managing ES benefits is also an area of theoretical and practical concern for scholarly researchers
- Extensive research effort has been directed towards understanding the nature of ES benefits (Legare, 2002; Murphy and Simon, 2002; Shang and Seddon, 2002; Staehr, Shanks, and Seddon, 2002; Stratman, 2007).
- Current research is focused into three main areas:
 - Benefits classification
 - Benefits as success (CSF/success measurement models)
 - Benefits in context

Limitations of current research

- ***Motivations*** for undertaking an ES project and how these shape the identification and presentation of benefits;
 - **Research imperative: to extend current work and develop an improved benefits framework that incorporates information about an individual organization's motivations and intentions for undertaking a specific ES project.**
- ***Timing of benefits.*** For example, is the benefit desired/expected (declared as part of the project business case), an emergent or unanticipated benefit that arises during the project (an unintended consequence) or one that is realised (or not) as a project outcome?
 - **Research imperative: to view ES benefits realisation as a process, open to being shaped by business change and to incorporate theories of business and socio-technical change in to the study of benefits realisation.**

Limitations of current research cont.

- ***Variations in reach and scope*** of ES projects. Projects vary in reach from those narrowly focused into one functional area to those covering multiple functional areas or spanning multiple organisational boundaries. Projects also vary in scope from implementation of a single ERP module, expanding or upgrading an existing system, through to full suite implementations.
 - **Research imperative: to extend current work and distinguish between the reach and scope of individual projects in order to understand variations in benefits profiles according to project type.**
- ***Locus of ES benefits***. Existing frameworks pay little attention to the locus of the benefit and to whom the benefit applies
 - **Further work is required to also clearly distinguish the locus and level of benefits within individual organizations.**

Limitations of current research cont.

- Existing studies, in particular those focusing on developing classifications of ERP benefits and critical success factors have largely drawn their data from previous literature or from short vendor case studies. There are a number of limitations in terms of the depth and richness of this secondary data.
 - Research imperative: to gather a richer set of empirical data, that is deeper and richer than that used to develop existing frameworks and includes greater contextual and project specific information. This can be used to develop a more comprehensive and empirically derived framework and taxonomy of ERP benefits that accommodates benefits change over time.

Objectives of Our Research

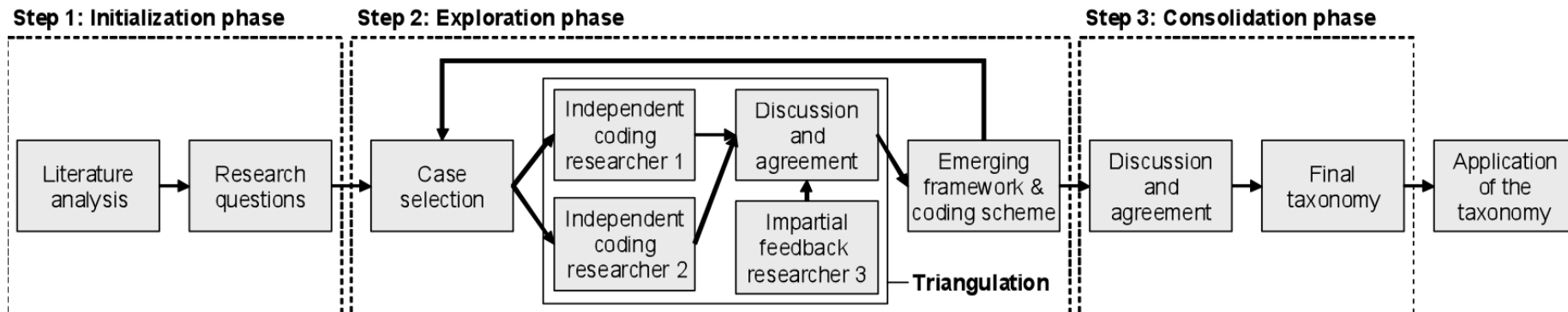
- Assist organisations to identify, manage and realise the benefits of their investments in enterprise systems
- Contribute to knowledge about benefits identification and realisation and to extend theorisations about how these can contribute to our understanding of business change and IT value in organisations
- Comprehensive, heterogeneous, empirically derived classification – to add breadth and depth to the existing work and enable more detailed analysis of benefits and benefits change

Data Source: eXperience Initiative

Case Studies

- Description of the organisations and actors involved as well as the national regulations;
- Business scenario, partners, and company strategy;
- Objectives, expectations, and desired benefits;
- Actual outcome of the project (enterprise system solution);
- Advantages achieved and the shortcomings observed (learnings)
- >120 cases (note: in this presentation we draw on 32 cases and use 15 for illustrative purposes) We begin with those case that focus on ERP systems.

RESEARCH DESIGN: Research Steps



CODING: Coding the original text

5.2 Der Auslöser des Projekts

5.2.1 Ausgangslage und Anstoss für das Projekt

Etwa zehn Jahre nach der Gründung hatte das Unternehmen eine Grösse und ein Mengenvolumen erreicht, die mit den organisch gewachsenen Organisationsabläufen nicht mehr wirtschaftlich zu führen waren. Es gab keine durchgängige Datenverarbeitung. Daten wurden in verschiedenen Insellösungen und selbst erstellten Excel-Tools mehrfach verwaltet. Dabei konnten einzelne Taschen eines Typs nicht separat abgebildet werden, obwohl es sich um Unikate handelte. Die Voraussetzungen für eine effiziente Abwicklung eines Onlinevertriebs an Endkunden waren nicht gegeben. Der bestehende Onlineshop aus dem Jahr 2000 war nicht mehr zeitgemäss und damit keine Unterstützung der Marke FREITAG. Noch schwerer wog, dass die Taschen-Unikate nicht gut genug abgebildet waren, was eine unbefriedigend hohe Retourenquote und unzufriedene Kunden nach sich zog.

FREITAG entschied sich, einen organisatorischen Generationenwechsel zu vollziehen. Dieser wird im Folgenden beschrieben. Er ging einher mit der Einführung des ERP-Systems ProConcept ERP und eines neuen Webauftritts inkl. Onlineshop.

Kommentar [psc1]: Number of transactions have increased

Kommentar [psc2]: Organic growth could not be handled economically with existing IT any more

Kommentar [psc3]: Infrastructure: IT not integrated

Kommentar [psc4]: Isolated data silos

Kommentar [psc5]: Functionality insufficient for manufacturing

Kommentar [psc6]: Channel management: missing online channel for end B2C customers

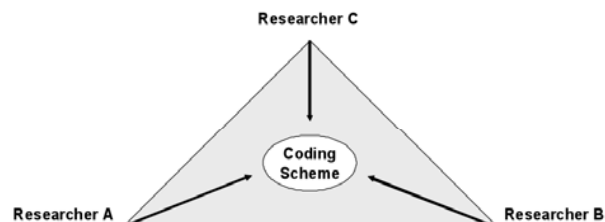
Kommentar [psc7]: Online Shop is not timely any more

Kommentar [psc8]: Too many customer complaints, unsatisfied customers


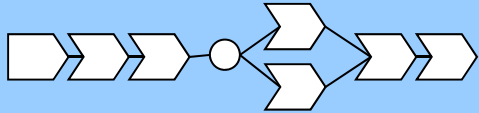
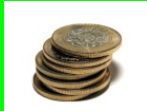



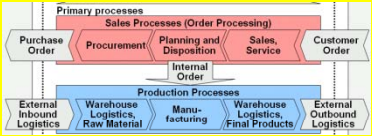




CODING:

Coding and refinement

Business Area	Aspect	Criterion	CODE	Examples
business design	processes	efficiency	BDE-PRO-EFI	Missing functionality in online channel for end B2C customers
company management	corporate finance	costs	COM-COF-COS	Increased...cost pressure
company management	employees	productivity	COM-EMP-PRO	Increase in the performance of the sales force
company management	information	availability	COM-INF-AVA	Availability of detailed customer information
company management	products	availability	COM-PRO-AVA	Increased product availability
company management	strategic management	competitive advantage	COM-COF-ADV	Possibility of differentiation from competitors...
business function	manufacturing	transparency of process	BUF-MAN-PRC	Improved traceability of products
business function	procurement	bundling	BUF-PCM-BUN	Open up synergies via the bundling of the procurement across the group...
business function	public relations / marketing	marketing actions	BUF-PRM-MAC	Analysis of customer behaviour for managing the sales promotion
business function	sales	new sales channel(s)	BUF-SAL-CHA	New sales channels
supply chain	customers	quality of service	SCH-CUS-SER	Improved customer service
supply chain	suppliers	integration	SCH-SUP-INT	Integration of suppliers for benefiting from the economies of scale
IT	data	integration	ITE-DAT-INT	Isolated data silos
IT	software	functions	ITE-SOF-FUN	Functionality insufficient for manufacturing
IT	systems	availability	ITE-SOF-AVA	Complete availability of the system



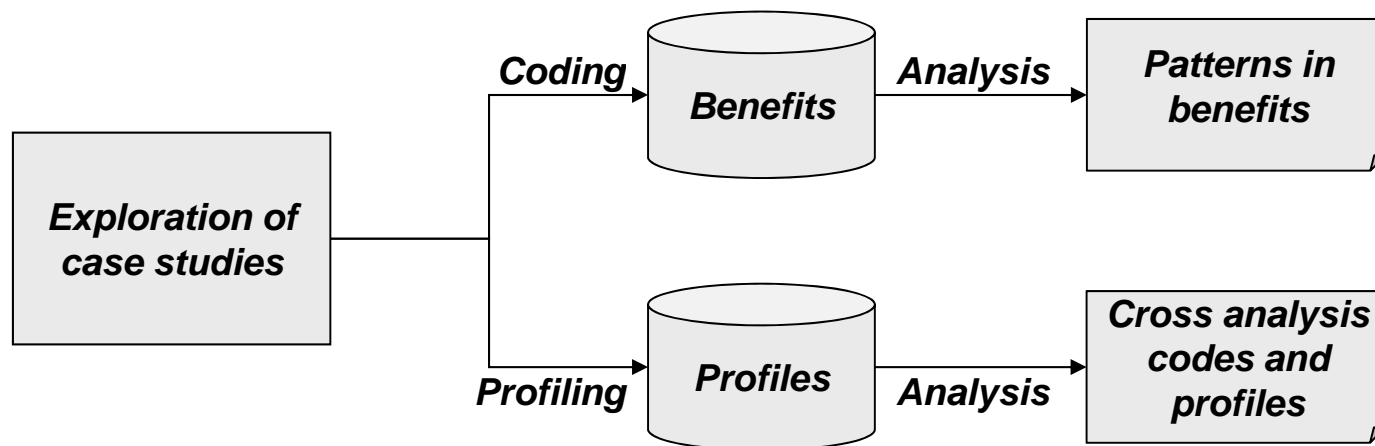
FRAMEWORK: Second iteration (July 2009)

<p>Business Design</p>	<p>„Strategy and Processes“</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p style="text-align: center;">Strategy Business processes</p>
<p>Management</p>	<p>„Resources“</p> <div style="display: flex; justify-content: space-around; align-items: center;">     </div> <p style="text-align: center;">Financial Employees Information Products</p>
<p>Functional Areas</p>	<p>„Functions“ (ERP Modules)</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <p>Suppliers/ Partners</p>  <p>Customers</p> </div> <p style="text-align: center;">Sales Procurement Manufacturing PR/Marketing Accounting HR</p>
<p>Information Technology & Infrastructure</p>	<p>“Software, Databases, Operating System”</p> <div style="display: flex; justify-content: space-around; align-items: center;">     </div> <p style="text-align: center;">Data Software Systems Networks</p>

Four levels of the framework

Business Area	Description and Theoretical Background	Case
1. Business design (strategy and processes)	<p>Strategy and business processes of a company</p> <p>Typical criteria for this area are automation, transparency, complexity, effectiveness, and efficiency.</p> <p>Theoretical background: Markets and hierarchies [34], IS strategy, Business Process Reengineering [8], Business Process Modeling [21]</p>	<p>Case FREITAG:</p> <p>Main benefit: business processes are now more integrated, more efficient, and more transparent.</p>
2. Management (resources)	<p>Resources of a company which are essential for running the business (financial, employees, information, products)</p> <p>Typical criteria for this area are cost, skills, productivity, satisfaction, time, and availability.</p> <p>Theoretical background: financial management, knowledge management, change management</p>	<p>Case Ziehl-Abegg:</p> <p>Main benefit: improved product configuration (using components from previous orders) makes employees more effective and saves cost</p>
3. Functional Areas (functions)	<p>The business functions which relate to departments (marketing, procurement, manufacturing, sales)</p> <p>Examples of criteria for this area are transparency of the process, complexity, number of transactions, sales opportunities, and turnover.</p> <p>Theoretical background: Porter's value chain with primary and secondary business functions (functional view and NOT process view) [18]</p>	<p>Case ARP Datacon:</p> <p>Main benefit: increased number of transactions due to new e-shop, analysis of customer behavior for sales promotions</p>
4. Information technology and infrastructure (technology components)	<p>The actual enterprise systems landscape of the company (software, databases, systems and networks)</p> <p>Typical criteria for this area are integration issues, adequate functions or functionality, customization, usability, use, availability, complexity, flexibility, reliability, and stability.</p> <p>Theoretical background: IT management, ITIL, hosted solutions, ASP</p>	<p>Case Pavatex:</p> <p>Main benefit: central access to application and databases improves reliability and availability of relevant business information.</p>

Rich Data Allows for Analysis based on Company and Project Characteristics



Summary

- **Need for richer information about benefits (beyond simply naming & grouping them)**
- **Possibility to look for patterns within and between industries and within and between types of project**
- **Benefits change – this preliminary work and future work focuses on benefits change and..**
- **The implications of our understanding of benefits change for benefits management and benefits realisation**

Work in progress/future directions

- **Continue coding and refinement to include all 120 cases**
- **Refine the framework, taxonomy, aspects and criteria**
- **Further longitudinal work with existing companies to continue to track benefits over time**
- **Comparison of frameworks**
- **Development and refinement of benefits visualisation and benefits mapping tools**
- **Making connections to established industry frameworks such as MSP and ITIL**

Questions?

■ **Thank you for your attention**

ANALYSIS: Coding Examples and Benefits Ranking

No	Case	p.	<- Literally in Text ->	Business Area	Aspect	Criterion	Code	Branch	Value	Met
1	FREITAG AG	57	Number of transactions has increased	business design	processes	complexity	BDE-PRO-CXY	01	01	02
		57	Organic growth could not be handled economically with IT any more	IT	software	efficiency	ITE-SOF-EFI	01	02	02
		57	Isolated data silos	IT	data	integration	ITE-DAT-INT	01	03	01
		57	Isolated, self-made programmes	IT	software	integration	ITE-SOF-INT	01	03	01

				expected benefits
company management	information	availability	COM-INF-AVA	7
business function	sales	usage of ecommerce channel	BUF-SAL-ECO	5
supply chain	suppliers	integration	SCH-SUP-INT	5
IT	data	integration	ITE-DAT-INT	5
business design	processes	transparency	BDE-PRO-TRA	4
company management	strategic management	requirements for future growth	COM-STM-FUT	4
supply chain	customers	quality of service	SCH-CUS-SER	4
business design	processes	efficiency	BDE-PRO-EFI	3
business design	processes	optimization	BDE-PRO-OPT	3
company management	products	range of products	COM-PRO-RAN	3
IT	systems: old, new	reliability	ITE-SYS-REB	3

n = 15

ANALYSIS: Realised and Unexpected Benefits

				expected benefits	expected + realised benefits	%
					01 (explicitly met)	
company management	information	availability	COM-INF-AVA	7	6	86
business design	processes	transparency	BDE-PRO-TRA	4	3	75
company management	products	range of products	COM-PRO-RAN	3	3	100
company management	strategic management	requirements for future growth	COM-STM-FUT	4	3	75
supply chain	customers	quality of service	SCH-CUS-SER	4	3	75
supply chain	suppliers	integration	SCH-SUP-INT	5	3	60
IT	data	integration	ITE-DAT-INT	5	3	60
IT	systems: old, new	reliability	ITE-SYS-REB	3	3	100
business design	processes	efficiency	BDE-PRO-EFI	3	2	67
business design	processes	optimization	BDE-PRO-OPT	3	2	67
supply chain	customers	satisfaction	SCH-CUS-SAT	2	2	100
					04 (unexpected pos.)	%
company management	employees	time needed	COM-EMP-TIN	4	8,16	
business design	processes	efficiency	BDE-PRO-EFI	3	6,12	
company management	corporate finance	costs	COM-COF-COS	3	6,12	
company management	information	availability	COM-INF-AVA	2	4,08	
company management	strategic management	competitive advantage	COM-STM-ADV	2	4,08	
company management	strategic management	requirements for future growth	COM-STM-FUT	2	4,08	
supply chain	customers	quality of service	SCH-CUS-SER	2	4,08	
IT	data	currentness / accurateness	ITE-DAT-CUR	2	4,08	
IT	data	integration	ITE-DAT-INT	2	4,08	
IT	systems: old, new	flexibility	ITE-SYS-FLX	2	4,08	
IT	systems: old, new	support of employees	ITE-SYS-SUP	2	4,08	