

2012

A Typology for Business Transformations

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Recommended Citation

Recker, Jan and Safrudin, Norizan, "A Typology for Business Transformations" (2012). *ACIS 2012 Proceedings*. 106.

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A Typology for Business Transformations (Research in Progress)

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Abstract

The term “business transformation” is a buzzword, often used to signify fundamental changes undergone by organisations. Despite numerous works in enterprise transformation, IT-enabled business transformation and organizational transformation, there appears to be a lack of consensus on what actually constitutes a business transformation as opposed to other types of redesign or organisational improvement projects. Consequently, knowledge about which elements of a business system that are impacted by such an endeavour is largely inconsistent, and partially conflicting. We present a business transformation typology that considers 18 attributes pertaining to the transforming organisation and the transformation initiative. To explore our typology, we analysed 10 published case studies and classified them along two dimensions – one ranging from marginal to fundamental changes, and another on internal and external visibility. Our literature review reveals how the terminology has been misused, and we provide some directions to provide more clarity around transformation phenomena in IS research.

Keywords

Typology, Business Transformation, IT-enabled change, construct definition

INTRODUCTION

Business transformations are often described as the orchestrated redesign of the genetic architecture of a corporation (Morgan and Page 2008). Generally, a business transformation initiative achieves fundamental changes simultaneously, although at different speeds, in four respects: 1) changes in the company’s view of itself and perceptions of the business situation; 2) changes in the internal configuration and capabilities of the organization; 3) changes throughout the value chain via improved alignment with marketplace opportunity; and 4) changes in people-based matters such as behavioural factors and skill-sets (Gouillart and Kelly 1995). Large-scale businesses that are forced to embrace these changes are often driven by the need to cope with its rapid growth or are struggling to recuperate from its business crisis (Ashurst and Hodges 2010). In sum, organizations will eventually need to undergo a business transformation to not only seek a stable position, but also to survive in highly volatile markets.

The majority of businesses rely on its Information Technology (IT) infrastructure as a key business resource for attaining long-term competitive advantage – from enabling initiatives such as improving cycle time, cross-functional processes and cross-selling opportunities, companies leveraging their IT capabilities leads to superior firm performance (Bharadwaj 2000). Hence, it is no wonder why many existing work have noted how IT plays a critical role in transforming businesses. In particular, IT can function as a strategic role in transforming an organization by fundamentally redefining business and industry processes and relationships (Dehning, Vernon et al. 2003). As such, this study considers a business transformation as one that is enabled or involves an IT artefact.

Business transformations are renowned to be prone to failure, for reasons often unrelated to technical feasibility and reliability (Markus and Benjamin 1997). This is especially evident when such initiatives are instigated in large-scale organizations bearing numerous complexities due to company size, industry type and time taken to complete the initiative (Dehning, Vernon et al. 2003). Still, although business transformations

are high in risk, when executed successfully, such initiative can yield high returns on investment (Markus and Benjamin 1997). However, before an organization can even apply existing methodologies pertinent to business transformations, it is imperative to first understand what does the term “business transformation” mean and entail, i.e. what are the particular attributes that may impact the successful outcome of a transformational initiative. Once we know what a “business transformation” entails, only then can we employ the appropriate approach to pursue such a risky, yet worthwhile and inevitable, endeavour. The many interpretations and definitions of what constitutes as a business transformation initiative may lead to an incorrect diagnosis, and therefore the inappropriate or insufficient approach. For instance, one may consider a process improvement project to be transformational, while others may consider a radical change in the organizational structure as a business transformation. In other cases, a company may perceive re-branding an organisation’s name as a transformational initiative, while others may consider this otherwise unless the business processes and enterprise architecture are altered. Thus, there is a constant change of appreciation of the notion, which demands further exploration to enable the appropriation of corresponding methods to execute the endeavour.

To aid further research into the different types, drivers and approaches to business transformation, our aim in this study is to develop a typology for business transformations. We state the following research questions:

- RQ1** What are the dimensions that constitute a business transformation typology?
RQ2 What can the typology inform about existing business transformation studies?

We proceed as follows. In the next section we will present the background work pertinent to our subject of investigation, viz. drivers of transformations, change mechanisms involved in transformations, and the role of IT in enabling business transformation to introduce the concepts and related work used in building our typology. This is followed by a description of the research approach employed to conduct this study as per our research questions. Then, we will outline our analysis and results, followed by a discussion on our findings. We will conclude with the limitations and contributions of this work.

BACKGROUND

In this section, we consider relevant literature on business transformations. We structure our literature in three parts, these being drivers for business transformations, organizational changes as part of business transformations, and the role of information technology in business transformations. What will become evident from this review of the literature is the diverse and complex nature of factors pertaining to business transformations. In an effort to structure this complex problem domain, we will thus report in the section that follows on an attempt to construct a business transformation typology that entailing the relevant important dimensions, allow for the classification of existing and future transformations and thus facilitates a better comparison of cases or benchmarking against best practices in any one area related to business transformation.

Drivers for Business Transformations

Transformational initiatives are typically driven by value deficiencies experienced by an organization that cause them to reconsider and ultimately change the way they conduct their day-to-day operations in order to survive and grow organically (Rouse 2005). Factors such as changing environmental factors (Romanelli and Tushman 1994), changing market conditions, competitive threats, government regulations (Walker 2007), customer demand and satisfaction (Ashurst and Hodges 2010), political, regulatory, and technological advancements (Greenwood and Hinings 1996) – these are classified as variables *external* to the business which are beyond their control. On the other hand, there are also *internal* drivers that leads to a transformation, such as experiencing performance crisis, change in leadership (Romanelli and Tushman 1994), or the company seeking growth & expand its market share (Rouse 2005).

Change Mechanisms in Business Transformations

The punctuated equilibrium theory (Romanelli and Tushman 1994) suggests that an organization experiences a fundamental shift in its core activities in response to the environmental conditions that causes the business to initiate a transformation. Such core activities are the defining features of organizational structure, which is encompassed by domain, i.e. the “claims an organization stakes out itself in terms of the clients it serves, the goods and services it offers, and the technologies it employs,” (Haveman 1992). Changes in one or more of these dimensions of domain involves an alteration in the organization’s core structure, such as the

introduction of new products or for new clients (Paarlberg and Perry 2007), at times require the introduction of new IT, which is denoted as the software, hardware and Information Systems that enable and support the business processes of an organization (Rosemann and vom Brocke 2010).

In addition to changes in technological structure, business transformations also involve reorganizing its human resources (Cowan-Sahadath 2010) and changing its corporate culture (Kotter 1995). In particular, employees within an organization will have to be reallocated based on their skills and competencies which will contribute to organizational capability in transforming the corporation (Cross, Earl et al. 1997). Existing studies have noted how resistance to change amongst recipients is common in organizations and as such, individual and organizational values, need to be aligned in order for the employees to realise that a such an initiative may be an opportunity for self-advancements (Paarlberg and Perry 2007).

As a result of the alterations within an organization's core structure, the enterprise will in turn change its operations by means of performing current work differently or perform different work (Rouse 2005). The first is essentially enhancing business processes such as initiating a cultural transformation which tends to be internally focused (Wischnevsky and Damanpour 2006) and in some cases remains non-visible to external stakeholders (Nutt and Backoff 1997). The second one involves operational changes by redesigning the nature of exchange among multiple participants in a business network or business scope within the extended business network, such as for instance, outsourcing manufacturing and focusing on service provision instead (Rouse 2005). This tends to be externally focused, dramatically re-positioning its market stance and as such, are highly visible to the corporate ecosystem (Dehning, Vernon et al. 2003).

Information Technology in Business Transformations

Virtually all business transformations involve the enactment of an IT artefact. Thus, it is imperative to understand what aspects of the organization will be impacted as a result of the IT installation. The IT artefacts that enable an organization to change fundamentally towards its intended state are typically of large-scale, i.e. several areas of the enterprise will be affected in terms of structure and/or strategy (Nutt and Backoff 1997). For instance, the installation of an ERP or SCM software often involves restructuring the organizational roles, and may also entail a need to reconsider its strategy in terms of core product and services offerings as the IT infrastructure can offer new capabilities to support such strategic endeavours (Ash and Burn 2003). Other aspects that may be impacted also include perceptual value of the organization within its operating environment, amongst others.

RESEARCH APPROACH

We develop our typology iteratively by conducting a literature review on case studies that report on IT-enabled business transformations to assess the fundamental organizational dimensions affected in business transformation initiative. The cases were sought from the "AIS Basket of 8" journals (<http://home.aisnet.org/displaycommon.cfm?an=1&subarticlenbr=346>), to cover the state of IT-enabled transformations comprehensively as well as to demonstrate the application of the developed typology. Periodicals were perused from the Web of Science database, with the input of the topic keyword "transformation" and the name of the eight publications with the Boolean operator 'OR'. The search returned 58 findings dated from the past six years, i.e. from January 2007 to July 2012. Perusal of the 58 articles eventuated to 25 articles that were relevant and applicable in this study. Eliminated articles included those studies that did not employ case study as the research method such as surveys or experiments and also literature reviews as these did not provide an in-depth means of assessing the nature of such transformation and application of typology. We excluded surveys and experiments because these research methods focused on a selected set of transformation aspects without delineating let alone analysing transformation from a holistic perspective, which we required to identify the relevant dimensions in our typology. Other article exclusions concerned articles that perused the term transformation in other contexts, such as studies that report on the transformation of organizational research, transformation in healthcare industry, model transformations to executable solutions, transformation of variables in equations, transformation of web development requirements into implementation and so forth. Figure 1 shows the relative distribution of relevant cases identified in the set of journals considered.

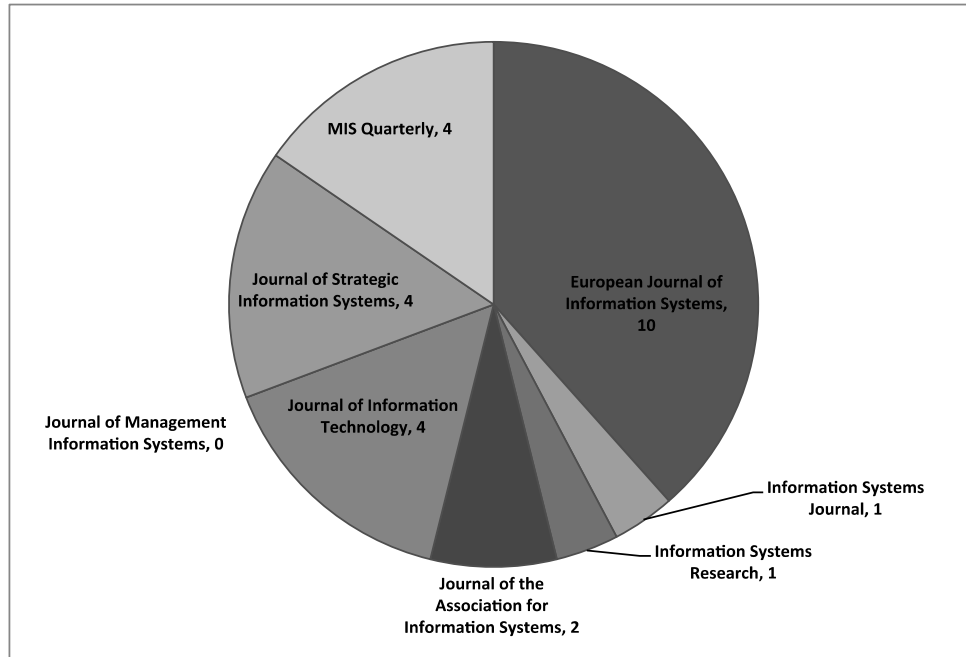


Figure 1. Number of Case Studies on Business Transformation from the Basket of Eight Journals

The following section presents the resulting outcome of the typology and classification of the 25 cases based on the attributes of the typology. As this is a research-in-progress, we applied only 10 articles in our preliminary typology development, listed in Table 1 below.

Table 1. List of Selected Case Studies Utilised in Typology Development

No.	Case Study	Source
CS1	Sava Transition in Market Economy	(Janson, Cecez-Kecmanovic et al. 2007)
CS2	French Public Health Administration IS	(Vaast and Walsham 2009)
CS3	T.Co on Packaged Software Selection	(Howcroft and Light 2010)
CS4	THA Group on Home Health Care	(Singh, Mathiassen et al. 2011)
CS5	UK National Health Service on NPfIT	(Currie and Guah 2007)
CS6	Amazon rainforest monitoring system	(Rajao and Hayes 2009)
CS7	FedEx 6x6 IT Transformation Program	(Viaene and De Hertogh 2010)
CS8	Sentara Healthcare eCare	(Abraham and Junglas 2011)
CS9	CPS & the UK Police e-Government	(Cordella and Iannacci 2010)
CS10	European e-Customs IIs	(Henningsson and Henriksen 2011)

DATA ANALYSIS & FINDINGS

Construction & Application of the Business Transformation Typology

The 10 selected case studies were analysed and we classified common themes emerging from our analysis. Overall, we found two overarching themes that pertain to 1) the organization, and 2) the transformation. Within each theme, a further nine dimensions emerged. Despite having limited number of case studies, we found that also the articles deemed irrelevant above provided insights on how case studies are described, which informed us about the dimensions that may be considered in developing a business transformation typology. Table 2 gives an overview of the dimensions of the typology and the relevant attributes, while the application of the typology based on the 10 case studies are summarised in Table 3 and Table 4.

Table 2. Attributes for Business Transformation Typology & Corresponding Values

Attributes	Values
<i>About the Organisation</i>	
1 History of Establishment	1-10 years 11-20 years 21-30 years 31-40 years 41-50 years
2 No. of Employees	Under 100 Under 1000 Under 10,000 Over 10,000
3 Scale of Enterprise	Small-to-Medium Large-Scale
4 Size of Clientele	Under 100 Under 1000 Under 10,000 Over 10,000
5 Annual Revenue	Thousands Millions Billions Trillions
6 Sector	Private Public
7 Domain	Banking & Finance Oil & Gas Health & Medical Services Consulting Services Ecology/Environment Education Engineering
8 Region	Africa America Asia Europe Oceania
9 Organisation Location	Single Multiple
<i>About the Transformation</i>	
10 Driver	Internal External
11 Scale of IT Transformation	Incremental Innovation Modular Innovation Architectural Innovation Radical Innovation
12 Duration of Transformation	1-5 years 6-10 years More than 10 years
13 Status of Transformation	Initiating On-going Completed Suspended
14 Products/ Services	Same offerings New offerings
15 Operational Changes	Perform work differently Perform different work
16 Organizational Structure	Same structure New structure
17 Target Clientele	Same client New client
18 Visibility	Internally visible Externally visible

Attributes for the Transforming Organisation

The transforming organisation may require consideration on the following organisational dimensions due to the impact it has on the outcome of the endeavour, listed as follows:

- *History of the organisation's establishment*: Provides insights on the existing organisational structure such as for instance the legacy systems, workflows and processes, which will impact the approach taken to plan and execute the transformation.
- *Scale of an enterprise*: Informs the level of complexity involved, such as network management amongst the partners within the ecosystem, or when considering the amount of effort to redesign business processes embedded in the organisation.
- *Size of the clientele*: Plays an important factor in customer relationship management, as this will determine the respective strategies required to manage clients affected from the transformation, including the allocation of resources to enable such an effort.
- *Annual revenue*: One of the indicators of financial performance, which is required for financial management to allocate budget and fund the transformation.
- *Number of employees*: Influences the change management plan required to guide the transition of the enterprise's human resources, as the changes required in a business transformation will also impact the employees of an organisation.
- *Sector*: Private sector are renowned to be more profit-driven as opposed to citizen-centricity of public sectors, plus having different political and regulatory requirements which in turn requires different approaches to stakeholder and strategy management.
- *Domain*: Similar to the sector dimension, ascertaining the domain in which the transforming organisation resides in helps in generalising the approach taken to manage a business transformation, such as applying lessons learnt from domains alike.

- *Region*: Acknowledging the various environmental circumstances such as different culture, country regulations, compliance, currencies, time zones and so forth assists in managing the level of risk, uncertainty and complexity of a business transformation.
- *Location*: Having a single or multiple locations of a business determines strategy and plan to rollout projects for IT-enabled business transformation, as a big-bang approach is highly unlikely to be successful.

Attributes for the Transformation Initiative

The purpose of identifying the dimensions of the business transformation itself is as follows:

- *Driver*: To deduce whether the motivation of a business transformation is triggered by internal or external factors, which in turn informs the urgency of the approach taken to plan and execute in a proactive or reactive manner.
- *Scale of IT Transformation*: To determine the level of change and innovation introduced to an organisation in deploying an IT artefact in order to deduce how much resources to ramp up before, during or after deployment.
- *Duration of Transformation*: To gauge how long an initiative lasts and its current status, which informs the planning of resource allocation such as human capital, budget and so forth.
- *Status of Transformation*: Identifying the progress of the transformation assists in the process of planning required in order to complete the transformation initiative.
- *Products/Services*: To identify the necessary strategy to either improve the quality of its existing products or services, or offer new products and services.
- *Operational Changes*: The value realized is that the transformed organization may result in performing current work differently by means of simplifying complexities, or perform different work through a creative or innovative approach.
- *Organisational Structure*: The initiative may foster culture and working conditions for the existing organizational structure, or it may cause a new structure to emerge in order to align employee values with the initiative via new challenges and opportunities for self-advancement.
- *Target Clientele*: The clients of an enterprise are undoubtedly the prime reason for the existence of a business and as such, the focus lies on realizing the value of a business transformation for the customers it may enhance customer satisfaction for existing clients, or it may target a new client segment.
- *Visibility*: The initiative may only be visible to the internal organization, or it may be visible externally to its stakeholders, which suggests the need to employ pertinent communication and marketing tactics.

DISCUSSION

The purpose of this section is not to discuss the findings of the case studies, but rather on the typology itself. In doing so, we develop preliminary answers to the two research questions we set out to answer.

Research Question 1. We sought to explore what are the dimensions that constitute a business transformation typology. Our interpretations of the findings suggest two key messages: 1) there are attributes that inform the context which needs to be factored in when embarking on a transformation; and 2) there are attributes that reflect the extent to which the transformation unfolds upon and after completion. The former entails attributes such as history of the establishment, number of employees, scale of enterprise, size of clientele, annual revenue, region, driver, duration and status of the transformation, as well as visibility of the transformation initiative – these attributes do not necessarily inform whether the business has transformed or otherwise; rather, they may need to be accounted for as moderating variables in researching business transformation management. Similarly, sector, domain and region are also factors that specify the context in which the transformation may occur. However, it is also possible for the business to shift from one sector to another, or one domain to another, which affects the business processes with new governance policies, while offering its patrons new value proposition(s). As for locations, IT-enabled business transformations may occur across multiple geographical locations whereby such endeavours require the consolidation of multiple legacy systems into a single centralised system, based in the region where the organisation is headquartered in. The attributes that do constitute as business transformation include the new IT artefact deployed, changes to work operations and organisational structure, new product and/or service offerings, and subsequently new target clientele.

Table 3. Applying 10 Case Studies to the Business Transformation Typology – About the Organisation

Case Study	ATTRIBUTES								
	<i>About the Organisation</i>								
	Year Established	Industry Sector	Domain Sector	Scale of Organisation	No. of Employees	Region Based	Regional Distribution	Size of Clientele	Annual Revenue
CS1	1920	Private ¹	Manufacturing	Large-scale	>2000	Slovenia	Single	n/a	n/a
CS2	1980s	Public	Environmental Health	Large-scale	1500	France	Single	n/a	n/a
CS3	1990	Private	Career Consulting Services	Small-Medium	53	UK	Single	n/a	n/a
CS4	1995	Private	Health Care Services	Small-Medium	100	US	Single	n/a	n/a
CS5	1948	Public	National Health Service	Large-scale	n/a	UK	Single	50 mil	n/a
CS6	1961	Public	Environmental Protection ²	Large-scale	n/a	Brazil	Single	n/a	n/a
CS7	1973	Private	Transport & Logistics	Large-scale	n/a	US	Multiple	n/a	\$35,214 m
CS8	n/a	Private	Health Care Services	Large-scale	n/a	US	Single	321,500	n/a
CS9	1985	Public	Law/Civil Service	Large-scale	n/a	UK	Single	n/a	n/a
CS10	n/a	Public	Customs Service	Large-scale	2 mil	Europe	Single	n/a	n/a

Table 4. Applying 10 Case Studies to the Business Transformation Typology – About the Transformation

Case Study	ATTRIBUTES								
	<i>About the Transformation</i>								
	Driver	Scale of IT Transformation	Duration	Status	Products/ Services	Operational Changes	Organisational Structure	Target Clientele	Visibility
CS1	External	Radical Innovation	1997 – 2004	Completed	Same	Work differently	New	Same	External
CS2	External	Architectural Innovation	1997 – 2003	Completed	Same	Work differently	New	Same	Internal
CS3	Internal	Modular Innovation	2000 – 2002	Suspended	Same	Work differently	n/a	Same	Internal
CS4	Internal	Architectural Innovation	2000 – 2009	Completed	Same	Work differently	New	Same	Internal
CS5	Internal	Radical Innovation	2002 -	On-going	Same	Work differently	New	n/a	External
CS6	External	Incremental Innovation	1964 – 2008	Completed	New	Different work	n/a	n/a	External
CS7	Internal	Architectural Innovation	2004 – 2006	Completed	New	Work differently	New	Same	External
CS8	Internal	Architectural Innovation	2005 – 2015	On-going	Same	Work differently	New	Same	Internal
CS9	Internal	Radical Innovation	2005 – 2007	Completed	Same	Work differently	New	n/a	Internal
CS10	Internal	Radical Innovation	2006 – 2010	Completed	Same	Work differently	New	n/a	Internal

¹ Shifted from public to private

² Consists of 3 conceptions of control: Military, Economic, and Ecological

Figure 2 further illustrates the classification of the ten case studies (CS1 – CS10), along two dimensions. The first dimension reflects the changes brought about from the initiative, ranging from marginal to fundamental. The changes comprise of the impact of the business transformation on the IT and organisational structure, including new product(s) and/or service(s) that results in new value proposition(s). The second dimension reflects the visibility of the transformation, ranging from being externally visible to only internally visible.

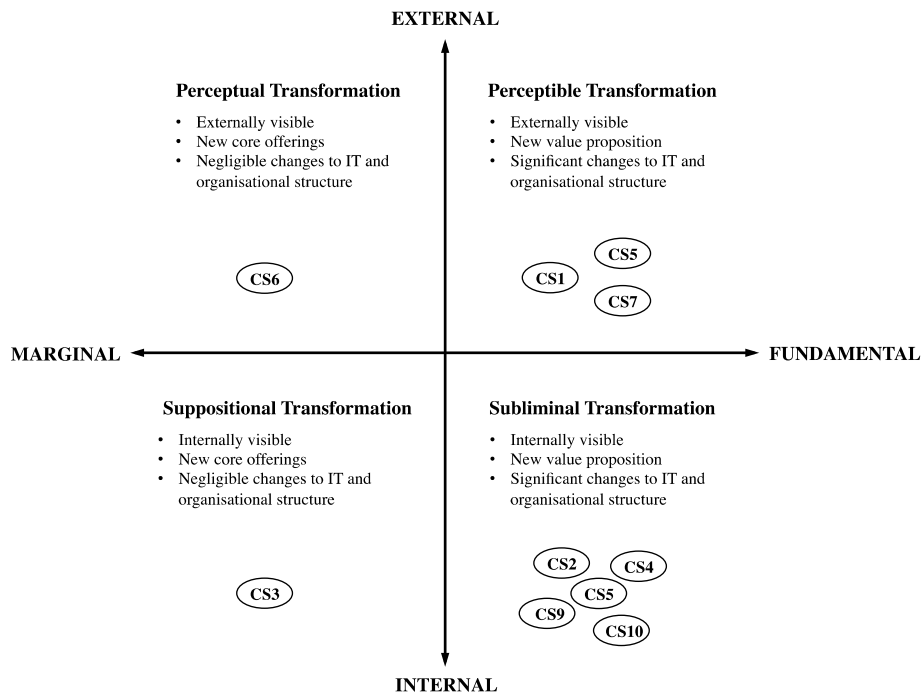


Figure 2. Typology of Business Transformations

A closer examination of the two dimensions suggests that the attributes that contribute to a business transformation typology can also be classified into four categories, where the case studies were applied:

- 1) **Perceptible Transformation** – This quadrant bears cases of companies (CS1, CS5 and CS7) that have announced their transformation (externally visible), promising new value propositions by means of revamping to the enterprise’s IT infrastructure, work operations and organisational structure (fundamental changes). The rationale for making such a strategic endeavour public is to gain competitive position in its market which may impact investors’ interest towards the firm (Dehning, Vernon et al. 2003).
- 2) **Perceptual Transformation** – This quadrant has one case (CS6) that announced their transformation (externally visible), declaring new products and/or services, but has made minor adjustments in terms of IT infrastructure, work operations and organisational structure (marginal changes). Such a case supports our assertion on the misuse of the term “business transformation”; while the strategic move undertaken by the company may indeed transform their position within the market by offering novel products and/or services, in the true essence of IT-enabled business transformations, such an endeavour does not constitute as a business transformation as the company did not undergo any significant changes internally.
- 3) **Subliminal Transformation** – This quadrant holds the majority of cases (CS2, CS4, CS5, CS9 and CS10) where companies have significantly reconstructed their IT, operational and organisational structure (fundamental changes), but did not announce their initiative to the general public (internally visible). In contrast with perceptible transformation, these companies may choose to not announce their initiative to protect company reputation, in the event of an unfavourable outcome (Linder, Cole et al. 2002)
- 4) **Suppositional Transformation** – The case (CS3) under this quadrant have not made any transformation in terms of IT infrastructure, work operations or organisational structure (marginal changes), nor have they made any announcement of doing so (internally visible). This quadrant represents cases that are perceived by others to be transformational, but are in fact the opposite and thus, supports our contention on the misconception of the term “business transformation”.

Research Question 2. In our second research question we sought to investigate what does the typology inform about existing business transformation studies. We found cases where we were unable to elicit information pertaining to the typology attributes and corresponding values. Our findings show several cases that do not provide organisational information such as the *annual revenue*, *year of establishment*, *number of employees*, and *size of clientele*. Missing information about the transformation include, changes to the *organisational structure* and *target clientele*. The organisational attributes may help in contextualising the business situation. The annual

revenue may serve as a performance indicator on whether the company is in a period of crisis or growth, thereby informing the motivation for the transformation to determine an appropriate strategy. The year of establishment, number of employees and clientele may also provide a richer image of the complexities embedded within the transforming organisation in terms of existing IT infrastructure or legacy systems, business processes, and business model respectively. These attributes may inform why the organisation employed the steps taken or should have taken to transform the business. Similarly, information about the transformation outcome may reflect the degree to which the business has indeed transformed beyond the deployment of an IT-artefact, such as the internal changes in organisational structure via creation of new roles, and external changes such as acquiring new client segment, reflecting the benefits from an IT-enabled business transformation.

CONCLUSIONS

In this paper, we presented a typology for business transformations that describe core organizational dimensions impacted from such a complex initiative. First, we factored in two overarching themes, with a total of 18 attributes, bearing 9 attributes per theme. Upon application of 10 case studies (15 pending for future work), we then classified the cases in a 2x2 matrix, showing four transformation types. Our findings suggest that while most case studies reflect the fundamental changes to the aforementioned attributes, some cases tend to misuse the term "business transformation" where they do not necessarily constitute to such a phenomena.

We acknowledge that our study bears certain limitations. First, our selected cases were based on secondary sources and thus may not provide complete information about the transformations themselves. Furthermore, assumptions had to be made which may accurately reflect the case. Nonetheless, we endeavoured to select cases that had sufficient information to make deductions on the typology attributes. Secondly, our ability to generalise from such cases may be restricted due to the limited number of cases available. Third, our criteria to categorise the values per attribute may not be mutually exclusive. Yet, we based our coding on what appeared to be the primary manifestation of such instances, and contend that while it may be difficult to categorise certain attributes, we have at least provided some form of structure to assess the impact of a business transformation.

Findings on the 10 cases studies have provided some preliminary insights on how existing works have typified a transformational initiative. Specifically, the term "business transformation" is overused, bearing conflicting attributes, subsequently lacking clarity as to what constitutes such a phenomena. Our work contributes to the body of knowledge by illuminating the distinct attributes and dimensions that account for a business transformation. Management in industry practice too can benefit from our normative typology in deducing the values their organisation wishes to achieve during the initial phases of their business transformation. Furthermore, awareness of the attributes may provide the contextual setting in deducing which methods are pertinent and can be applied from similar cases, ultimately increasing chances of a successful transformation. We believe that our study provides some valuable insights on the attributes of business transformations, which can be the basis for further studies regarding methods and approaches in the field of business transformation.

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ACKNOWLEDGEMENTS

This work is a joint research initiative between the Queensland University of Technology, and SAP Business Transformation Academy. Niz Safrudin has been supported by funding from the SAP Business Transformation Academy as part of her PhD research program.

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