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Management Consultancy's role in delivering lasting [Triple Bottom Line] benefits

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This paper presents an investigation of the impact of interventions by management consultants and how their work influences organisational growth and sustainability through the performance improvement work that they carry out for and with their clients. The paper presents the findings of a questionnaire survey of 440 respondents from 206 countries; 197 of respondents were Small and Medium Sized Enterprises (SMEs), 243 large organisations. There is a particular focus on knowledge transfer in terms of urgency and impact of the work with regard to the extent to which consulting interventions in SMEs as well as large multinational corporations embed long-term sustainability practices.

Keywords: intervention, sustainability, delivering 3BL performance

1. Introduction

Modern capitalism, from which production and service systems evolved, has resulted in economic progress and prosperous societies. To satisfy demand, from customers for goods and services, from shareholders for ever-greater profitability, and to mitigate the trade-offs required in balancing the differing priorities, organisations have adopted a wealth of operational improvement initiatives, beginning with Scientific Management (Taylor 1911). Since then hundreds of tools and techniques have been developed. The key organisational performance objectives of quality, dependability, speed and cost (Ferdows and De Meyer 1990) have driven the adoption of improvement programmes as companies seek long-term improvements to maintain a sustainable competitive advantage. Ferdows and De Meyer (1990) contended that cumulatively building organisational capability could avoid conflicting tensions because one capability would enhance another.

This paper considers how organisations have dealt with the multiplicity of demands which now require them to achieve sustainable and operationally excellent

production and service systems to satisfy not only customer demand, but also shareholder, social and environmental demands. The research presented demonstrates the impact of interventions by management consultants on organisations' strategic performance and how consultants help build long-term resilience and sustainability, thus influencing organisational growth and sustainability through the performance improvement work that they carry out for and with their clients.

A number of key themes require exploration in order to offer a cohesive perspective regarding demands on businesses and management's responses to these, on the assumption that overall organisational performance objectives remain as already stated. The current swathe of available operational improvement programmes includes business excellence models, Lean Management, Six Sigma, Total Quality Management and Business Process Engineering (Näslund 2008; Adebanjo et al. 2015; Tickle et al. 2015). Whilst linked to Ferdows and De Meyer's contention, such programmes mainly focus on functional rather than organisational improvement, seemingly therefore highlighting short-term improvement in favour of sustained long-term capacity development (Done et al. 2011).

Additionally, managers provide a cohesive organisational response to the myriad of new emergent operational pressures, not least of which are technological and environmental dimensions which have changed the operations landscape. As organisations deal with these issues, management attention has broadened not only to respond to immediate challenges but also to try and ensure lasting improvement can be embedded within their organisations (Ates and Bititci 2011; Reid et al. 2013). This has led managers to take into account a number of additional concepts alongside the 'traditional' performance improvement techniques. For instance, organisations have explored ways of learning in order to create better results (Argyris 1999; Li and

Rajagopalan 2008; Breslin and Jones 2012; Calvard 2016; Schumacher and Scherzinger 2016). This has led to the consideration of an organisation's ability to absorb learning. Absorptive capacity influences how much new information can be assimilated and applied to commercial ends (Cohen and Levinthal 1990; Phelps et al. 2007; Sun and Anderson 2010; Tavani et al. 2013). Networks are used increasingly for innovation and to enhance practice (Alexander and Childe 2013; Dooley et al. 2013; Gubbins and Dooley 2014). Networks are also used in changing the nature of supply chain relationships (Bateman 2005; Bhattacharya et al. 2014; Bhattacharya et al. 2015; Marshall et al. 2015; Miemczyk et al. 2016; Wilhelm et al. 2016). Much of this has been achieved through working with external advisors, who have become ubiquitous in their supporting role (Wright et al. 2012; Radnor and O'Mahoney 2013; Harvey 2016; Ryan and O'Malley 2016; Zhang et al. 2016).

How this plethora of options for the management of operations has led to the embedded use of management consultants, is explored and presented in this paper. This paper considers how much impact external intervention has on internal process improvement and how it influences the delivery of growth and the Triple Bottom Line (3BL).

2. Literature Review

Organisations have adopted multiple improvement tools and techniques in order to be able to better respond to pressures on performance, grow their business and increase profitability (Adebanjo et al. 2010; Adebanjo et al. 2015; Tickle et al. 2015; Tickle et al. 2016). Research suggests long-term capacity development and more sustainable improvement happens when change and performance initiatives are carried out with external input (Done et al. 2011; Tickle et al. 2016). In recent years, broader consideration has been given to the triggers of improvement and the factors which make

improvement stick, particularly to internal and external relationships, supply chains, knowledge creation and management, learning, innovation and culture as vital contributors to the long term sustainability of the organisation (Fugate et al. 2009; Ates and Bititci 2011; Anderson and Parker 2013; Aitken and Paton 2016; Hu et al. 2016; Oelze et al. 2016; Mishra and Hopkinson 2017; Tippmann et al. 2017).

2.1 Triggers for change

The trigger for any kind of change programme, be it externally or internally driven, emanates from a pressure to deliver, to perform and to be efficient. Regulation is the main external driver for performance improvement (Matthias 2013). It is a prolific source of change for most organisations in every aspect of business, from workplace pensions to carbon emission targets. Internal drivers emerge from the identification of a business issue, such as not achieving targets; a business problem which results in a financial gap; or the conception of a new initiative. Frequently, the internal drivers arise as a corollary to regulatory-driven change as new ways of working impact throughout the organisation.

Since the 1987 Brundtland Report, when the concept of Sustainability was defined by the United Nations (UN) as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (UNWCED), much work and research has changed practices in many areas in order to try to achieve if not full sustainability, then at least more sustainable practice, for an array of benefits. In the world of operations management, an integrated and efficient supply chain was seen as a way of potentially minimising monetary risks and increasing profits, thereby creating the conditions for a sustainable business (Chopra and Meindl 2007). Additional changes in the business environment generally have made environmental and corporate social responsibility factors more prominent, and a more

integrative approach to operations management has been developed (Angell and Klassen 1999). This general thrust and the years of work on improvement initiatives of all kinds, as already discussed, aligns closely with why organisations use consultants and the bulk of the work that consulting firms do, as shown in Figure 1.

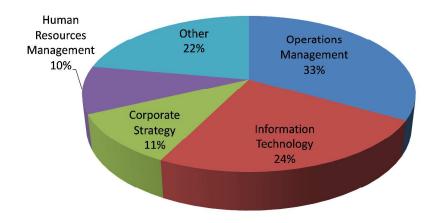


Figure 1: Breakdown of turnover by service line (Datamonitor 2016)

Organisations spend the most on Operations Management and IT, showing a continued focus on dealing with immediate, goal-driven, operational/business challenges.

2.2 Internal Pressures, External Capacity and Capability

Figure 1 highlights the nature of management consultants' work. Table 1 outlines why businesses hire consultants. The reasons hinge upon capability and/or capacity requirements, resulting from the reflection and decision-making noted by Reid et al. (2013). Capability involves specialist skills and knowledge of proprietary methodologies, which are considered an integral part of a consultant's expertise. Capacity is an issue as regulatory demands usually require changes to be implemented by a certain deadline and organisations need to prioritise achieving these while still carrying out normal business activities.

Reason	Definition
Expertise	looking for knowledge they do not possess, be it "knowing-how" or "knowing-what"
Externality	looking for an external perspective, be it geography or industry
Extension	looking for an injection of extra resource
Endorsement	looking for a decision to be legitimised or de-personalised

Table 1: Why companies buy consultants (Matthias 2013)

Consultants are thus seen as providing 'time compression economies', because speed and quality of delivery are foremost considerations for the majority of projects undertaken.

Researchers have described the capacity and capability aspects as arising from performance reaching a critical point in an evolving situation during a business lifecycle (Phelps et al. 2007; Reid et al. 2013). When businesses encounter operational obstacles, or 'hot spots', these can lead to a tipping point, which requires reflection on whether the business will commit additional resources to rebalance the tipping point and create a new level of stability (Gladwell 2000; Phelps et al. 2007; Jones et al. 2008; Reid et al. 2013). Such thinking originates from epidemiological studies and has been widely studied by business and management scholars, especially since a business 'tipping point' is a consequence of environmental change (Laughlin 1991; Breslin 2008). In order to navigate beyond the 'tipping point', a move away from opportunistic, reactive working to a more deliberate and considered strategy is required (Ates and Bititci 2011).

This means that innovation should be a prime feature, rather than a 'defensive' or reactive stance of resolving problems. Firms must have the ability to identify, acquire, and apply new and requisite knowledge to resolve new challenges and succeed in the competitive environment. It is suggested that strategic, operational and

leadership capabilities combined with organisational adaptability and access to external resources enable an organisation to develop business resilience and sustainability (Ates and Bititci 2011; Tickle et al. 2016). Without the ability to tap into external sources of knowledge and help, issues are unlikely to be resolved quickly, and the results are unlikely to be as successful, in terms of longevity and outcome (Bessant et al. 2005b; Phelps et al. 2007; Reid et al. 2013).

A primary way of gaining access to and adopting new knowledge is from external sources (Alexander and Childe 2013). This kind of knowledge bring a new way of operating or performing into the organisation (externality), and provides endorsement to outside bodies (regulators for instance) because of the perceived independence of assurance and guidance provided. This is especially the case where regulatory compliance is required. Consultants bring insight as to what others are doing, providing a 'bridge', and help eliminate some aspects of trial and error learning which could otherwise happen (Bessant et al. 2005a; Wright et al. 2012).

The next section explores the key features of consultancy by way of explaining why external intervention helps organisations achieve significantly better results in overall performance and thus being instrumental in delivering triple bottom line benefits.

2.3 Management Consultants, Innovation, Knowledge and Sustainable Results

Innovation has been described as 'the successful exploitation of new ideas', and is seen as the basis of a competitive economy (Adams et al. 2006). Consultants provide a common source of innovation and interpretive validity of ideas which influences the extent to which ideas can be adapted to multiple agendas (Birkinshaw et al. 2008). Increased visibility of the innovation to competitors or companies in other industries

reinforces the innovation further (Birkinshaw and Mol 2006: :86; Reay et al. 2013). Importantly, management innovations thus tend to be specific to the system in which they were created, achieved indirectly through practice. This often makes them impossible to patent and hard to evaluate (Birkinshaw and Mol 2006; Birkinshaw et al. 2008; Wright et al. 2012). Prahalad and Hamel (1990) and Bradley et al. (2011), amongst others, categorise this as the creation of new stocks of ideas and contexts. Possessing knowledge of new stocks of ideas and the contexts in which they were made makes consultants intrinsically useful to organisations. This is because constantly renewable knowledge of the wider business environment and how that is deployed and mediated by external market influences adds interesting perspectives to a management team, embodying strategic knowledge capabilities. This coincides with the Resource Based View (RBV) of an organisation, which states that sustaining a competitive advantage stems from an organisation's internal resources particularly new knowledge of the business environment and how that is deployed and mediated by external market influences (Winter 2003; Helfat et al. 2007; Fugate et al. 2009: :248; Winter 2012; Fu 2013). Not only is this core to much theory and practice, it is also core to the sustainable performance of any organisation.

Knowledge has multiple dimensions. Firstly, it has to be actively created (Nonaka and Takeuchi 1995). Their SECI model underlines the dynamic nature of knowledge and focuses on knowledge-creation as the key to continuous innovation from which competitive advantage is derived. Once created, knowledge is converted into useable forms through four different modes, shown in Figure 2.

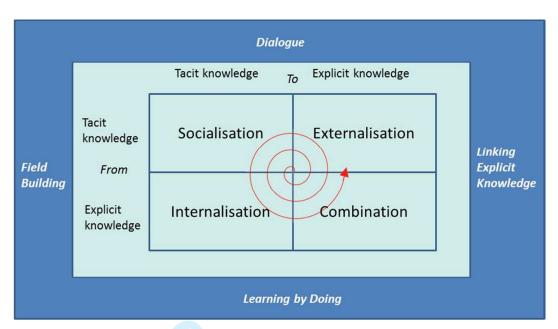


Figure 2: SECI - The Spiral of Knowledge Conversion (Compiled from Nonaka and Takeuchi 1995)

Socialisation is the individual sharing experiences, which creates tacit knowledge. Externalisation is tacit knowledge converted into explicit concepts, in understandable and interpretable form, for use by others, thereby creating new knowledge. Internalisation means understanding explicit knowledge. It is closely related to learning-by-doing, completing the 'knowing-doing' gap (Reid et al. 2013), or Schön's (1991) knowledge-created-in-action. Internalisation happens when explicit knowledge transforms to tacit knowledge and becomes part of an individual's basic information, thus continuing the knowledge spiral.

Knowledge accessing, acquisition, exchange and creation are a key reason why firms build or enter networks with other firms. Through consultants' client relationship networks, access to, and transfer of, relevant knowledge for sustainable innovation is facilitated (Maister et al. 2000; Ayuso et al. 2006; Prieto and Easterby-Smith 2006; Gubbins and Dooley 2014). The governing mechanism of much relationship behaviour is an implied obligation of reciprocity (Hill et al. 2009; Eckerd et al. 2013). Reciprocity implies a symbiosis, a mutual benefit derived from operating as a virtual enterprise, functioning as a single company co-ordinating knowledge in the quest for operational

success and competitive advantage (Bititci et al. 2005; Ebrahim-Khanjari et al. 2012). Reciprocity through coordinative capacity also suggests a psychological contract between the buyer and the supplier (Hill et al. 2009). However, whilst trust can oblige firms to behave with loyalty and conformity to expectations, relationship duration was found to have a significant negative effect on knowledge transfer, implying that firms share more knowledge early in the relationship (Furusten 2009; Squire et al. 2009). The strength of weak ties is more conducive to knowledge transfer than either long or deep relationships because trust exists but familiarity does not (Dooley et al. 2013; Hu et al. 2016)

This highlights the importance of partner selection, especially when the focal firm is responsible for the environmental performance of the whole supply chain (Marshall et al. 2015; Sarkis and Dhavale 2015; Gopal and Thakkar 2016; Li et al. 2016; Longoni and Cagliano 2016; Oelze et al. 2016; Brewer and Arnette 2017). As such, environmental management principles have increasingly been integrated with the decision-making process for the conversion of resources into usable products. Initially, such work tended towards proactive pollution prevention, which could give competitive advantage, or reactive pollution control, which had little economic benefit. As environmental awareness became a corporate requirement and technological advancement enabled long-term improvement in environmental performance, organisations found that sustainable practice was becoming embedded.

The outcome of designing products, services and delivery systems that limit or reduce negative impacts on the natural environment, using technologies that can also drive down operating costs and close the supply chain loop, is that competitive advantages with unique environmental strategies reduce long-term risks and enhance financial performance (Bhattacharya et al. 2015; Dabhilkar et al. 2016). They

particularly discussed how trade-offs and synergistic effects between the 3BL objectives require a contextual response, one which aligns functional competitive priorities with overall organisational competitive strategies. The underlying rationale is that no one firm is more sustainable than its supply chain and therefore has to exploit its full buying and bargaining power to promote and ensure sustainable development along its supply chain. Thus, each is dependent on the other, varying from some dependence to total interdependence, all the while with consultants acting as intermediaries, creating the 'bridges' along which knowledge flows.

Building on this is research adopting a natural resource-based view (NRBV). Miemczyk et al. (2016) for instance explain the importance of new resources in technology, knowledge and relationships and stress the role of dynamic capabilities to constantly address changes in the business environment to renew those strategic resources. They coin the term "dynamic supply chain execution", which underlines the importance of co-development and forging new relationships through commitment to supply chain redesign, co-evolution with customers and suppliers and control of supply chain activities, especially for closed loop supply chains.

Recently, Mishra and Hopkinson (2017) discussed how closing loops and creating successful value propositions is complex and requires reconfiguration of key building blocks simultaneously to ensure customer acceptance and business viability, going some way to fill one of the missing links in the SSCM literature. Another is a reference to Lean. In their work, Piercy and Rich (2015) state the lean mantra of waste reduction and "doing more with less" is immediately apparent as delivering environmental benefits, as well as cost benefits. The logic of lean, well understood throughout all parts of production and service provision, brings together the rhetoric of SSCM, NRBV and the challenge to achieve efficiency and productivity improvements.

2.4 The knowing-doing gap

As organisations are drawn into the path of external intervention, the challenge is to ascertain whether it should be short-term or long-term, and how to best leverage that given the existence of barriers and enablers within companies, be they SMEs (small medium enterprises) or LEs (large enterprises). The opportunity is the ability to manage the intervention steps and potential tipping points when an organisation is faced with relapse further intervention. There are no simple formulae for defining the best practice of establishing the need for external support (Ismail et al. 2011). Our proposition is that it is crucial organisations manage intervention more successfully if they are to understand the internal and external turbulences at the scoping and execution stage, and recognise the potential for relapse, factoring in the impact to the 3BL as well as long-term sustainability. The importance of ongoing evaluation is also emphasised in the field of change management. Within Kotter's (1996) principles of change, evaluation data may reveal successes, short-term wins and encourage celebration of these to provide further motivation to all parties. Governance practices, meetings and progress reports provide key performance indicators (KPIs) underpinning 3BL results achievement whilst increasing sustainable intervention and knowledge transfer.

The literature review has synthesised features and contexts that encompass the need for external support. The conceptual framework for studying intervention is shown in Figure 3. This view of the steps of external intervention whilst consistent with Ismail et al's (2011) Interventionist Framework also incorporates the key concepts highlighted in our literature review of change management, tipping points, and the knowing-doing gap (Adams et al. 2006; Ates and Bititci 2011; Done et al. 2011).

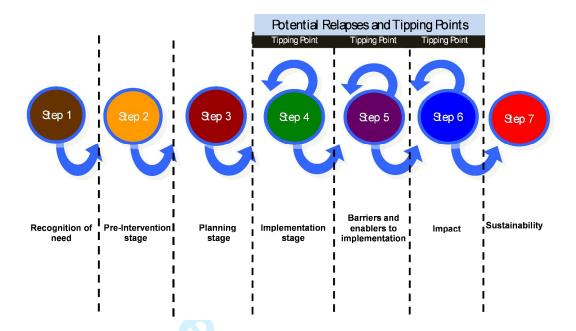


Figure 3: Intervention Steps (Adapted from Reid et al. 2013)

3. Methodology

3.1 Research aim and objectives

The aim of the study was to analyse the use and impact of external intervention on the

size of organization and its 3BL. The objectives that support this aim are as follows:

- i. Identify a range of business improvement initiatives be used by different types of organisations
- ii. Compare the knowledge gaps: awareness, use and effectiveness between LEs and SMEs
- iii. Compare the 3BL factors and use of improvement initiatives to understand how they might have evolved and influence the impact on the 3BL
- iv. Compare the roadmap to impact and sustainability of these initiatives between LEs and SMEs

Based on the literature study, the aim and objectives of this study would facilitate the important questions about the views of the role of consultants to the direct or indirect impact on a firm's 3BL. The research questions we seek to answer are:

1. Are organisations taking full advantage of the suite of initiatives that facilitate

improvements in their operational performance?

2. Is there a relationship between company size, willingness and ability to adopt business improvement initiatives and impact 3BL?

In order to achieve the study aim and objectives, it was important to capture opinions from around the world, across a variety of sectors and organisations of different sizes. The most suitable methodology, therefore, was the use of a questionnaire-based survey, enabling us to reach a large number of geographically-dispersed respondents, promote standardization of responses and better reliability (Denscombe 2007; Adebanjo et al. 2015). Information in our questionnaire was straightforward, enabling respondents to understand and interpret the questions clearly, as Denscombe (2007) advises.

3.2 Questionnaire design

The initial questionnaire was piloted with 25 SME manufacturing owners involved in a European Regional Development Fund (ERDF) funded programme. Their feedback and suggested list of improvements in the research objectives contributed to the justification for the conceptual framework used in this study. The final version of the questionnaire was intended to make full use of the actual process of intervention designed by Ismail et al (2011a) in terms of the steps shown in Figure 3. It included questions rating the relative importance of the factors in an ordinal form using a 5-point Likert scale "Agree or Disagree" format. Each question and answer was worded in a parallel manner to assist participants in responding both quickly and accurately.

The questionnaire was deployed as a web survey distributed through LinkedIn by the researchers and their associated professional networks, enabling individuals and members to encourage organisations to participate. It was recognised that by using such networks the organisations completing the survey were likely to be more advanced in the experiences and impact of consultancy and external intervention than if

organisations were selected at purely at random. However, it was not possible to determine precisely how many middle managers were aware of or saw the questionnaire, given our approach. We do know that the number of LinkedIn profiles reached were in excess of 1500.

The IBM SPSS Statistical software package was used to analyse the data, to identify relationships between the data and address the research questions.

Findings

The intention of this research is to assess the knowledge gaps: awareness, use and effectiveness between LEs and SMEs as they drive towards greater impact and sustainability. A total of 440 respondents completed the survey, from 206 countries. The EU and Africa provided most responses. 197 questionnaires (44 per cent) were completed by medium-sized organisations (MEs), while the remaining 277 (56 per cent) were LEs. One organisation omitted its company size. 44 organisations (9 per cent) were project-based, of which 21 (4 per cent) where SMEs. Figure 4 shows the distribution of organisations by continent. O

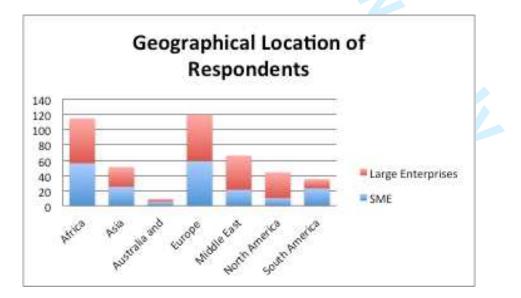


Figure 4: Geographical Location of Respondents

The respondents also indicated their area of work: 168 (38 per cent) were in consultancy services, 54 (12 per cent) in general engineering, 43 (9.8 per cent) pharmaceutical, and 52 (11.7 per cent) in food supply chains.

3.3 Organisational hotspots prior to external intervention

Figure 5 shows the primary intention the 440 respondents wished to address through the intervention they were about to embark on. The focus on developing a firms business process remained the key focus for external intervention with 14 per cent of SMEs, whilst, 27 per cent with large organisations. This compares with response rates of 8 per cent respectively to issues in regards to information technology respectively.

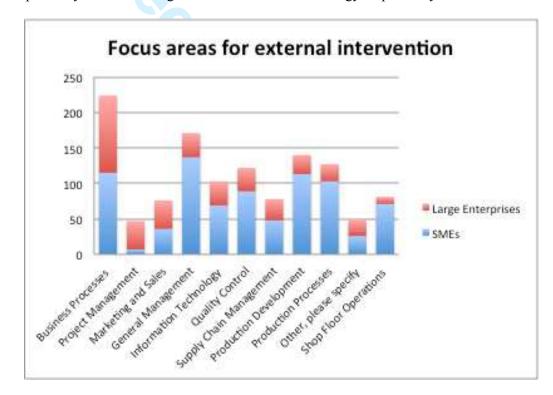


Figure 5: Primary improvement focus of the intervention

Identifying knowledge gaps from initial recognition of need permits potential shortfalls in resources and skills to be pinpointed. Figure 6 presents the resource constraints identified in step1: the recognition of need. For example, 30% of respondents said change stemmed from unclear/inefficient business processes; 49% highlighted resources issues relating to skills shortages and knowledge gaps. This places experience of best practices below awareness of tools such as business process re-engineering (BPR).

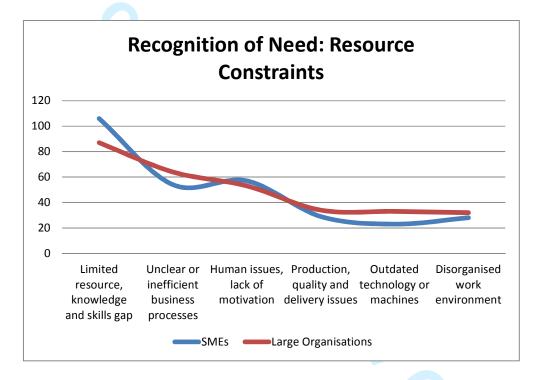


Figure 6: Resource constraints prior to external intervention

The high concern areas are limited knowledge and skills (24 per cent) with SMEs and (20 per cent) with LEs, relatively high awareness of best practices (46 per cent), however only 13 per cent experienced, 6 per cent for SMEs and 7 per cent claiming to be experts. In terms of the initial level of awareness and knowledge in the specific area of the intervention: 15 per cent (n=67) of SMEs and 15 per cent (n=68) of LEs declared themselves as 'Knowledgeable', whilst 25 per cent (n=112) of SMEs and 21 per cent (n=92) of LEs declared themselves 'Aware' of the tools and techniques supporting the

intervention, represented in Figure 7. Furthermore, 45% (N=199) reported the Director as the key driving force behind the intervention.

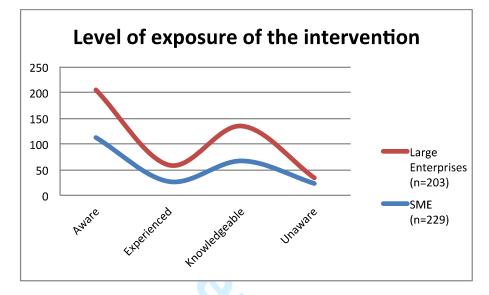


Figure 7: Resource constraints prior to external intervention

Whilst the intervention itself is dynamic and the implementation team focused on progress, resistance to change was apparent. For example 25% (n=124) of the respondents reported internal resistance to seeking external intervention reported issues relating to:

- Organisation culture too difficult to be understood by external resources
- Senior managers were unsure how the external support was going to impact their positions and sphere of authority
- Concern of opening up the company challenges to competitors
- People wanted to learn rather than to be taught how to do things
- Feeling uncomfortable, stressed, potential loss of jobs

Different communication mechanisms are used to launch interventions. For example, 43per cent (n=190) adopt a 'kick off' meeting', and 18 per cent (n=82) used a newsletter (with a follow up news letter supporting the progress of the intervention.

The advantage of the seven-step approach shown in Figure 3 is that it follows a series of logical steps whereby companies are supported through an intervention

programme over an extended period, thus increasing the likelihood that new behaviors become habitual. We have also found that, for those companies in developing regions, seeking government-funded support was extremely low, with only 9% (n=34) of the SMES securing funding. In terms of the impact of the intervention: 13 per cent (n=204) of declared Quality as the most significant impact, whilst innovations 12 percent (n= 25) and reduced costs 15 per cent (n=31) considered the intervention as somewhat disappointing 12 percent, represented in Figure 8.

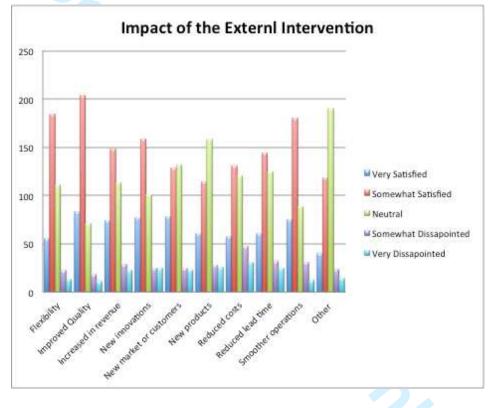
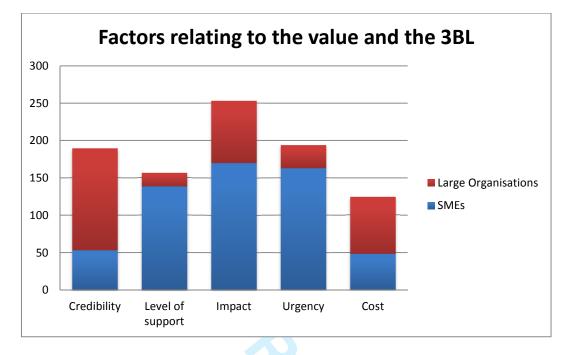


Figure 8: Impact of the intervention

Whilst the intervention has been treated openly the 'impact' question often refers to the return on the investment or on the bottom line as a result of the intervention. The analysis revealed that LEs identified predominantly with credibility as their key, driver 42 per cent (n=189) compared to 12 per cent (n=53) of SMEs. 31 per cent (n=138) of SMEs benefit from the intervention in relation to the knowing-doing gap rather than

financial benefits. Furthermore, instruments relating to the 3BL were also investigated,

such as the drivers in terms of urgency and impact, represented in Figure 9.





4. Discussion

Fundamentally this is a practitioner not conceptual paper. In order to clearly add value and make a defined contribution we have arranged the latter part of this paper around the aim, objectives and research questions. The aim of the study was to analyse the impact and use of external intervention on the triple bottom line and the size of organization and impact on the 3BL. The objectives that support this aim are: i) Identify a range of business improvement initiatives that can be used by different types of organisations; ii) Compare the knowledge gaps: awareness; use and effectiveness between LEs and SMEs; iii) Compare the 3BL factors and use of improvement initiatives to understand how they might have evolved and influence the impact on the 3BL; iv) Compare the roadmap to impact and sustainability of these initiatives between LEs and SMEs. These aspects will be addressed within the conclusion section of the paper. The research questions, used to provide a clear structure for the discussion are: i) Are organisations taking full advantage of the suite of initiatives that facilitate improvements in their operational performance? ii) Is there a relationship between company size, willingness and ability to adopt business improvement initiatives and impact 3BL?

4.1 Are organisations taking full advantage of the suite of initiatives that facilitate improvements in their operational performance?

Academic literature is awash with a plethora of tools, techniques and frameworks. In addition, multiple consultancies have 'their' way of doing improvement – drawing from their own applied experiences of use in numerous sectors and organisations but also the academic evidence base. Whilst operational improvement programmes includes the likes of business excellence models, Lean Management, Six Sigma, Total Quality Management and Business Process Engineering (Näslund 2008; Adebanjo et al. 2015; Tickle et al. 2015) evidence from the feedback by the 440 respondents indicates rather limited <u>specific</u> knowledge and skills; only 24 per cent with SMEs and 20 per cent with LEs.

According to Furusten (2009) and Squire et al. (2009) relationship duration was also found to have a significant negative effect on knowledge transfer; firms share more knowledge early in the relationship. Dooley et al. (2013) and Hu et al. (2016) go further stating that 'weak' ties are more conducive to knowledge transfer. Marshall et al. 2015; Sarkis and Dhavale 2015; Gopal and Thakkar 2016; Li et al. 2016; Longoni and Cagliano 2016; Oelze et al. 2016; Brewer and Arnette 2017 all highlight the importance of partner selection, especially when the principal organisation is accountable for the environmental performance of the whole supply chain. Our survey identified that 30% of the drivers for change stemmed from unclear or inefficient business processes, which

leads to what Done et al (2011) described as short-term development in favour of sustained long-term capability improvement.

Amongst the organisations within this research there does appear to be a higher <u>awareness</u> of best practices, at 46 per cent of respondents. This suggests it is a requirement to 'be aware' and gels with Bhattacharya et al. (2015) and Dabhilkar et al. (2016) who position that competitive advantages with unique environmental strategies reduce long-term risks and enhance financial performance. Going further, they debate how trade-offs and synergistic effects between the 3BL objectives require a contextual response, aligning functional competitive priorities with organisational competitive strategies. In a related way, Ates and Bititci (2011) and Reid et al. (2013) propose that management consideration has widened to deal with the immediate challenges and to try and ensure improvement can be engrained within their businesses in a durable manner.

Interestingly, within this research only 13 per cent of respondents claimed to be experts (6 per cent for SMEs and 7 per cent for LEs), placing experience of best practices below awareness for specific tools and techniques. This fits with the rather general approach to improvement tools identified by some authors (Adebanjo et al. 2010; Adebanjo et al. 2015; Tickle et al. 2015; Tickle et al. 2016) who propose that organisations adopt multiple tools and techniques to better respond to pressures on performance, grow their business and increase profitability. The likes of Aitken and Paton (2016); Hu et al. (2016); Oelze et al. (2016); Mishra and Hopkinson (2017); Tippmann et al. (2017) have given thought to the triggers of improvement and the features which make improvement stick. Ates and Bititci (2011), and Tickle et al. (2016) suggested that strategic, operational and leadership capabilities combined with organisational adaptability and access to external resources enable an organisation to

develop business resilience and sustainability. Remarkably, 45% (N=199) of the respondents reported that the senior Director was the key driving force behind the intervention, which fits with ideas put forward by authors such as Helfat et al. (2007); Fugate et al. (2009); Winter (2012); Fu (2013) suggesting that the Resource Based View (RBV) sustains a competitive advantage from the organisation's internal resources, particularly new knowledge of the business environment. From the survey leadership was specifically reinforced through adopting a 'kick off' meeting' (43per cent), followed by newsletter (18 per cent).

49 per cent of the respondents highlighted resources issues relating to skills shortages and knowledge gaps, perhaps explaining why organisations spend the most on Operations Management consultancy (Datamonitor 2016) showing a continued focus on dealing with immediate, goal-driven, operational/business challenges. This also fits with organisations exploring ways of learning in order to create better results (Breslin and Jones 2012; Calvard 2016; Schumacher and Scherzinger 2016), specifically using consultants to transfer knowledge, create new ideas and apply 'in context'. All of this suggests that consultants are intrinsically useful to organisations (Prahalad and Hamel, 1990; Bradley et al. 2011), but not according to 25 per cent of the respondents who reported internal resistance to seeking external intervention. Reasons provided ranged from 'organisation culture too difficult to be understood by external resources' to 'People wanted to learn rather than to be taught how to do things'.

4.2 Is there a relationship between company size, willingness and ability to adopt business improvement initiatives and impact 3BL?

A key finding is that LEs identified predominantly with credibility as their key driver (42 per cent) compared to only 12 per cent reported by SMEs; perhaps explained by the

ability to afford to pay consultant day rates? Prieto and Easterby-Smith 2006, and Gubbins and Dooley 2014 suggest that buying access through consultants' client relationship networks speeds up access to and transfer of relevant knowledge for sustainable innovation. In addition, according to Done et al. (2011) and Tickle et al. (2016) long-term capacity development and more sustainable improvement happens when change and performance initiatives are carried out with external input. Some authors (Reid et al. 2013; Phelps et al. 2007; Bessant et al. 2005b) posit that without the ability to use external sources, issues are unlikely to be resolved and results unlikely to be as successful. Are organisations perhaps purchasing 'time compression economies', because speed and quality of delivery are important considerations?

15 per cent of SMEs and 15 per cent of LEs declared themselves as 'Knowledgeable', whilst 25 per cent of SMEs and 21 per cent of large organisations declared themselves as 'Aware' of the tools and techniques supporting the intervention. This perhaps fits with the literature suggesting that when businesses encounter operational obstacles, or 'hot spots', they will commit additional resources, through bought in consultants (Gladwell 2000; Phelps et al. 2007; Jones et al. 2008; Matthias 2013; Reid et al. 2013) to increase the likelihood of increasing their absorptive capacity. E.g. new information being assimilated and applied (Cohen and Levinthal 1990; Phelps et al. 2007; Sun and Anderson 2010; Tavani et al. 2013). In addition, networks are increasingly used for innovation and enhancing practice (Alexander and Childe 2013; Dooley et al. 2013; Gubbins and Dooley 2014).

31 per cent of SMEs claim to benefit from external support in relation to the 'knowing-doing gap' rather than pure financial cost benefits, which perhaps explains the changing nature of supply chain relationships (Bhattacharya et al. 2014; Bhattacharya et al. 2015; Marshall et al. 2015; Miemczyk et al. 2016; Wilhelm et al.

2016). Additionally, organisations purchase consultants capacity for many reasons, such as: expertise, externality, extension, endorsement (Matthias, 2013). From the survey the element of 'unclear business processes' as a defined knowledge gap was relatively low; 12 per cent of SMEs, 15 per cent of LEs, indicating again perhaps that speedy results are sought. If this is the case, it again raises the question of achieving long-term sustainability rather than short-term fix.

Whilst we have provided the answer to our research questions, including showing evidence that organisations deliver better 3BL and overall business performance outcomes with management consultants, the situation is not straightforward.

5. Conclusion

This study has investigated the impact of interventions by management consultants and how their work influences a firm's organisational growth through performance improvement. This study provides an initial theoretical framework (see figure 3) and explains the seven steps to intervention to create business resilience through actively managed facilitation in order to create long-term sustainable growth. The objective of this research was to identify a range of business improvement initiatives that can be used by different types of organisations, and our findings confirm that there are variations in how certain SMEs and LEs engage with external consultancy firms. For example, SMEs adopted a broader scope of external intervention relating to: (i) business process; (ii) production processes; (ii) product development and (iv) information technology, whereas, LEs focused predominately towards business process improvement.

The study also identifies the potential shortfalls in the knowledge gaps within the facilitation process. Whilst SMEs and LEs were both clearly aware and knowledgeable of the kinds of tools and techniques being offered by external bodies,

their experience was somewhat lacking. In addition, it is important to note that most tools and techniques were compatible with both SMEs and LEs. However, future research could be undertaken to understand if the applicability of the tools within SMEs and LEs is being fully utilised.

The combination of the findings also considers the long-term impact of the intervention. For example, 'urgency' was the key factor for SMEs to the 3BL, as well as the knowledge limitations, capability, and resource constraints. By contrast, LEs utilised external consultants in order to develop their 'creditability', impact and bottom line costs. Clearly, there is a lack of coherence of the 3BL thinking between SMEs and LEs in terms of the value add. The research could have importance in defining the performance measures for value through the 3BL. The findings of this paper illustrate the tensions and frustrations that exist in achieving long-term impact and value. However, those intervention were considered successful in term of improved quality, smoother operations and increased flexibility within the operations.

References

- Adams, R., Bessant, J. and Phelps, R. (2006) "Innovation management measurement: A review". *International Journal of Management Reviews* 8 (1), 21-47.
- Adebanjo, D., Abbas, A. and Mann, R. (2010) "An investigation of the adoption and implementation of benchmarking". *International Journal of Operations & Production Management* 30 (11), 1140-1169.
- Adebanjo, D., Tickle, M., Laosirihongthong, T. and Mann, R. (2015) "A study of the use of business improvement initiatives: the association with company size and level of national development". *Production Planning & Control* 26 (7), 507-524.
- Aitken, A. and Paton, R. A. (2016) "Professional buyers and the value proposition". *European Management Journal* 34 (3), 223-231.
- Alexander, A. T. and Childe, S. J. (2013) "Innovation: a knowledge transfer perspective". *Production Planning & Control* 24 (2-3), 208-225.
- Anderson, E. G. and Parker, G. G. (2013) "Integration of Global Knowledge Networks". *Production and Operations Management* 22 (6), 1446-1463.
- Angell, L. C. and Klassen, R. D. (1999) "Integrating environmental issues into the mainstream: an agenda for research in operations management". *Journal of Operations Management* 17 (5), 575-598.
- Argyris, C. (1999) *On Organizational Learning*. 2nd edition. Oxford: Blackwell Business.
- Ates, A. and Bititci, U. (2011) "Change process: a key enabler for building resilient SMEs". *International Journal of Production Research* 49 (18), 5601-5618.

- Ayuso, S., Rodríguez, M. Á. and Ricart, J. E. (2006) "Using stakeholder dialogue as a source for new ideas: a dynamic capability underlying sustainable innovation". *Corporate Governance* 6 (4), 475-490.
- Bateman, N. (2005) "Sustainability: the elusive element of process improvement". International Journal of Operations & Production Management 25 (3/4), 261-276.
- Bessant, J., Lamming, R., Noke, H. and Phillips, W. (2005a) "Managing innovation beyond the steady state". *Technovation* 25 (12), 1366-1376.
- Bessant, J., Phelps, R. and Adams, R. (2005b) *External Knowledge A review of the literature addressing the role of external knowledge and expertise at key stages of business growth and development.* London: Advanced Institute of Management Research.
- Bhattacharya, A., Dey, P. K. and Ho, W. (2015) "Green manufacturing supply chain design and operations decision support". *International Journal of Production Research* 53 (21), 6339-6343.
- Bhattacharya, A., Mohapatra, P., Kumar, V., Dey, P. K., Brady, M., Tiwari, M. K. and Nudurupati, S. S. (2014) "Green supply chain performance measurement using fuzzy ANP-based balanced scorecard: a collaborative decision-making approach". *Production Planning & Control* 25 (8), 698-714.
- Birkinshaw, J., Hamel, G. and Mol, M., J. (2008) "MANAGEMENT INNOVATION". Academy of Management. The Academy of Management Review 33 (4), 825-845.
- Birkinshaw, J. and Mol, M. (2006) "How Management Innovation Happens". *MIT Sloan Management Review* 47 (4), 81-88.
- Bititci, U. S., Mendibil, K., Martinez, V. and Albores, P. (2005) "Measuring and managing performance in extended enterprises". *International Journal of Operations & Production Management* 25 (3/4), 333-353.
- Bradley, S. W., Shepherd, D. A. and Wiklund, J. (2011) "The Importance of Slack for New Organizations Facing 'Tough' Environments". *Journal of Management Studies* 48 (5), 1071-1097.
- Breslin, D. (2008) "A review of the evolutionary approach to the study of entrepreneurship". *International Journal of Management Reviews* 10 (4), 399-423.
- Breslin, D. and Jones, C. (2012) "The evolution of entrepreneurial learning". International Journal of Organizational Analysis 20 (3), 294 - 308.
- Brewer, B. and Arnette, A. N. (2017) "Design for procurement: What procurement driven design initiatives result in environmental and economic performance improvement?". *Journal of Purchasing and Supply Management* 23 (1), 28-39.
- Calvard, T. S. (2016) "Big data, organizational learning, and sensemaking: Theorizing interpretive challenges under conditions of dynamic complexity". *Management Learning* 47 (1), 65-82.
- Chopra, S. and Meindl, P. (2007) *Supply Chain Management : Strategy, Planning, and Operation.* 3rd edition. Upper Saddle River, NJ: Pearson Prentice Hall.
- Cohen, W. M. and Levinthal, D. A. (1990) "Absorptive Capacity: A New Perspective On Learning And Innovation". *Administrative Science Quarterly* 35 (1), 128-152.
- Dabhilkar, M., Bengtsson, L. and Lakemond, N. (2016) "Sustainable supply management as a purchasing capability A power and dependence perspective". *International Journal of Operations & Production Management* 36 (1), 2-22.

- Datamonitor (2016) *Management and Marketing Consulting in the United Kingdom*. Marketline. : 0183-0424.
- Denscombe, M. (2007) *The Good Research Guide : For Small-Scale Social Research Projects*. 3rd edition. Maidenhead: Open University Press.
- Done, A., Voss, C. and Rytter, N. G. (2011) "Best practice interventions: Short-term impact and long-term outcomes". *Journal of Operations Management* 29 (5), 500-513.
- Dooley, L., Kirk, D. and Philpott, K. (2013) "Nurturing life-science knowledge discovery: managing multi-organisation networks". *Production Planning & Control* 24 (2-3), 195-207.
- Ebrahim-Khanjari, N., Hopp, W. and Iravani, S. M. R. (2012) "Trust and Information Sharing in Supply Chains". *Production and Operations Management* 21 (3), 444-464.
- Eckerd, S., Hill, J., Boyer, K. K., Donohue, K. and Ward, P. T. (2013) "The relative impact of attribute, severity, and timing of psychological contract breach on behavioral and attitudinal outcomes". *Journal of Operations Management* 31 (7– 8), 567-578.
- Ferdows, K. and De Meyer, A. (1990) "Lasting improvements in manufacturing performance: In search of a new theory". *Journal of Operations Management* 9 (2), 168-184.
- Fu, N. (2013) "EXPLORING THE IMPACT OF HIGH PERFORMANCE WORK SYSTEMS IN PROFESSIONAL SERVICE FIRMS: A PRACTICES-RESOURCES-USES- PERFORMANCE APPROACH". Consulting Psychology Journal: Practice & Research 65 (3), 240-257.
- Fugate, B., Stank, T. and Mentzer, J. (2009) "Linking improved knowledge management to operational and organizational performance". *Journal of Operations Management* 27 (3), 247-264.
- Furusten, S. (2009) "Management consultants as improvising agents of stability". Scandinavian Journal of Management 25 (3), 264-274.
- Gladwell, M. (2000) *The tipping point : how little things can make a big difference.* London: Little, Brown.
- Gopal, P. R. C. and Thakkar, J. (2016) "Analysing critical success factors to implement sustainable supply chain practices in Indian automobile industry: a case study". *Production Planning & Control* 27 (12), 1005-1018.
- Gubbins, C. and Dooley, L. (2014) "Exploring Social Network Dynamics Driving Knowledge Management for Innovation". *Journal of Management Inquiry* 23 (2), 162-185.
- Harvey, J. (2016) "Professional service supply chains". *Journal of Operations Management* 42–43, 52-61.
- Helfat, C. E., Finkelstein, S., Mitchell, W., Peteraf, M. A., Singh, H., Teece, D. J. and Winter, S. G. (2007) *Dynamic capabilities : understanding strategic change in organizations*. Oxford: Blackwell.
- Hill, J., Eckerd, S., Wilson, D. and Greer, B. (2009) "The effect of unethical behavior on trust in a buyer-supplier relationship: The mediating role of psychological contract violation". *Journal of Operations Management* 27 (4), 281-293.
- Hu, Q., Williams, S. J., Mason, R. and Found, P. (2016) "The change of production systems through consultancy involved projects: a multiple case study in Chinese SMEs". *Production Planning & Control* 27 (7-8), 550-562.
- Ismail, H. S., Poolton, J. and Sharifi, H. (2011) "An Interventionist Framework for Promoting Sustainable Growth in SMEs: The Role of HEIs as Implementation

Specialists". *Environment and Planning C: Government and Policy* 29 (4), 622-640.

- Jones, O., Macpherson, A. and Woollard, D. (2008) "Entrepreneurial Ventures in Higher Education; Analysing Organizational Growth".
- International Small Business Journal 26 (6), 683–708.
- Kotter, J. P. (1996) "Kill complacency". Fortune 134 (3), 168.
- Laughlin, R. C. (1991) "Environmental Disturbances and Organizational Transitions and Transformations: Some Alternative Models". Organization Studies 12 (2), 209-232.
- Li, G. and Rajagopalan, S. (2008) "Process Improvement, Learning, and Real Options". *Production and Operations Management* 17 (1), 61.
- Li, S. R., Jayaraman, V., Paulraj, A. and Shang, K. C. (2016) "Proactive environmental strategies and performance: role of green supply chain processes and green product design in the Chinese high-tech industry". *International Journal of Production Research* 54 (7), 2136-2151.
- Longoni, A. and Cagliano, R. (2016) "Human resource and customer benefits through sustainable operations". *International Journal of Operations & Production Management* 36 (12), 1719-1740.
- Maister, D. H., Green, C. H. and Galford, R. M. (2000) *The trusted advisor*. New York: Free Press.
- Marshall, D., McCarthy, L., Heavey, C. and McGrath, P. (2015) "Environmental and social supply chain management sustainability practices: construct development and measurement". *Production Planning & Control* 26 (8), 673-690.
- Matthias, O. (2013) DEVELOPING A CUSTOMISATION BLUEPRINT FOR MANAGEMENT CONSULTANCIES TO BETTER SERVE THEIR CLIENTS. DBA. Bradford: University of Bradford School of Management.
- Miemczyk, J., Howard, M. and Johnsen, T. E. (2016) "Dynamic development and execution of closed-loop supply chains: a natural resource-based view". *Supply Chain Management-an International Journal* 21 (4), 453-469.
- Mishra, J. L. and Hopkinson, P. G. (2017) "Value Creation from Circular Economy led Closed Loop Supply Chains: A Case Study of Fast Moving Consumer Goods ". *Production Planning and Control* nd.
- Näslund, D. (2008) "Lean, six sigma and lean sigma: fads or real process improvement methods?". *Business Process Management Journal* 14 (3), 269-287.
- Nonaka, I. O. and Takeuchi, H. (1995) *The knowledge-creating company : how* Japanese companies create the dynamics of innovation. New York; Oxford: Oxford University Press.
- Oelze, N., Hoejmose, S. U., Habisch, A. and Millington, A. (2016) "Sustainable Development in Supply Chain Management: The Role of Organizational Learning for Policy Implementation". *Business Strategy and the Environment* 25 (4), 241-260.
- Phelps, R., Adams, R. and Bessant, J. (2007) "Life cycles of growing organizations: A review with implications for knowledge and learning". *International Journal of Management Reviews* 9 (1), 1-30.
- Piercy, N. and Rich, N. (2015) "The relationship between lean operations and sustainable operations". *International Journal of Operations & Production Management* 35 (2), 282-315.
- Prahalad, C. K. and Hamel, G. (1990) "The core competence of the Corporation". *Harvard Business Review* (May-June), 79-81.

- Prieto, I., M. and Easterby-Smith, M. (2006) "Dynamic capabilities and the role of organizational knowledge: an exploration". *European Journal of Information Systems* 15 (5), 500-510.
- Radnor, Z. and O'Mahoney, J. (2013) "The role of management consultancy in implementing operations management in the public sector". *International Journal of Operations & Production Management* 33 (11), 1555-1578.
- Reay, T., Chreim, S., Golden-Biddle, K., Goodrick, E., Williams, B. E., Casebeer, A., Pablo, A. and Hinings, C. R. (2013) "Transforming New Ideas into Practice: An Activity Based Perspective on the Institutionalization of Practices". *Journal of Management Studies* 50 (6), 963-990.
- Reid, I., Ismail, H., Poolton, J., Sharifi, H. and Tegoh, N. (2013) Going the extra mile:
 "An international critique into business intervention. in *Institute for Small Business and Entrepreneurship 2013*. Cardiff, Wales: 12-13th November 2013. ISBE. 1-17. <u>http://eprints.hud.ac.uk/19183/</u>
- Ryan, A. and O'Malley, L. (2016) "The role of the boundary spanner in bringing about innovation in cross-sector partnerships". *Scandinavian Journal of Management* 32 (1), 1-9.
- Sarkis, J. and Dhavale, D. G. (2015) "Supplier selection for sustainable operations: A triple-bottom-line approach using a Bayesian framework". *International Journal of Production Economics* 166, 177-191.
- Schumacher, T. and Scherzinger, M. (2016) "Systemic in-house consulting: an answer to building change capacities in complex organizations". *Journal of Change Management* 16 (4), 297-316.
- Squire, B., Cousins, P. and Brown, S. (2009) "Cooperation and Knowledge Transfer within Buyer-Supplier Relationships: The Moderating Properties of Trust, Relationship Duration and Supplier Performance". *British Journal of Management* 20 (4), 461-477.
- Sun, P. and Anderson, M. (2010) "An Examination of the Relationship Between Absorptive Capacity and Organizational Learning, and a Proposed Integration". *International Journal of Management Reviews* 12 (2), 130-150.
- Tavani, S. N., Sharifi, H. and Ismail, H. S. (2013) "A study of contingency relationships between supplier involvement, absorptive capacity and agile product innovation". *International Journal of Operations & Production Management* 34 (1), 65-92.
- Taylor, F. W. (1911) The Principles of Scientific Management. New York: Harper.
- Tickle, M., Adebanjo, D., Mann, R. and Ojadi, F. (2015) "Business improvement tools and techniques: a comparison across sectors and industries". *International Journal of Production Research* 53 (2), 354-370.
- Tickle, M., Mann, R. and Adebanjo, D. (2016) "Deploying business excellence success factors for high performance". *International Journal of Quality & Reliability Management* 33 (2), 197-230.
- Tippmann, E., Sharkey Scott, P. and Parker, A. (2017) "Boundary Capabilities in MNCs: Knowledge Transformation for Creative Solution Development". *Journal of Management Studies* 54 (4), 455-482.
- UNWCED (1987) Brundtland Report: Our Common Future. UN World Commission on Environment and Development. <u>http://www.un-documents.net/our-common-future.pdf</u>
- Wilhelm, M., Blome, C., Wieck, E. and Xiao, C. Y. (2016) "Implementing sustainability in multi-tier supply chains: Strategies and contingencies in

managing sub-suppliers". *International Journal of Production Economics* 182, 196-212.

- Winter, S., G. (2003) "Understanding dynamic capabilities". *Strategic Management Journal* 24 (10), 991-995.
- Winter, S. G. (2012) "Capabilities: Their Origins and Ancestry". *Journal of Management Studies* 49 (8), 1402-1406.

Wright, C., Sturdy, A. and Wylie, N. (2012) "Management innovation through standardization: Consultants as standardizers of organizational practice". *Research Policy* 41 (3), 652-662.

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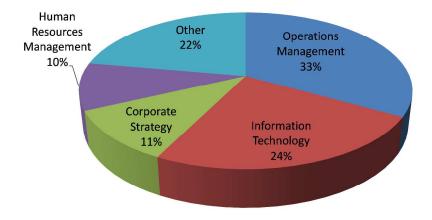


Figure 1: Breakdown of turnover by service line (Datamonitor 2016)

looking for knowledge they do not possess, be it "knowing-how' or "knowing-what"
looking for an external perspective, be it geography or industry
looking for an injection of extra resource
looking for a decision to be legitimised or de-personalised

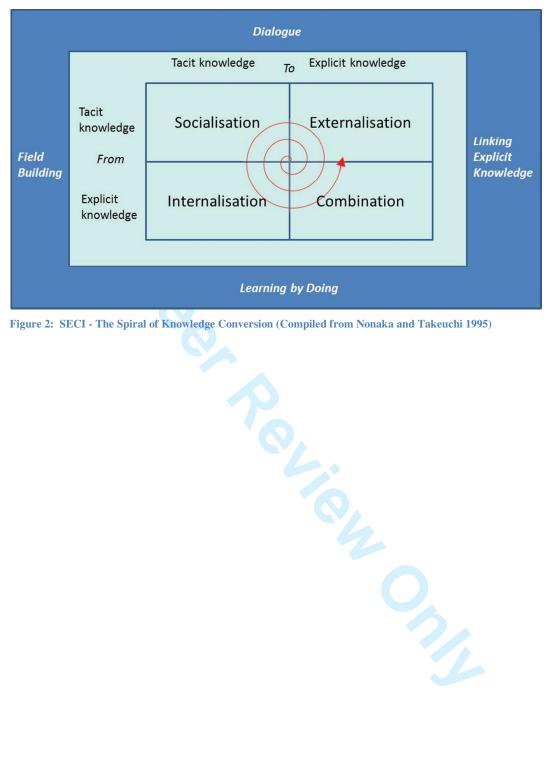


Figure 2: SECI - The Spiral of Knowledge Conversion (Compiled from Nonaka and Takeuchi 1995)

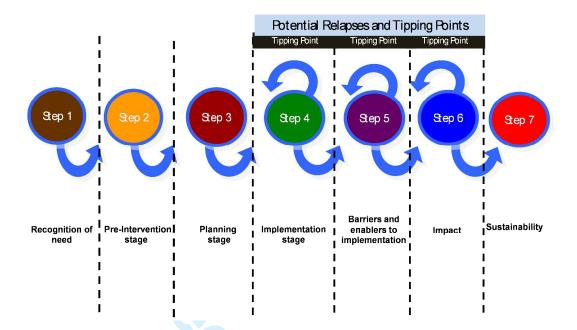
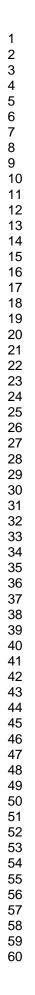


Figure 3: Intervention Steps (Adapted from Reid et al. 2013)

t al. 2013)



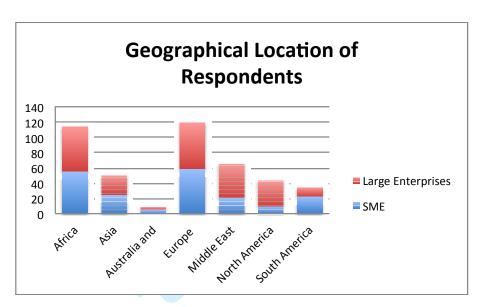


Figure 4: Geographical Location of Respondents

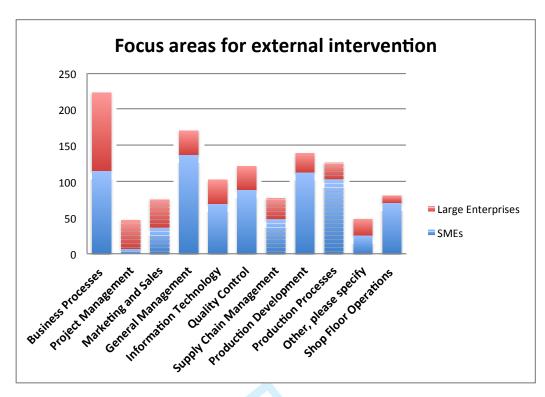


Figure 5: Primary improvement focus of the intervention

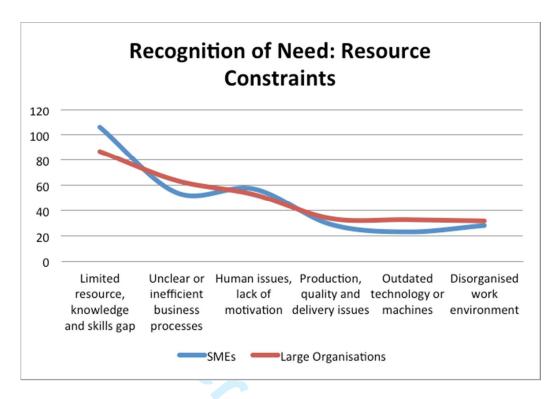


Figure 6: Resource constraints prior to external intervention

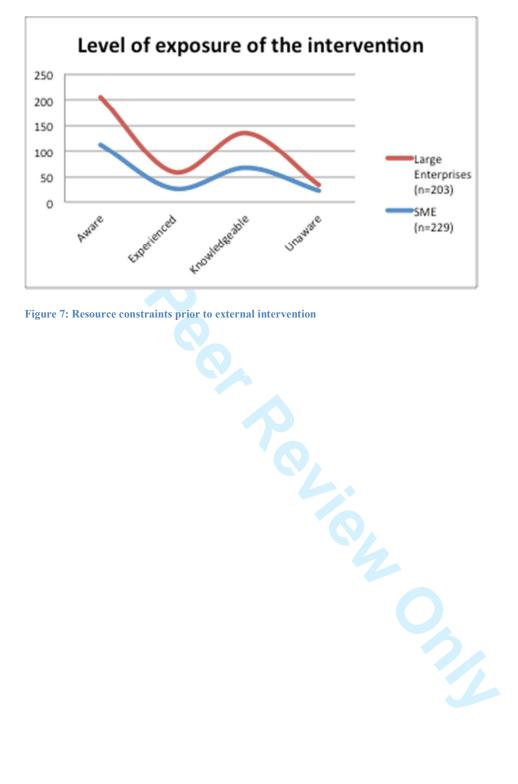


Figure 7: Resource constraints prior to external intervention

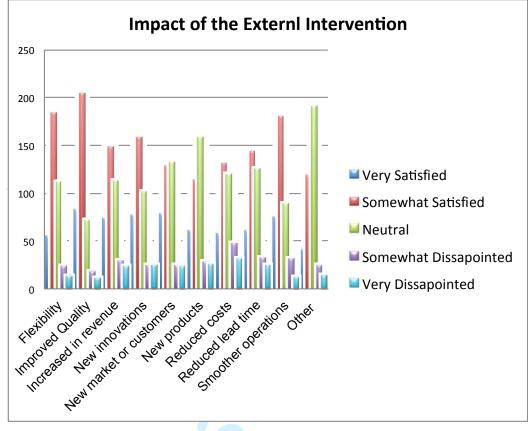


Figure 8: Impact of the intervention

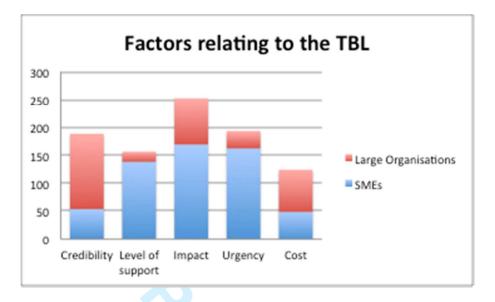


Figure 9: Factors relating to value and the 3BL