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THE EMERGING MANAGEMENT SERVICES OF BUSINESS TRANSFORMATION MANAGEMENT

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Abstract

Business transformations are large-scale organizational change programs that, evidence suggests, are often unsuccessful. Our interest is in identifying the management capabilities required for the successful execution of these projects. We advance a service-oriented view of the enterprise, which suggests that different management services need to be identified and integrated in order to execute business transformation. In order to identify those management services that require integration, we conducted an exploratory empirical study of the demand for management services in US and Asia, and we show that two archetypes of management services exist in business transformation initiatives: transactional and transformational management services. We identify the relevant set of transactional and transformational services and discuss what the demand for these services implies for the execution of business transformations.

Keywords: business transformation, management services, exploratory study, factor analysis.

1 INTRODUCTION

In seeking a stable or growing position in highly volatile markets and under continuing pressure from technological advances, organisations often seek business transformations as the large-scale revolutionary changes (Venkatraman, 1994) that provide them with a newer way of conducting business. The nature of such transformation depends on whether businesses are in times of growth (Cherbakov, Galambos, Harishankar, Kalyana, & Rackham, 2005) or crisis (Ashurst & Hodges, 2010), and may, in essence, take either or both of the following forms (see Figure 1):

- The business may **perform current work differently** (Rouse & Baba, 2006) by redesigning its work processes including the deployment of a new technological infrastructure, business processes, financial model and/or the restructuring of human resources. For instance, Malaysia Airlines were experiencing a crisis and were on the verge of bankruptcy in April 2006 upon realising a reported financial loss of RM\$1.3 billion in September 2005 (HCL-AXON, 2010; MalaysiaAirlines, 2008). As a result of a radical business turnaround plan, the carrier not only recovered from its financial crisis, but also exceeded their profit and loss target despite the rise in oil prices per barrel. This type of transformation is internally focused, and in some cases remains even non-visible to external stakeholders.
- The business may desire to **perform different work** (Rouse & Baba, 2006) by altering its strategic vision including the redefinition of its business scope and business model, thereby offering its customers an all-new value proposition. An example of this instance is Apple Inc. (Johnson, Christensen, & Kagermann, 2008) who introduced the iTunes and iPod in 2003, which later accounted for 50% of the company's revenue. In early 2003 the company earned USD\$1 billion and in late 2007, Apple earned over USD\$150 billion. This was a result of the introduction of a simple yet innovative business model that combined hardware, software and service to deliver music, with ease, to its customers. It transformed the business from selling computers, to selling a lifestyle product that gained significant market share. This example shows that such transformations are externally focused, dramatically re-positioning its market stance and as such are highly visible to the corporate ecosystem.

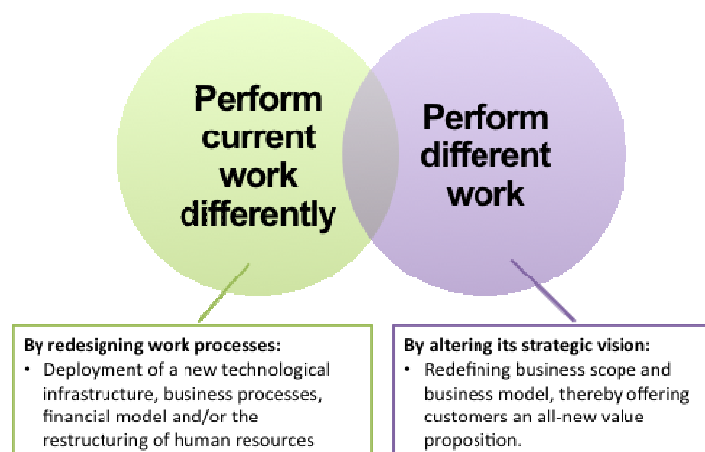


Figure 1: Approaches to Business Transformation

Conducting enterprise-wide business transformations requires a wide variety of capabilities to manage these large-scale projects. Take for instance, in the case of Malaysia Airlines, the carrier required *financial management* services to evaluate its profit and loss statements in order to elicit associated costs impeding its financial performance. Following this, the company then called for its *operational management* team to identify and implement areas of improvement, including input from *human resource management* to tackle the employee-related crisis that severely impacted organisational

performance and customer satisfaction. *Process and change management* was also required in conjunction with the reorganisation of work practices, embedding a distinct culture within the airline. Above all, in addressing the issues and envisioning the avenues required to radically transform the business for survival, the company devised several strategies and subsequently required *strategy management* to drive the business transformation via *program management* and *project management*. Similarly in the case of Apple Inc., the organisation formulated a new business model that consolidated *strategy management*, *value management* and *innovation management* in order to form a business case that is not only unique to its market, but also brought a new value proposition for its clientele. Furthermore, *information technology management* was also required to handle hardware and software aspects.

As can be seen, there exist a plethora of services originating from various management disciplines that need to be synchronised for a successful business transformation management project. We refer to these as the *management services* that are critical to a successful business transformation. Management services originate from various management disciplines, which, on their own, all have reached a significant level of maturity in terms of methodologies and approaches (e.g. project management with PRINCE2, program management with MSP, change management with Kotter's eight principles, IT management with ITIL framework, process management with Six Sigma and so forth). Yet, despite the existence of these proven practices, many transformation projects still fail with an alarming failure rate of up to 70% (Ashurst & Hodges, 2010). In addition, many senior executives deem their transformational capabilities as being low (Cappemini, 2009) which is ineffectual for the pressing need for enterprise growth (Gartner, 2011), let alone survival.

In our overarching research program we conjecture that one of the causes of such failure is due to the silo concentration of the services provided by each management discipline alone. It is required but not sufficient, for example, to deploy a sophisticated project management methodology as well as mature IT services in a transformation project. Still, the maturity of these and other services alone are not sufficient for achieving a successful transformation. We believe this is due to a need for a meta-management discipline that integrates and orchestrates the various management services required in a business transformation initiative.

While this conjecture lies at the heart of our overarching research program on business transformation management, our specific aim in this paper is two-fold. First, we seek to elicit which management services are commonly incorporated in business transformation initiatives. Second, we seek to determine which management services are interdependent of one another in business transformations. Providing an answer to these aims would progress our work towards the potential integration patterns required in successful business transformations. Thus, the research questions that guide our study are:

RQ1 Which management services are required in a business transformation?

RQ2 Which management services require integration in a business transformation?

In order to answer these questions, we conducted the first exploratory empirical analysis of the demand for management services in business transformation initiatives by examining data collected from role descriptions on the American and Asian job market.

This paper will proceed in the following manner. First, a background on existing work pertaining to business transformations is presented, including a review on the management services theoretically involved in a business transformation. Next, the research method is discussed, entailing the procedures taken to gather data on what management services are required in business transformation initiatives. This is followed by a discussion on how we conducted the data analysis. We then present the results and discuss the findings in Section 4. In Section 5, we conclude the paper with our contributions, implications and limitations.

2 BACKGROUND

2.1 Management Services in Business Transformation

Management is defined as the process of coordinating work activities in an efficient and effective manner with and through people (Robbins & Coulter, 2002) by means of planning, organising, leading and controlling (Wood et al., 2010). Put simply, management is about human beings where, “its task is to make people capable of joint performance, to make their strengths effective and their weaknesses irrelevant.” (Drucker & Wilson, 2001, p. 8). Following Drucker and Wilson’s line of thought, management in this study concerns the managers who are involved in business transformation initiatives. Existing studies in business transformation have identified two types of leadership genres in the management of business transformation: *transactional* leadership and *transformational* leadership. Transactional leadership yearns for solid, consistent performance in line with agreed upon goals (Bryant, 2003), and transactional leaders reward or punish subordinates in exchange for their delivered performance (Eisenbach, Watson, & Pillai, 1999). Transformational leadership exceeds the economic-transaction nature of transactional leadership in a sense that transformational leaders are able to elicit exceptional performance from their subordinates (Bryant, 2003) by motivating them to identify with the strategic vision of the organisation (Eisenbach, et al., 1999) and exert themselves in the service of attaining that vision (Herold, Fedor, Caldwell, & Liu, 2008).

Services are actions carried out by an entity on behalf of another (O’Sullivan, Edmond, & Ter Hofstede, 2002). Services are also assets that have an inherent value transferable from the provider to the recipient and can be contained within other services (O’Sullivan, et al., 2002). In this research, a **Management Service (MS)** in a business transformation initiative is defined as an abstract resource capable of providing a set of coherent management functionalities (derived from the required management disciplines) that contribute to the overall management of business transformations within an organisation. Inspired by the theories of transactional and transformational leadership, such management services can broadly be categorised into *transactional MS* and *transformational MS*.

Transactional MS have an operational focus and are provided for the management of the currently defined business processes and existing practices. Consequently, they tend to be repetitive (e.g., accounts payable), predictable in their outcomes and low in risk. In other words, they are dedicated to ‘keep the lights on’. Such transactional services are systematic in nature, characterised by a strict adherence to regulations and governance. This type of MS is constrained by existing agreements, procedures, policies and protocols (see exploiting knowledge in Boisot, 1998) to ensure successful and reliable delivery of products and services to existing customers. A transactional MS aligns with the nature of an exploitative business (see March, 1991) in an ambidextrous organisation (O’Reilly III & Tushman, 2004). For instance, financial management can be classified as a transactional MS as its nature is to ensure that the monetary transactions of the organisation are executed in accordance to external legislative requirements and internal standards for existing internal and external customers, following normative procedural policies.

Transformational MS have an entrepreneurial focus and are dedicated to the design of future processes and practices. They need to be tailored to the specific vision and objectives underlying the driving strategy. The actual outcomes of such transformational MS is less predictable and often unknown. As a consequence, they tend to have a higher inherent risk. Transformational MS provide capabilities (see creating and sharing knowledge in Boisot, 1998) in a business transformation initiative that facilitate extensions of the current operations and management practices. Transformational MS align with the nature of an exploratory business (see March, 1991) of an ambidextrous organisation, and seek to trigger and enable risk-taking, speed, flexibility, and experimentation, whilst executing its crucial tasks such as adaptability, new products and breakthrough innovation (O’Reilly III & Tushman, 2004). An example of a transformational MS is process management, as this particular service is dedicated to the design of new processes that support future practices with the aim of positioning the organisation more competitively and entirely new within an existing market.

2.2 Management Disciplines in Business Transformations

In a first step in our research, we sought to identify those management disciplines that provide services required in a business transformation. We performed a review on business transformations in the organisational and management literature, and also drew from our data analysis of business transformation managerial roles (see Section 3) to identify the following management disciplines that appear to consistently display a functional role in implementing organisational transformations:

- **Asset Management** – The process of controlling a collection of assets throughout the duration of the technical lifecycle that guarantees a suitable financial return and ensures defined service and security standard (J. Schneider, Gaul, Neumann, & Hografer, 2006)
- **Change Management** – The process of continuously renewing organisational direction, structure and capabilities such as training to cater to the changing needs of both internal and external customers (By, 2005).
- **Customer Relationship Management** – The process of managing the entire customer lifecycle in order to create increased customer lifetime value (Payne & Frow, 2005).
- **Financial Management** – The process of efficiently utilising an important economic resource, the capital funds, necessary for operations in a business, in any state of the business (Finch, 2010).
- **Human Resource Management** – The process of focusing on establishing and developing a team of individuals for a particular organisational objective (Marchewka, 2009).
- **IT Management** – The process of planning, organising, controlling and directing the introduction and utilisation of IT within an organisation (Boynton, Zmud, & Jacobs, 1994).
- **Marketing Management** – The process of enacting marketing-related strategies and tactics, such as the contribution to business models, to meet an organisation's goals with the participation of ever resource, human or otherwise, in the marketing process (Niketh & Karl, 2009).
- **Process Management** – The process of utilising methods, organisational procedures, concepts and techniques to support the design, administration, configuration, enactment and analysis of business processes (Weske, 2007).
- **Program Management** – The process of coordinating, integrating and managing a group of related projects in order to attain benefits unrealised when projects are managed independently (Lycett, Rassau, & Danson, 2004; Pellegrinelli, 2011).
- **Project Management** – The process of applying skills, knowledge, techniques and tools to project activities in meeting stakeholder needs and expectations from a project (Marchewka, 2009).
- **Risk Management** – The process of establishing and understanding potential roadblocks and issues, and formulating mitigation strategies to appropriately manage and respond to anticipated obstacles (Marchewka, 2009; B. Schneider & Bowen, 1993).
- **Sales Management** – The process of ensuring growth, development, profitability and impact on customers, whether trade or direct customers, of a business (Noonan, 1997).
- **Services Management** – The process of identifying capabilities, structures, and processes with which services are conceived, designed and orchestrated (Rai & Sambamurthy, 2006).
- **Stakeholder Management** – The process of managing any group or individual who can affect or is affected by the achievement of the organisational objectives (Lynda, 2009).
- **Strategy Management** – The process of transforming the daily chaos of events and decisions in an orderly manner of evaluating an organisation's position in its environment (Porter, 1981).
- **Supply Chain Management** – The process of integrating those business processes from the end users through to the original suppliers that provide products, services and information that add customer value (Oliver & Webber, 1982).
- **Transition/Transformation Management** – The process of developing and executing a transition plan which are required to provide those transformational capabilities such as deployment of processes, tools, and technology.

Of course, this list of required management disciplines is by no means necessarily exhaustive or complete for the management of business transformations. However, this is the list that we could

derive from the comprehensive set of evidence that we could gather so far. Indeed, existing literature has often stressed how more than one management discipline was found to be relevant to the management of transformational change, for instance:

- Process management and change management (Grover, 1999),
- Change management, program management and project management (Cowan-Sahadath, 2010),
- Strategic management, process management and change management (Earl, Sampler, & Short, 1995),
- Project management and process management (Jenkin & Chan, 2010),
- Project, IT, knowledge, human resource and risk management (Marchewka, 2009),
- Risk management, IT management and project management (Ashurst & Hodges, 2010),
- Human resource management and IT management (Gartner, 2010),
- IT management and project management (Walker, 2007),
- Change management, risk management and IT management (Halley & Bashioum, 2005).

Our interpretation of the literature is, therefore, that different business transformation projects may require different set of capabilities provided by management services, and that, dependent on the nature and type of the transformation, even the same set of management services may need to be orchestrated in different ways. To be able to untangle this complex set of management services and their orchestration, therefore, it is required firstly to gain a more thorough understanding of which management services, and which combination(s) of management services are in demand by business transformation management. In the following, thus, we report on our exploratory empirical study aimed at providing insights to this challenging question.

3 METHOD

We collected data about the demand for management capabilities in business transformation initiatives through an online search for job advertisements in relation to business transformation initiatives within Asia and the United States of America. We were specifically interested in those role descriptions that described demand for capabilities on a managerial level in a large-scale organisation. In doing so, we employed a secondary data analysis technique (Church, 2002) in our data collection stage to obtain our required data, as this provides an effective alternative to base our studies upon information that is readily-available and current and that are published, in this instance, online.

Our search criteria entails careful selection of job descriptions that were explicitly advertised for organisational transformations, regardless of whether it is an IT-enabled transformation, HR or financial transformation. We conducted the search in late February 2011, spanning from job-seeking websites such as SEEK, Jobfox, JobsStreet, CareerOne, CareerBuilder and the like, to numerous online advertisements via the organisations who were undergoing large-scale business transformations themselves. An initial set of 72 roles was found in Asia, and a further 76 roles in the US market. Upon perusal of the 148 roles, we discovered that some positions were not of a managerial level (i.e., instead on a transactional-level position), and some organisations regarded department-internal process improvement initiatives (e.g., redesigning the procurement process) as a large-scale business transformation. In addition, some project manager roles did not show the direct association with a business transformation initiative. As such, we made two assumptions: 1) that such positions were in fact not associated with business transformation projects, and 2) that the positions reflected, to a large extent, the general managerial capabilities required for a business transformation initiative. After ensuring that the data contained roles that were pertinent to our study by eliminating redundant ones, we arrived at a total of 140 positions with 70 roles based in Asia (Hong Kong, Singapore, Malaysia) and another 70 distributed across the US. Each role description featured a narrative-like description of the project and the management capabilities in demand, typically spanning 1-2 pages of the job description.

4 ANALYSIS AND DISCUSSION

4.1 Analysis Strategy

The data was analysed in three steps. First, we coded the types of management services required from the job descriptions, by reading each advertisement, and categorising the stated requirements as per list of MS identified from our literature review (see Section 2). A value of “1” was assigned for each MS that was cited, or “0” for non-cited MS. We identified the existence of a MS in the business transformation initiative by referring to the explicit indication of a management discipline, e.g., “change management”, or by implicit interpretation of a MS with reference to the definition list of management disciplines given in Section 2.2 above. This coding approach ensured that the description of the management tasks were in line with the definition of the respective management disciplines. For instance, this procedure allowed us to code the requirements from the statement “develop relationships with customers”, as a demand for customer relationship management services. To ensure coding reliability, all 140 job descriptions were assessed independently by two research assistants, who then met together to discuss, justify and revise their coding until consensus was achieved.

In a second step, we sought to identify appropriate linear combinations of MS required in the datasets. To that end, we conducted a Principal Component Analysis (Field, 2009), to extract compounds of MS that were common in business transformation endeavours across one region (Asia and/or US).

Third, to determine which management disciplines are frequently co-occurring with one another, we amalgamated the data from both regions into one combined data set and analysed how, across the two data sets, MS were related to each other. To that end, we subjected the data to a cluster analysis, to identify and explore meaningful cluster combinations of MS required in business transformations.

Perusing this data and these analyses, we next present the findings to address the research questions.

4.2 Identifying Relevant Management Services

The coding of 140 job roles (70 per region) resulted in the identification of 17 management disciplines, listed in Table 1. The discipline cited the most is Transformation/Transition Management with a total of 106 sightings out of 140 descriptions. The second most cited management was Process Management, where 99 positions stated this requirement, followed by Project Management (74 roles), IT Management (68 roles) and Change Management (66 roles).

	Management Discipline	Asia	US	TOTAL	Relative Frequency
1	Transformation/Transition Management	46	60	106	75.7%
2	Process Management	47	52	99	70.7%
3	Project Management	37	37	74	52.9%
4	Information Technology Management	37	31	68	48.6%
5	Change Management	32	34	66	47.1%
6	Financial Management	23	34	57	40.7%
7	Stakeholder Management	25	32	57	40.7%
8	Services Management	20	31	51	36.4%
9	Strategy Management	20	28	48	34.3%
10	Customer Relationship Management	9	37	46	32.9%
11	Program Management	26	17	43	30.7%
12	Risk Management	17	20	37	26.4%
13	Human Resources Management	16	17	33	23.6%
14	Sales Management	8	15	23	16.4%
15	Asset Management	8	8	16	11.4%
16	Marketing Management	6	10	16	11.4%
17	Supply Chain Management	1	12	13	9.3%

Table 1: Descriptive Analysis of Business Transformation Job Roles

Based on the relative frequency of the management disciplines in Table 1, we noted three management capabilities that are highly demanded ($\geq 50\%$) in business transformation initiatives depicted from the role advertisements: 1) Transformation/Transition Management (75.7%); 2) Process Management (70.7%); and 3) Project Management (52.9%). Notably, these services all relate to a dedicated change dimension – transitions of change, business process change, and executing change projects. By contrast, the 25% comprises of supply chain management (9.3%), marketing management (11.4%), asset management (11.4%), sales management (16.4%) and HR management (23.6%). All these services pertain to either a specific (sub-) component of an organisation (assets, marketing or HR), or a specific domain (supply chain). We further note the list of the bottom percentile being much longer than the top (75%) percentile, which features only one service – transformation/transition management. This data indicates that few dedicated MS appear critical to business transformations, with a longer list (the long tail) of MS providing add-on services in some dedicated initiatives.

4.3 Identifying Common Management Services

Next we sought to identify meaningful combinations of management services as demanded in initiatives in either the United States or Asia. To that, we employed Principal Component Analysis (PCA). We chose PCA over similar data reduction techniques (notably, factor analysis), because PCA retains as much variation present in a data set when reducing the dimensionality of a data set that comprises of a large number of interrelated variables (see Joliffe & Morgan, 1992). Furthermore, PCA is widely used in various forms of analysis, regardless of domain, due to its simple, non-parametric approach of extracting pertinent information from complex data sets (Shlens, 2005), and is more applicable to exploratory rather than confirmatory purposes, which was the situation given in our study. We applied factor loadings over the recommended threshold of .6 (Fornell & Larcker, 1981; George & Mallery, 2009) to identify meaningful combinations of services. The Kaiser-Meyer-Olkin and Bartlett's test was used to determine whether the distribution of our data was appropriate for conducting PCA (George & Mallery, 2009). Results from this test reported a significance of 0.030 for US, and 0.001 for Asia, justifying our choice of analysis.

	Components – United States				
	Stakeholder MS	Commercial MS	Program MS	IT MS	Process MS
StakeholderMgmt	0.703				
RiskMgmt	0.704				
MarketingMgmt		0.792			
SalesMgmt		0.724			
ProgramMgmt			0.816		
ServicesMgmt			-0.649		
ITMgmt				0.711	
ProjectMgmt				-0.607	
ProcessMgmt					0.627
StrategyMgmt					0.747
AssetMgmt					
ChangeMgmt					
CRMgmt					
FinancialMgmt					
HRMgmt					
SupplyChainMgmt					
TransitionMgmt					

Extraction Method: Principal Component Analysis. Loadings beneath 0.500 suppressed.

Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations.

Table 2: PCA Rotated Component Matrix for US data

A series of extractions was conducted, first to identify combinations with an Eigenvalue greater than 1 (which yielded 7 factors), and second to explore fixed number of factor solutions ranging from 2 to 6.

Out of the entire set of results, the rotated component matrix shown with 5 fixed factors for both regions showed the strongest results, as measured by factor loadings. Table 2 and Table 3 below shows several similarities and differences in MS exist between business transformation in Asia and US. In particular, the similar MS required from both regions in relation to business transformation initiatives always included marketing management (MarketingMgmt), stakeholder management (StakeholderMgmt), risk management (RiskMgmt), sales management (SalesMgmt), and services management (ServicesMgmt). Table 2 displays our results for the US data set.

Based on Table 2, the first component can be identified as *Stakeholder MS*. This component contains two services, stakeholder management (StakeholderMgmt) and risk management (RiskMgmt), indicating the interdependence between the two MS. This finding may suggest that the potential roadblocks are required to be communicated to the respective stakeholders to increase awareness towards the risks involved throughout the business transformation initiative.

The second component, *Commercial MS* shows the existence of two management services, marketing management (MarketingMgmt) and sales management (SalesMgmt). This implies that the marketing and sales management disciplines are interdependent of one another as outlined by Ingram et al. (2008). The authors state that the input provided from marketing management, such as competitive analysis, market research, product development, pricing and the like, are subsequently provided as input in sales management. Sales management in turn, provide marketing management with inputs such as competitive market intelligence, personal selling, account management etc. As a result, both management disciplines yield common functions such as target marketing, sales forecasting, value proposition development and so forth.

The *Program MS* in the third component entails two services, services management (ServicesMgmt) and program management (ProgramMgmt). While program management holds a positive loading, services management bears a negative loading, which implies a contrast between service and program management (see definitions in Section 2.2). This means that requirements for program management capabilities in a transformation initiative will exclude a focus on service management capabilities and vice versa.

The fourth component, *IT MS*, is composed of either IT management (ITMgmt) or project management (ProjectMgmt). Similar to program MS, our data suggests that in business transformation projects, a demand will either be placed on IT management or project management but not both.

The fifth component, identified as *Process MS* shows an interdependence between strategy management (StrategyMgmt) and process management (ProcessMgmt). This implies that transformation initiatives typically involve changes in strategy as well as in the process that implement the strategy; and thus a tight coupling in the demand for managerial capabilities to enact these changes, individually and in alignment.

Having analysed the US data, we now turn to our equivalent analysis of the Asia data set. Table 3 displays the results. A notable finding from Table 3 is the first component includes only Risk Management, with a negative loading. This finding may suggest that this component is different from the other combinations of MS, and is characterised by an absence of demand for risk management capabilities. This is decisively different from the role of risk management in the US sector, where we found this service capabilities to be in strong alignment to stakeholder management.

The second component or *Value Chain MS* indicates the integration between marketing management (MarketingMgmt) and supply chain management (SupplyChainMgmt). This may suggest the inclusion of market awareness information as part of an approach to the integration of business processes from end user through original suppliers that provides value-added products, services and information for customers. Thus, with collaboration and provision of information from the marketing management discipline to the supply chain management discipline, the business transformation will appear to deliver better customer value towards its clients and stakeholders.

	Components – Asia				
	Risk MS	Value Chain MS	Stakeholder MS	Financial MS	Sales MS
RiskMgmt	-0.655				
MarketingMgmt		0.713			
SupplyChainMgmt		0.728			
ChangeMgmt			0.852		
StakeholderMgmt			0.645		
AssetMgmt				0.617	
FinancialMgmt				0.748	
SalesMgmt					0.773
ServicesMgmt					0.733
CRMgmt					
HRMgmt					
ITMgmt					
ProcessMgmt					
ProgramMgmt					
ProjectMgmt					
StrategyMgmt					
TransitionMgmt					

Extraction Method: Principal Component Analysis. Loadings beneath 0.500 suppressed.
Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 12 iterations.

Table 3: PCA Rotated Component Matrix for Asia

Stakeholder MS is illustrated in the third component. As this component contains stakeholder (StakeholderMgmt) and change management (ChangeMgmt), this may imply that the requirement to effectively engage key stakeholders in executing the changes in an organisation ought to be in a manner that is to be tailored and communicated to each stakeholder group. We note the differences in stakeholder management to the US sector, where stakeholder management appeared to be related to the communication of transformation risks and related mitigation strategies.

The fourth component denotes the interdependence between asset management (AssetMgmt) and financial management (FinancialMgmt). This represents the *Financial MS*, and characterises a strong financial (monetary) focus on the utilisation of organisational assets in transformation initiatives.

The last component, *Sales MS* shows the existence of two services, namely sales (SalesMgmt) and services management (ServicesMgmt). This may imply that transforming businesses require a service-oriented perspective on selling the transformation, and the new products and/or services developed of this initiatives.

4.4 Evaluating the Relationships between Management Services

While the principal components analysis allowed us to identify aggregate linear combinations of MS per region, we were also interested in identifying the broader groups of MS that are required in combination, across both the Asia and US data sets. In doing so, we combined both data sets and performed a hierarchical cluster analysis using the Jaccard distance measure to determine whether the MS of similar kinds can be grouped together into respective categories. The Jaccard distance measures the number of unique elements common to two sets divided by the total number of unique elements in both sets, and allows for a quantification of both the similarity and dissimilarity of cluster combinations, which was found to be useful in our analysis.

Based on Figure 2, illustrates the dendrogram resulting from our analysis. The dendrogram allows identification of meaningful clusters of MS. It is important to note that all business transformation approaches are unique and each initiative bears a different approach to another (Cowan-Sahadath, 2010; Morgan & Page, 2008). As such, the MS clusters are not a fixed representation of which MS are required in all possible business transformation initiatives. Thus, instead of explaining what the

clusters represent, we can discuss at a very high level (seen at the furthest distance 25), that the dendrogram shows two main clusters (A and B), symbolising the two types of MS that exists in the management of a business transformation, i.e. transformational and transactional MS. Cluster B, or the *Transactional MS* cluster, contains asset and supply chain MS, which are identified in this study as being a service to exploit in achieving a successful execution. Cluster A on the other hand, or the *Transformational MS* cluster, aggregates both transactional and transformational MS in order to create and share the required service(s) in transforming the organisation. The MS identified as being transformational are process, transition, change, IT, strategy, services and marketing management – a common denominator of these MS is that it utilises transformational leadership attributes whereby subordinates within these MS are required to be highly motivated by their leader in order to produce an extraordinary performance, and subsequently lead to a business transformation.

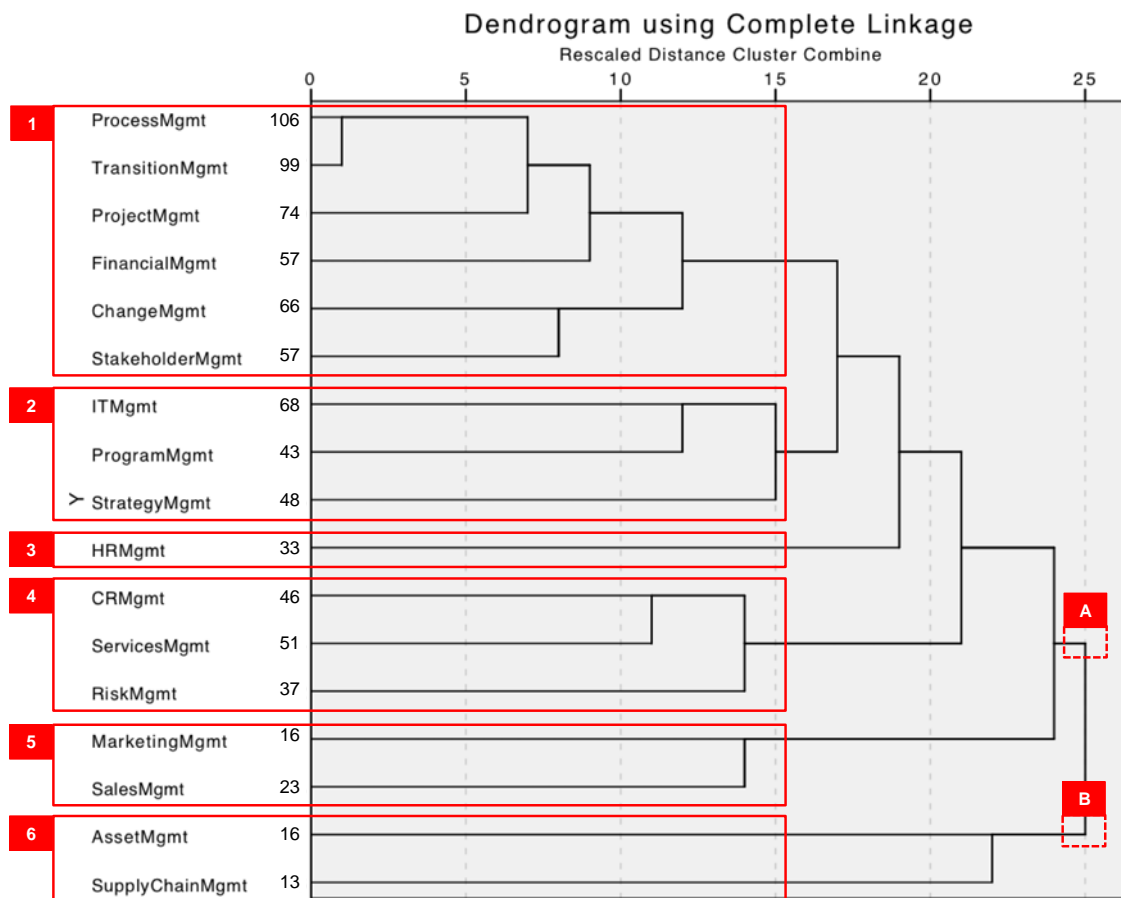


Figure 2: Cluster Dendrogram for Business Transformation Management Roles

Based on Figure 2, Cluster 1 shows a collection of management disciplines that may suggest the foundations of business transformation management. Disciplines such as process and transition management can be seen as being highly demanded (cited 106 and 99 times respectively) and highly integrated (based on distance < 5). Further, project management entails the series of activities required to carry out incremental transformation in an organisation. In doing so, financial management is required to allocate and ensure that the company's capital funds are utilised efficiently and effectively. As a transforming business implies organisational change, change management is subsequently demanded to coordinate this facet, in conjunction with stakeholder management to ensure all personnel who affect and are effected from the initiative are handled appropriately. Thus, this cluster can be summarised as the *Foundational MS* of business transformation management.

Cluster 2 indicates the *Enabling MS* of business transformation management. The role of IT management in business transformation ensures that the organisation is equipped with the required technological infrastructure. Program management ensures that the series of projects are coordinated accordingly as a whole, while strategy management provides the roadmap for both management disciplines throughout the transformation initiative.

Cluster 3, *Human Capital MS*, is the only cluster that does not integrate with any other management disciplines. This may indicate how the human resource function serves as a dedicated management service in the management of business transformations, due to the richness of its functionality as outlined in Friedman (2006) and Ulrich (1991).

The *Client MS* in Cluster 4 shows the demand and interdependence of customer relationship management, services management, and risk management. The composition of this management service may signify the customer-centric functionality required in business transformations, particularly in terms of service provision and risk mitigation.

Cluster 5 is identified as the *Commercial MS* which appears to integrate both sales and marketing management together in one cluster. This may suggest the interdependence of these two disciplines as stated by Ingram, LaForge, Avila, Schwegker and Williams (2003).

The last cluster, *Resource MS*, contains two management disciplines that bears an emphasis on physical assets (asset management) and suppliers (supply chain management). Although low in demand, these services are deemed necessary from our analysis of transforming organisations.

MS Cluster	Contained Services	Transformational MS	Transactional MS	Cluster Ratio
Foundational	Process Management	1	0	50 % (3/6)
	Transition Management	1	0	
	Project Management	0	1	
	Financial Management	0	1	
	Change Management	1	0	
	Stakeholder Management	0	1	
Enabling	Information Technology Management	1	0	67% (2/3)
	Program Management	0	1	
	Strategy Management	1	0	
Human Capital	Human Resources Management	0	1	0% (0/1)
Client	Customer Relationship Management	0	1	33% (1/3)
	Services Management	1	0	
	Risk Management	0	1	
Commercial	Marketing Management	1	0	50 % (1/2)
	Sales Management	0	1	
Resource	Asset Management	0	1	0% (0/2)
	Supply Chain Management	0	1	

Table 4: Identifying Transformational and Transactional Clusters of Management Services

Table 4 above categorises each contained services per MS cluster in accordance with their transformational or transactional nature. As can be seen, each and every cluster contains at least one transactional MS. It is also observed that every transformational MS must co-exist with another MS of a transactional nature. However, transactional MS appear to be able to exist solely on its own, without the need to have an accompanying transformational MS.

5 DISCUSSION AND CONCLUSIONS

5.1 Discussion

We set out to examine role descriptions pertaining to business transformation management initiatives, in an effort to develop a first understanding of the MS, and combinations thereof, required in such initiatives. We studied data from job advertisements from Asia and the United States and perused exploratory data analysis techniques, PCA and cluster analysis to identify commonalities and differences.

Our results suggest that it may be possible to broadly categorise required MS in transactional and transformational MS. Our data notably suggests that both types of services are required, but neither are sufficient to business transformations. We conjure from our analysis that transactional MS exist to *support* transformational MS: they seem to always appear in conjunction with a transformational MS. Transactional MS on the other hand can independently exist without the need for a transformational MS. We may interpret this finding as suggesting that transactional capabilities are pre-requisites to any management of business transformation that requires exploitation (Aspara, Tikkanen Henrikki, Pöntiskoski, & Järvensivu, 2011).

5.2 Limitations and Future Work

Our work is clearly exploratory in nature. Research on business transformation management by definition is highly complex in nature, and our intent was to shed some insights into a few selected aspects of those initiatives, namely the management services required. Of course, there are many other aspects of interest that also require further study.

We identify our coding to be a source of potential limitations due to the inherent subjective nature of coding. Still, we perused a two-person coding team to mitigate some of the subjective bias.

We further acknowledge that a major limitation of a secondary analysis of published data is that it may entail a summarised or incomplete version of the job description. To mitigate this, we ensured that the job roles were not only relevant to management positions in large-scale organisations (which in our finding shows an extensive amount of responsibilities and required capabilities compared to non-managerial roles such as that of a junior analyst), but also had a substantial amount of description (at least one full-page as opposed to several lines of description). As such, we made the assumption that the extensive amount of information reflected, as much as possible, the managerial duties required in business transformations.

Our findings are tentative in nature and our presented conclusions are but a set of conjectures to guide future work. For instance, our findings require further verification with practitioners with regards to the definitions of management services. Such work could be carried out, for instance, through a Delphi study.

Our next steps are to examine business transformation projects to examine sets of orchestration patterns that outline possibilities for combining different management services in a meaningful way. Ultimately, this research will feed into a success factor model outlining the key decisions to be made on route for successful initiatives.

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