Business case effectiveness: the critical role of the organization

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Abstract

Purpose – Literature indicates that the business case for projects is difficult to use and suggests that there are organizational factors that can facilitate effective use of the business case. This paper aims to identify such facilitators, measure their presence and importance, and relate them to the actual practice of business case processes.

Design/methodology/approach – A cross sectional quantitative method was used, with data on facilitators and business case process usage gathered through an online questionnaire.

Findings – The findings for the 43 organizational facilitators are that each one is considered more important than its presence in the respondents' organizations. High correlations emerge between the presence of the facilitators and the use of business case processes, indicating the pivotal role of the facilitators.

Research limitations/implications – The research was conducted for business IT projects implemented by organizations based in South Africa. It furthers our understanding of project business cases and suggests additional research avenues in this area.

Practical implications – The findings indicate that organizations could improve key facilitators at an affordable cost. Such improvement would enable more effective use of the business case throughout the project's lifetime – from initial concept until planned benefits have been substantially realized. Better use of the business case would also support governance and increase the success rate of business IT projects.

Originality/value – Organizational facilitators of business case processes are identified and categorized for the first time, leading to measurements of their perceived importance and presence in organizations. Hence, the relationship between these facilitators and actual business case usage is determined, suggesting areas of optimum impact.

Keywords Business case process, Project benefits, Organizational facilitating factors

Paper type Research paper

1. Introduction

The scope of this paper is business IT (information technology) projects where business benefits are achieved using IT deliverables. Herein the term "IT project" is used to imply a business IT project. Literature regularly reports that the success rate of IT projects is unsatisfactory, with about 60% of projects being challenged or failing outright (Standish, 2014). One of the reasons is that the people who develop the IT deliverables are not the people that *use* the deliverables to change organizational processes for the achievement of business benefits. Moreover, these two groups, IT and business, tend not to communicate effectively with each other, having different backgrounds, cultures and terminology. Fortunately, literature also shows that this situation can be much improved through better governance, underpinned by an effectively used business case. Such governance however, which involves both business and IT personnel, needs to prevail throughout the project's "lifetime" which starts when the project is first suggested and continues until all benefits have been

substantially realized (Einhorn *et al.*, 2019). This is corroborated by Ul Musawir *et al.* (2017) who state that sound governance, when applied consistently through to benefits realization has a considerable positive influence on the success rate of projects.

Using a process theory approach it emerges that 37 identified processes are needed to use the business case effectively, a few of which have some overlap with project management processes (PMI, 2017; Einhorn and Marnewick, 2016). This paper shows that usage of these business case processes typically diminishes after initiation of the project, and where the business case is not used throughout the project's lifetime, it is questionable whether it can be fully effective.

However, the focus of this paper is on what is believed to be the *root-cause* of inadequate use of the business case. It emerges that there are many organizational factors that either facilitate or inhibit the effective use of the business case. These "facilitators", derived from literature, are explored to determine their presence in organizations and the degree to which they are viewed as important. Finally, the presence of the facilitators is related to the practice of groups of business case processes. The observations and conclusions drawn from the results serve as guidance to management as to what can be put in place at affordable cost, which will lead to more effective use of the business case. Thus, if an organization improves the presence of these facilitators, business case processes are likely to be pursued through to benefits realization, improving the probability of success and thereby adding considerable value.

2. Literature review

2.1 The success rate of IT projects is improved by governance using the business case

For business projects, benefits are often made possible by using IT deliverables. What follows gives background on some of their unique aspects, and their success rates. IT deliverables on their own generally do not produce benefits; business changes using the deliverables are needed to realize the benefits (Coombs, 2015; Peppard *et al.*, 2007). Indeed, such projects have two parts: the development of IT deliverables done by IT people, and the use of these deliverables to achieve value by business-people. Although IT and business people usually have different experience and use different terminology, it is essential that they work together, as neither group has knowledge of every aspect of the project (Sauer and Reich, 2009; Zwikael and Smyrk, 2012).

IT projects do not enjoy a high success rate. Surveys show that up to 20% of them fail outright and a further 40% are considered challenged (Joseph *et al.*, 2014; Standish, 2014). Sound project governance can do much to avoid the causes of IT project failure and the consequent wasteful expenditure. Research by Ul Musawir *et al.* (2017) finds a clear link between governance and project success. Their research also shows that a business case, supported by relevant and valid information to aid decision-making, is the greatest overall contributor to project success. This endorses the position expressed in practice guides that the business case underpins project governance (APM, 2006; OGC, 2009; PMI, 2016).

2.2 The purpose and use of a business case

The business case explains the justification for making a project investment and is used to get commitment from management and approval to proceed (Maes *et al.*, 2014; Einhorn *et al.*, 2019; APM, 2006; PMI, 2017). The business case states the expected benefits for stakeholders. It considers alternative approaches to achieve them and recommends a preferred solution (APM, 2006). The business case is "owned" by the project owner who has overall accountability for realizing the benefits (Olsson, 2018; Zwikael *et al.*, 2018). It is important to

indicate who is responsible for each benefit, the process or organizational changes involved, and how each benefit will be measured (Zwikael *et al.*, 2018). The business case details the scope of work, desired benefits, estimated costs, time frame and risks (OGC, 2009).

Approval to proceed with the project does not mean that the business case has served its purpose. It should be subject to review and testing for viability throughout the lifetime of the project (Cooke-Davies, 2005; Franken *et al.*, 2009; OGC, 2009; PMI, 2017). The business case also supports the governance of a portfolio of projects in the organization, as it is vital input to prioritization under conditions of limited resources (Kopmann *et al.*, 2015; Müller *et al.*, 2014). Thus, the business case should contribute to success and the mitigation of risk or failure in the following ways (Zwikael *et al.*, 2018; Ward *et al.*, 2008; Einhorn *et al.*, 2019):

(1) Through creation, review and update of the business case, stakeholders understand the project's ongoing justification, covering benefits, costs and risks, thereby allowing them to take well-informed decisions.

(2) There is increased commitment to realize the benefits because they are quantified and measurable, with responsibility clearly assigned.

(3) When changes of any nature happen, inside or outside the organization, review of the business case enables optimal revision of the project in response to them.

(4) Then, when the IT outputs have been utilized and business processes changed, the business case enables results to be compared with expected benefits, making sure that none were overlooked.

Because of the link between project lifetime use of the business case and project success, such use is considered "effective" in the terms of Ul Musawir *et al.* (2017) and Ward *et al.* (2008).

2.3 Theoretical framework for the study of business case processes
Process theory is the lens applied here to study the effective use of the business case to support project governance. Process theory facilitates the development of theory, by allowing processes to be defined and described in a structured manner using consistent terminology (Langley, 1999; Koskinen, 2012). The inputs to each process are referred to as antecedents, which may have been the outputs of earlier processes; similarly, the outputs are referred to as consequents. Inside each process, activities are performed by actors, involved people who may have a variety of backgrounds and may be subject to outside influences. Each action results in outcomes, intended or unintended, some of which may be intermediate states within the process (Niederman *et al.*, 2018).

The theory applies to well-defined processes as well as to unstructured processes, both applicable to business cases. Business case process antecedents are usually the information output from previous processes but may also be the availability of actors. Within each process the actions are contextual, with judgment being exercised by the actors as to what is appropriate for a specific project. Use of the theory is shown in Figure 1 which is conceptual and does not illustrate any specific business case processes.

The business case processes found in literature were grouped into "process groups" (PGs), as illustrated in the upper part of the figure. Within each PG there is a logical flow of processes, but there are inherent revisions as more information becomes available and assumptions are revisited. The bottom right of the figure illustrates the anatomy of a single process, with its actions and intermediate outcomes. The business case PGs are explained briefly in the next subsection based on Pentland (1999). The reason for working at the level of PGs is that they apply to almost all project environments. The processes themselves might
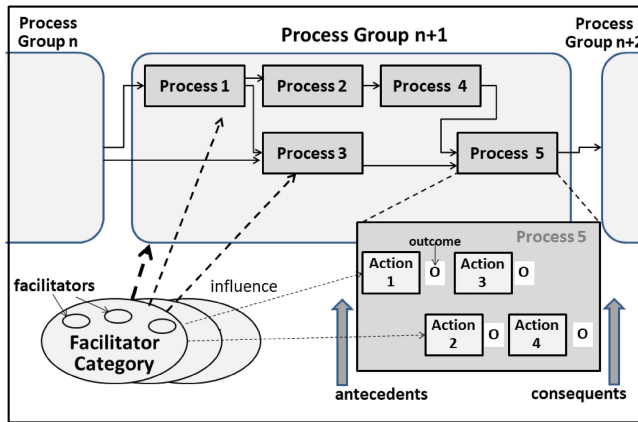
Figure 1.
Process theory applied
to the business case

vary more than the PGs, and the actions within processes are highly contextual and could not be generalized across IT projects. However, even at PG level, there is considerable variation across organizations.

While it is essential to understand the business case PGs, the focus of this paper is on the organizational facilitating factors that affect the success of the PGs, and even whether the processes within them are done at all. The bottom left of the figure shows the facilitators, which are also grouped into facilitator categories. Any facilitator could exert influence at the levels of PG, process, or action within a process. Although the research is done at the level of facilitators and processes, in the research described here it is more meaningful to interpret the results at the level of facilitator *categories* and *PGs*.

While process theory forms the basis for accumulating knowledge about the business case, variance theory is used to correlate facilitators with processes, and facilitator categories with PGs (Langley, 1999; Soh and Markus, 1995). Indeed, variance theory and process theory are complementary; the interpretation of the abovementioned correlations could use process theory concepts to examine the mechanism (or process) by which one or more facilitators might influence one or more business case processes (Morris, 2005; Bizzi and Langley, 2012). Such interpretation would enable conclusions to be drawn which are useful to guide practice.

2.4 Business case processes and information
The business case PGs (process groups) are shown in Figure 2 (Marnewick and Einhorn, 2019). Because the business case is a decision-making tool, decisions based on it may be taken at any point during the project's lifetime, and certainly at "gate" reviews where these are held.

The following explains each of the 8 PGs which together include 37 processes (Einhorn *et al.*, 2019):

(1) PG1 (4 processes) covers preparation for the business case. Sufficient information is gathered to get approval to undertake a more detailed business case and assign it to a person or team.

(2) PG2 (12 processes) covers the information-gathering groundwork. It includes identifying proposed benefits and determining the preferred approach, possibly

through a feasibility study. The preferred approach in turn enables outlining of the scope, costs and risks associated with it.

(3) PG3 (6 processes) involves selecting the most relevant information from PG2, doing further analysis, and assembling it into a form that can be presented to decision makers. The draft presentation would be reviewed by key stakeholders, at least one of whom should be independent if the project is important or risky. The business case is then presented to senior management and a decision taken, which could be to terminate the project, to make changes, or to proceed.

(4) PG4 (2 processes) assumes a favorable decision. It involves prioritizing the project against other approved projects or even projects that are already underway. The scheduled start would be influenced by resource availability.

(5) PG5 (3 processes) starts when the project is initiated. The business case is an important input to planning, and especially to the benefits management plan (PMI, 2017). Because further information arises during planning, it is essential to update the business case to align with the project plan, and then to confirm that it remains viable (OGC, 2009; Samset and Volden, 2015).

(6) PG6 and PG7 (4 and 3 processes respectively) are done in parallel. PG6 covers routine tracking and reporting of project schedule and costs. It would highlight the main risks and issues, and any scope changes arising from them. PG7 involves periodic reviews of the business case in the light of project reports. It includes ad-hoc reviews to address concerns raised by stakeholders. Any review should include an updated version of the business case in response to changed assumptions.

(7) PG8 (3 processes) is focused on the assessment of benefits realization, leading to positive business outcomes. Benefits are compared with those in the business case and action taken by accountable stakeholders should there be a shortfall.

Each process within each PG requires information and generates further information (Marnewick and Einhorn, 2019). Similarly, the effectiveness of each process and the likelihood of it being followed may be influenced by organizational facilitators. Although the PGs are shown in rough chronological order, what happens in practice is situational. For example, while PGs 1 to 4 would normally be done before project initiation, it can happen that a project is initiated urgently, in which case many of the processes in PGs 2 and 3 should be done early in the project planning phase.
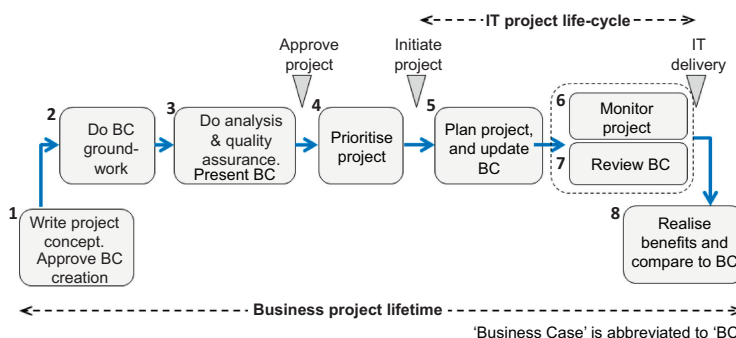
Figure 2.
Business case PGs
(process groups)

Note(s): Adapted from (Marnewick and Einhorn, 2019)

2.5 Usage in practice of business case processes

The results of a published survey (Einhorn *et al.*, 2019) are given in Table 1. It shows the degree to which each business case PG is followed in practice for IT projects. The right-hand column gives the percentage of respondents that use the PG often or very often-the darker the shading, the greater the usage.

Up to the time of project approval, most organizations use a business case but even at the prioritization stage, usage fell off. Then, after project initiation, the business case was generally not used to support project governance, bringing into question whether such governance can even be meaningful. Two exceptions to this general practice were monitoring the project (all processes in PG6) and lessons learned (a process in PG8), which are frequently done irrespective of any business case and are usually required as project standards anyway. A consequence in many organizations was that proponents of a project, knowing that the business case would be dropped after project approval, may have been tempted to supply over-optimistic benefits and costs, and ignore serious risks. Even worse, proponents may have resorted to deliberate "strategic misrepresentation" of the benefits and risks (Flyvberg, 2014).

These findings raise the question of why the business case for projects is under-utilized. A possible answer is provided by Maes *et al.* (2014). They find that while most business case processes are perceived by experts to be effective, they are not easy to carry out: on a 0 to 100 scale, process effectiveness rates at about 75, while ease of doing them is typically below 25. It appears that knowing the processes, and even the information that drives them, is insufficient to enable organizations to continue using the business case throughout the project lifetime. There may be other factors at play, like stakeholder involvement, that bear investigation.

2.6 Summarizing the literature

Prior to a discussion of the research questions stemming from this literature, it is desirable to take a step back and consider the important findings from this literature review. There is evidence to confirm that the success rate of projects is increased by use of the business case. However, we also know that organizations generally use the business case prior to starting the project, but far less thereafter, thus conflicting with the conviction of several authors that the business case needs to be used consistently during the entire lifetime of the project. In addition, it appears to be difficult to assemble a good business case, and even more difficult to use it effectively after the project has been approved. Generic processes, grouped into PGs, have been identified that apply to almost all projects and it is evident that, associated with these PGs, there are organizational factors, either facilitators or inhibitors, which affect the ease of use and effectiveness of the business case throughout the project's lifetime. The use of variance theory to evaluate the organizational facilitators that emerge can then determine how they relate to the PGs.

Process Group	Description	Percentage often / very often
PG1	Propose project & approve BC creation	67
PG2	Do BC groundwork	61
PG3	Analyze, quality assure, present BC	61
PG4	Prioritize project	52
PG5	Use BC to plan project and update BC	33
PG6	Monitor project	77
PG7	Review BC	34
PG8	Realize benefits and compare to BC	37

Table 1.
Summary of business case usage by PG (process group)

2.7 Research questions that arise
Having outlined the need for a business case, the business case processes, and their under-utilization, the following research questions emerge:

(1) *Research question 1:* What organizational factors that facilitate effective use of the business case can be drawn from literature?

(2) *Research question 2:* How present are each of the facilitating factors in organizations?

(3) *Research question 3:* How does the presence of the facilitating factors relate to their perceived importance?

(4) *Research question 4:* What is the relationship between the degree of presence of these facilitating factors in organizations and actual use of the business case processes?

3. Organizational facilitating factors for the effective use of a business case

This section answers research question 1. Earlier it was noted that the literature suggests that many organizational factors exist that influence the use of business case processes. In this context, a factor is a property of the organization that facilitates, or inhibits, the effective use of a business case. Many properties are cultural or procedural. Cultural properties relate to the values espoused by influential people, and the general perceptions and attitudes in the organization. Procedural properties relate to the norms and rules, and the degree to which they are adhered to. In the descriptions that follow, each facilitating factor is explained, and sometimes also the corresponding inhibitor to provide contrast.

The approach used to extract the facilitating factors from literature is summarized as follows. During the general business case research each paper that suggested one or more factors was tagged. From the 39 tagged papers a table was built of the papers and the factors, some of the papers raising several factors. A total of 160 items were tabulated, of which many were similar or overlapped. The items were grouped into 43 factors, with some having many references. Fewer than 10% of the factors only had a single reference. The factors were then categorized to make them easier to assimilate. Categorization was based on the group of people believed to influence the factor the most or were responsible for the processes related to the factor. During the pilot of the survey using the factors, feedback from 12 experienced people resulted in some changes to the categorization. The categories are OC (organizational commitment), PS (portfolio support), PI (process and information), CR (business case creation) and TR (business case tracking). The latter two categories may sound like groups of processes, but are, in fact, the organizational culture and norms that enable and encourage the processes to be followed. In practice, the factors interact with each other, and improvement undertaken by an organization may involve intervention in several factor areas.

In the category headings that follow, the term "factors" is used, as the descriptions may relate to the facilitating effect of the factor's presence as well as the inhibiting effect of its absence. The factors are explained below and tabulated in summary form in the section on results, using a code comprising the category and the number within the category.

Organizational commitment factors (OC):

OC1	*The business case has credibility in the organization.* It is used as a way of getting an in-depth understanding of the project (Marnewick, 2014; Franken *et al.*, 2009; Smith *et al.*, 2010). It becomes the guide for decision-making throughout the project's lifetime (Herman and Siegelaub, 2009). The absence of this factor would be that the business case is seen as a mere formality, a "box ticking" exercise, or only as a means to obtain funding (Franken *et al.*, 2009; Eckartz *et al.*, 2009)

(continued)

OC2 *Executives encourage use of the business case.* They might stay abreast of the project through dashboards, but would refer to the business case when considering issues and changes, or when assessing outcomes in terms of benefits (Doherty *et al.*, 2012; Smith *et al.*, 2010). The absence of any business case would imply that executives remain uninvolved with project and portfolio governance, and that any business case processes are delegated and ignored due to the hassle and difficulties involved (Ward *et al.*, 2008)

OC3 *The business case is recognized as essential for ongoing governance*, even if there is urgency to get started (Cooke-Davies, 2005). It is used to confirm that the benefits align to corporate strategy at ongoing reviews (Marnewick, 2014; Marnewick, 2016; ISACA, 2012). The opposite would be where any governance is done without a business case or where urgency causes the need for a business case to be waived

OC4 *The business case is a key input to decision-making throughout the project's lifetime.* The ultimate decision would be not to proceed with, or to terminate, an unjustified project (Franken *et al.*, 2009)

OC5 *Executives recognize the business case's contribution to successful project outcomes.* Ul Musawir *et al.* (2017) find that the business case contributes to project success. Where this is recognized, there is more support from the organization to follow the processes

OC6 *The project owner uses the business case as an ongoing blueprint* for how the project should unfold and what it should produce through cooperation with the project manager, (Cooke-Davies, 2005; Andersen, 2012). Having no owner, or having stakeholders with dysfunctional relationships, would be a serious inhibitor (Peppard and Thorp, 2014)

OC7 *Besides the owner, other key stakeholders are engaged during creation and tracking of the business case.* Creation would be a multi-disciplinary process encouraged by executives, and the stakeholders would be actively involved in realizing the benefits (Wilson *et al.*, 2007; Doherty *et al.*, 2012). Where stakeholders do not play this role, necessary input would be missing and benefits may be overlooked (Eskerod *et al.*, 2015; Keen, 2011)

OC8 *In IT projects, stakeholders have an understanding of business as well as IT.* Involvement of both disciplines in all aspects of the project fosters trust and enables the business case to be used effectively (Larson and Gray, 2014; Smith *et al.*, 2010). Such understanding can be built through developmental career rotations and encouraging inter-disciplinary collaboration (Lee *et al.*, 2015; Pande; Schrey, 2016)

OC9 *A culture of objectivity (seeking valid facts) prevails in the organization*, with the business case being rationally debated (Smith *et al.*, 2010). Where objectivity and honesty are lacking, projects may be promoted for personal reasons with potentially biased business cases (Larson and Gray, 2014; Royer, 2003; Ward *et al.*, 2008; Breese, 2012)

OC10 *The business case recognizes organizational change management aspects*, which affect people and processes. Organizational change activities are included in the scope, together with their resource requirements (Coombs, 2015; Wilson *et al.*, 2007). Without such recognition, unforeseen change activities may inhibit the realization of benefits

Portfolio support factors (PS):

PS1 *Portfolio management is in place to optimize all projects in the organization* (de Reyck *et al.*, 2005; Smith *et al.*, 2010). In a small organization this could be done informally. However, an inhibitor would be if portfolio support does not exist or if it does not consider the business case (Kopmann *et al.*, 2015)

PS2 *The business case is regarded as important input to project prioritization*, which includes allocation of resources to selected projects (Franken *et al.*, 2009). Projects may be categorized and scored with the involvement of Finance (Larson and Gray, 2014; Smith *et al.*, 2010). An inhibitor would be if projects were undertaken based primarily on the power and influence of individuals

PS3 *Very large projects are broken down into smaller projects to reduce complexity and risk* during business case creation (Bloch *et al.*, 2012; Standish, 2013). Where this is not possible an alternative might be to undertake a proof-of-concept or pilot project (Messner, 2013; ISACA, 2012)

PS4 *Staff involved with the business case have adequate skills and experience*, and use judgment to identify relevant information (Samset and Volden, 2015; Marnewick and Einhorn, 2019). Without such capabilities, staff might suffer from "information overflow", resulting in business cases that lack credibility (Samset and Volden, 2015; Ward *et al.*, 2008)

PS5 *Training in business case processes is given* and goes some way to providing the abovementioned skills to those involved including senior business people (DE Reyck *et al.*, 2005). Mentorship is also available, possibly through a portfolio support function (ISACA, 2012; Andersen, 2012)

PS6 *Responsibility for creating the business case is formally assigned* to a person or team (Keen, 2011). Without clear responsibility, there is a high risk of the work not being done and important decisions being taken without the perspectives gained from a business case

PS7 *Guidance is given on the amount of effort to expend on producing a business case* (Keen, 2011). The guidance could be based on initial estimates of project cost, complexity and risk. Without it, the effort spent may be inappropriate for the project at hand

PS8 *The norm is to assign suitable budget to produce a business case* in organizations where people-hours are accounted for (Keen, 2011; Bloch *et al.*, 2012)

PS9 *The quality of the business case is reviewed prior to seeking approval* for content, relevance and clarity. This could be done through quality assurance initiated at the portfolio level, using checklists and involving business people to confirm the validity of proposed benefits (Keen, 2011, DE Reyck *et al.*, 2005). A quality review would mitigate the risk of important assumptions being overlooked (Ward *et al.*, 2008)

PS10 *Important business cases have an independent reviewer*, possibly from quality assurance, another support function, a business function, or outside consultant (Gavett, 2013; Breese, 2012). If the reviewer has credibility and is willing to adopt a "devil's advocate" stance, there is a lower risk of undetected bias (Günther *et al.*, 2017)

Process and information factors (PI):

PI1 *Business case processes are supported by standards, checklists and templates.* Such documentation guides both creation and tracking of the business case (Einhorn and Marnewick, 2016). Without standards, any attempts to ensure ongoing justification are likely to be ad-hoc and ineffective (Keen, 2011)

PI2 *Involved staff have documentation to guide them* as to what information to seek during business case creation and tracking processes (Marnewick and Einhorn, 2019). Where uncertainty exists, assumptions are stated and confidence limits assigned to estimates (APM, 2006). This guidance may overcome the temptation to orient information to support an already-selected alternative (Samset and Volden, 2015)

PI3 *The requirement for a business case in the project approval process is an organizational standard* (Ward *et al.*, 2008; Franken *et al.*, 2009; Peppard and Thorp, 2014)

PI4 *A business case provides clear project goals and scope*, including the activities to achieve benefits realization (Franken *et al.*, 2009; APM, 2006)

PI5 *There is clarity on which costs will be charged to the project* (e.g., time from business people) and how ongoing costs will be offset against benefits (Larson and Gray, 2014). Without such clarity, costs such as change management may be overlooked making it difficult to realistically assess the net value of the project (Ward *et al.*, 2008)

PI6 *A well-managed central repository of project and other information exists*, saving time and enhancing the quality of information used (DE Reyck *et al.*, 2005; PMI, 2017; ISACA, 2012). Relevant information is easily accessible and might include lessons-learned and risks from past projects, as well as the names of people who might be contacted for tacit advice

PI7 *Relevant project information is stored in a structured manner for future reference* and regarded as an organizational asset (McClory *et al.*, 2017; PMI, 2017). An inhibitor would be if information is simply not available to the business case team

PI8 *Alignment of objectives is agreed between business and IT people.* Any conflicting interests are managed, and measurements or incentives are compatible across all stakeholders (Kopmann *et al.*, 2015; Bloch *et al.*, 2012)

PI9 *A culture of willingness to share relevant information exists* and assists the business case team. Obsessive confidentiality is eschewed, with executives encouraging the sharing of data on a need-to-know basis (Franken *et al.*, 2009; Kulkarni *et al.*, 2006)

Business case creation factors (CR):

CR1 *Stakeholders are assigned and tasked with providing relevant information* to enable the development of a business case (Messner, 2013). Without such management support, information-gathering may suffer from low priority

CR2 *A preferred approach is agreed upon by business and IT*, possibly through a feasibility study before proceeding with a business case (APM, 2006). When alternative approaches are not considered up front, better solutions often emerge later on when it is expensive to try to change the approach (Samset and Volden, 2015)

CR3 *Benefits are linked to IT deliverables* (Ward *et al.*, 2008)

CR4 *Benefits are linked to process changes* (Ward *et al.*, 2008). Linkages may be illustrated in a mapping diagram or table (Bradley, 2010; Peppard *et al.*, 2007). Without such linkages it may be difficult to prioritize scope items

CR5 *Intangible as well as monetary benefits are included* in the business case, with measurements or assessment criteria. This gives a balanced perspective to decision-making stakeholders and allows tracking of non-monetary benefits (Ward *et al.*, 2008; Keen, 2011)

CR6 *Business persons are made accountable* for the value achieved from each stated benefit (Zwikael *et al.*, 2018), and their input to the estimating process placed on record (Franken *et al.*, 2009; Smith *et al.*, 2010)

CR7 *The value of each benefit and the measurements used to determine it are substantiated* by proposers (Herman and Siegelaub, 2009; Zwikael *et al.*, 2018). Without such ownership, the business case may be biased and misleading due to unrealistic benefits (Ward *et al.*, 2008)

CR8 *When the business case has been assembled, a review is conducted*, involving stakeholders from different disciplines, to confirm that costs, risks and benefits are realistic (Smith *et al.*, 2010). This allows assumptions to be questioned and minimizes bias (Samset and Volden, 2015)

CR9 *Sensitivity analysis is done* to understand and document the impact on the project justification if costs overrun or if benefits fall short of what is expected (DE Reyck *et al.*, 2005; Keen, 2011)

Business case tracking factors (TR):

TR1 *Time and budget are planned for periodic review of the project's justification.* Such reviews are deemed essential to ensure that the business case remains valid until benefits have been realized, or to identify what must change (Smith *et al.*, 2010). An inhibitor would be where reviews are seen as an unwarranted overhead (Breese, 2012)

TR2 *Regular and honest reporting are encouraged* (Kopmann *et al.*, 2015). Any bad news is made known in time for corrective action to be taken, and staff have access to quality assurance or audit functions should they have concerns about anything that threatens successful project outcomes (Tuttle *et al.*, 2014)

TR3 *The discipline of doing ongoing reviews using the business case is well established.* During planning, OGC (2009) emphasizes that assumptions will change as more information becomes available. During execution, besides planned reviews, special reviews may be needed due to unforeseen circumstances which may result in major changes or even in project termination where the project is no longer justified (Maes *et al.*, 2014; Mähring *et al.*, 2008; Royer, 2003)

TR4 *The business case is used to evaluate the performance of involved people,* thus enhancing its status (Zwikael and Meredith, 2019). For example, where it is used to measure the project manager or the project owner, the need to explain deviations from it would cause healthy questioning of the business case early on (Franken *et al.*, 2009). Indeed, such evaluations would encourage a broader perspective than if the project manager were only evaluated based on scope, time and cost (Marnewick, 2014)

TR5 *Realized benefits are related back to those outlined in the business case.* Where the loop is thus closed, significant differences can be addressed or at least explained, reducing the likelihood of unrealized proposed benefits (Marnewick, 2014; Herman and Siegelaub, 2009; Coombs, 2015)

The extent to which such facilitators are discussed in literature supports the view that they play a vital role in using the business case effectively, and that merely knowing the business case processes and information is insufficient. Although 43 facilitators (or items) may appear to be a large number, it is desirable to start with more items and then reduce them (Pett *et al.*, 2003) for use in surveys or for discussion or educational purposes. Two techniques

for checking for items to be removed are: (1) Calculating the correlations among all the items to identify those that are highly correlated, say above 0.8, and then checking their facilitator descriptions to determine which might be redundant and hence eliminated (Pallant, 2010). (2) Checking the mean importance assigned by survey respondents and considering any below "moderately important" for elimination. The data for both techniques are analyzed in subsections 5.2 and 6.2 below.

4. Research method and approach

To answer the remaining research questions a quantitative design involving a survey was selected to obtain broader input than would have been possible with a qualitative approach using interviews. Due to time constraints, the survey was cross-sectional as opposed to longitudinal. It was conducted in South Africa for organizations that implement IT projects, and in industry sectors that include government and NGOs (non-government organizations).

Because it is difficult to engage directly with organizations, the survey was done at the level of the people in organizations who play various business case roles. Such people are therefore the survey sample and the units of analysis. They would be involved in providing business case input, structuring the information, taking decisions, or managing any aspect of the process. The roles of the survey respondents included executives, project sponsors, business managers or specialists, portfolio, program or project managers, senior IT staff, consultants or service provider management, and reviewers.

The arrows in Figure 3 show how the survey is intended to answer the research questions. Measurement uses a five-point Likert scale. For presence, the ratings are: (1) not present, (2) seldom present, (3) sometimes present, (4) often present and (5) always present. For importance, the ratings are: (1) unimportant, (2) slightly important, (3) moderately important, (4) very important and (5) critically important. To answer research question 3, the presence of the facilitators in the organization is compared with the importance of the facilitators (bottom of the figure). For research question 4, the presence of facilitator categories in the
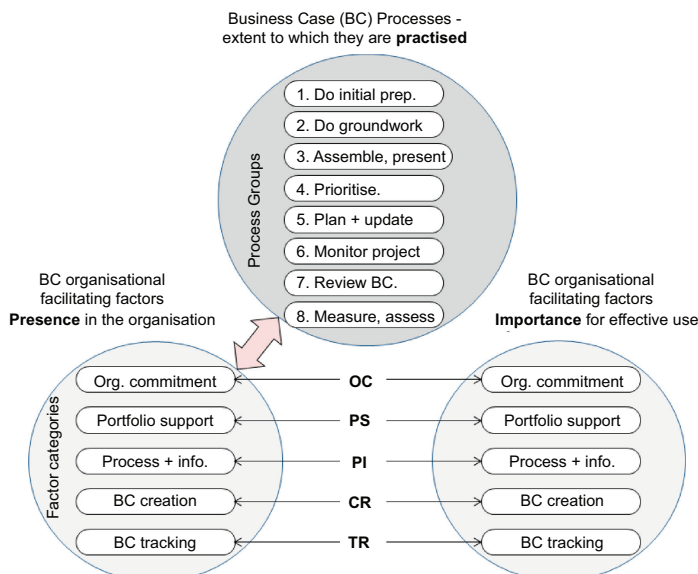
Figure 3.
Survey structure

organization is correlated (broad arrow) with the practice of business case PGs shown earlier in Table 1.

The questionnaire went through two reviews. The first was by a qualified statistician who checked that the wording was appropriate and unambiguous (Fox and Bayat, 2007). The second was by a pilot group of 12 experienced people who covered most of the business case roles mentioned earlier. The corrected survey was made available via an electronic survey tool, accessed by respondents via a web link. Guidance was given by email and within the survey to ensure that respondents understood the purpose of the survey.

Probability sampling was precluded, as no list exists of potential respondents. Instead the aim was to obtain a *representative* sample. This was undertaken using several survey methods. Convenience sampling was used by having the survey circulated by three relevant professional bodies. Judgment sampling was used through telephonic contact informed by published lists of organizations. Snowball sampling was used by inviting respondents to forward the survey to further eligible people (Walliman, 2001). The self-selection principle applied throughout, where people not involved with the business case would either not respond or abort before completing the survey (Fox and Bayat, 2007). In total, 209 responses were received but 28% were incomplete, leaving 151 cases for use in the analysis. Data collection was automatic, and the survey tool allowed data to be extracted directly into SPSS.

The responses were intended for descriptive analysis and possibly later for factor analysis. Although there are no universally agreed rules, the latter generally requires a larger sample size. Although guidelines suggested a higher number, preliminary factor solutions stabilized at below 151 cases with sound reliability parameters. For descriptive analysis involving comparisons of means, a sample size of 30 is considered adequate (Diez *et al.*, 2014). Significances for both mean comparisons and correlations take the sample size into account. Hence it is concluded that the sample size is satisfactory for this paper.

5. Research data gathered

5.1 Validity and reliability analysis

For results to be credible, two criteria must be met: data must be valid, and it must be reliable (Field, 2013). Validity in turn can be divided into *internal* validity and *external* validity, the latter indicating the extent to which the data is generalizable. Internal validity was assessed in three ways: (1) Logical validity uses subjective judgment to determine whether the rated items relate to the research questions. This was addressed through the statistician and pilot reviews. (2) Content validity considers whether the scale of rated items adequately measures the domain in question (Pallant, 2010). This is believed to be satisfied as all facilitators are drawn from published literature. (3) Process validity relates to the methods used to gather the data. Here, the demographics of the responses was monitored and, in one instance, an adjustment was made to reach additional respondents in the health sector, to achieve a more representative spread.

Considering external validity, the data is believed to be generalizable within South Africa. Moreover, because the rating items arise mainly from the literature of developed nations, it is believed that the findings should also apply in such nations. However, the results might not be generalizable to countries where the decision-making culture is different, or outside of the IT project environment.

Several criteria exist for checking data reliability. The method used to gather the data must be consistent and there must be a high degree of independence among the respondents. The data themselves must be stable and reproducible, meaning that if more data were gathered it would produce similar results (EXETER, 2017). Cronbach's alpha test is an accepted way of measuring reliability, with an alpha of 0.7 or above being regarded as satisfactory (Field, 2013). The Cronbach alphas for facilitator presence categories were all

above 0.80, while those for facilitator importance categories were all above 0.83, indicating that the data are reliable.

Some further checks were done. Data independence is a requirement for parametric tests like correlations (Pallant, 2010). It means that the survey respondents did not influence one another. Indications are that no more than 30 respondents out of the 151 belonged to the same organization as another respondent, and even in these cases collaboration was unlikely. This supports the belief that the responses are substantially independent. A normal distribution of the data, required for many types of statistical analysis, is measured by skewness and kurtosis parameters, which were calculated for each rated item. Ratios above 2.58 for skewness divided by the standard error of skewness, or kurtosis divided by the standard error of kurtosis, *may* indicate that the data is not normally distributed and requires inspection (Rose *et al.*, 2015). Accordingly, the few cases where the ratios were exceeded were inspected and found to be skewed, but nevertheless distributed normally. Based on all the aforementioned checks, it was concluded that the data are suitable for analysis.

5.2 Check for redundant facilitators
With 43 facilitators, there is the possibility that facilitators are included which are similar to one or more other facilitators. This was checked by calculating the correlation coefficients between the facilitators after survey responses had been gathered. A total of 903 correlations were done and the results are given in Figure 4.

Although 11 correlation coefficients were below 0.1, none were negative. A significance was reported for each correlation. All with a correlation coefficient above 0.14 were significant, with the majority having a significance statistic below 0.001 (highly significant). Where facilitators are highly correlated with a coefficient above 0.8, it is recommended that the descriptions be checked for redundancy, but that the number of items should not be reduced for the initial survey (Pett *et al.*, 2003). For the 43 facilitators, only the correlation between PI6 and PI7 was above 0.8, having a coefficient of 0.803. Inspection of the descriptions indicated that the facilitators, while related, are sufficiently different that both should be retained. Similar considerations apply to PI1 and PI2 (coefficient 0.728) and BT4 and BT5 (coefficient 0.717).

5.3 Demographic analysis of survey responses
The demographic information about the respondents is presented next to help understand the roles, experience and organizations involved, and thus give context to the survey results. Although the survey was for business projects involving IT, no organization was excluded as even construction, mining and heavy engineering companies make extensive use of IT for
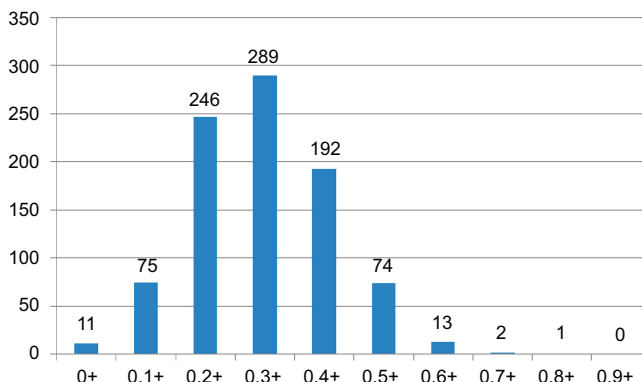
Figure 4.
Distribution of between-facilitator correlation coefficients

human resources, supply chain and other purposes. The survey included preliminary questions about the respondents' years of experience, the role that they play, the size of their organization and its industry sector.

There was a skew towards the higher levels of experience with 38% having less than 15 years, 26% having between 15 and 20 years, and 36% having more than 20 years of experience. This was expected as high levels of skill and experience are required for all aspects of business case usage. Regarding organization size, 28% of respondents were from organizations with less than 100 employees, 21% between 100 and 1,000, and 51% from organizations with over 1,000 employees. Table 2 presents a cross tabulation of the percentage of the various roles responding by industry sector.

6. Results
First the remaining research questions are answered. Then, because of the many organizational facilitators analyzed, subsection 6.5 offers a method of arriving at a more parsimonious list indicating the role players that are most involved with each. This should allow management to do a self-evaluation of their organization and seek solutions.

6.1 The presence in the organization of facilitators of the business case
This subsection covers research question 2: the presence in organizations of the facilitating factors that literature indicates will support the use of business case processes and make

Cross tabulation of Organizational roles with Industry sectors — Figures are percentages	Which industry sector best covers your organization, or the one you are involved with?										
	Government or public administration	Utilities e.g. transport, energy, water	NGO (Non-Governmental Organization)	Financial services, e.g. banking, insurance, investments	Other services e.g. consulting, legal, HR, logistics, facilities	IT and communications	Wholesale, retail, marketing (including online)	Mining or manufacturing	Health care	Education and training	Total
Executive, senior business manager, or project sponsor	0.7	1.3	2.6	6.6	4.0	5.3	1.3	5.3	1.3	2.0	30.5
Business analyst or business specialist	2.0	2.0	0.7	5.3		0.7	0.7				11.3
Portfolio manager / specialist	1.3		0.7	3.3			0.7				6.0
PMO (Project Management Office) manager / specialist	2.6	0.7		6.6		4.0	0.7	0.7	1.3	1.3	17.9
Project manager or programme manager	3.3	1.3	1.3	3.3		3.3	0.7		0.7	1.3	15.2
IT manager or specialist	0.7	1.3		1.3	0.7	2.0	1.3	1.3			8.6
Quality assurance, risk, or audit person	0.7	0.7		0.7		0.7			1.3		4.0
External consultant or service provider	0.7			2.0	0.7	1.3	0.7			1.3	6.6
Total	11.9	7.3	5.3	29.1	5.3	17.2	6.0	7.3	4.6	6.0	100.0

(Row label on left: Which of the following best describes your role in the organization?)

Table 2.
Cross-tabulation of job role and industry sector

Note(s): The cross-tabulation of job roles and industry sectors shows a suitable spread with no cell having more than 6.6% of respondents. Executives and business managers are represented in every industry sector, and all job roles are represented for the government and financial services sectors

them more effective if they are followed. Figure 5 shows the presence of the facilitating factors in organizations, the facilitators being grouped vertically into categories. For each facilitator the "often present" and "always present" responses are combined and shown as dark bars to the right; the "sometimes present" responses are in the middle, and the "never present" and "seldom present" responses are combined in the medium grey bars on the left. The rounded percentages are given in the bars. The results are considered relevant even if, in future, further facilitators come to light or if any re-categorization is done.

It is reassuring that most respondents see the business case as having credibility in their organizations (OC1: 59%), and that responsibility for producing it is assigned (PS6: 59%). However, the literature assertions that not enough stakeholders have both business and IT understanding (OC8: 25%) are supported, which may explain why organizational change aspects (OC10: 30%) tend to be overlooked (Coombs, 2015; Pande and Schrey, 2016).
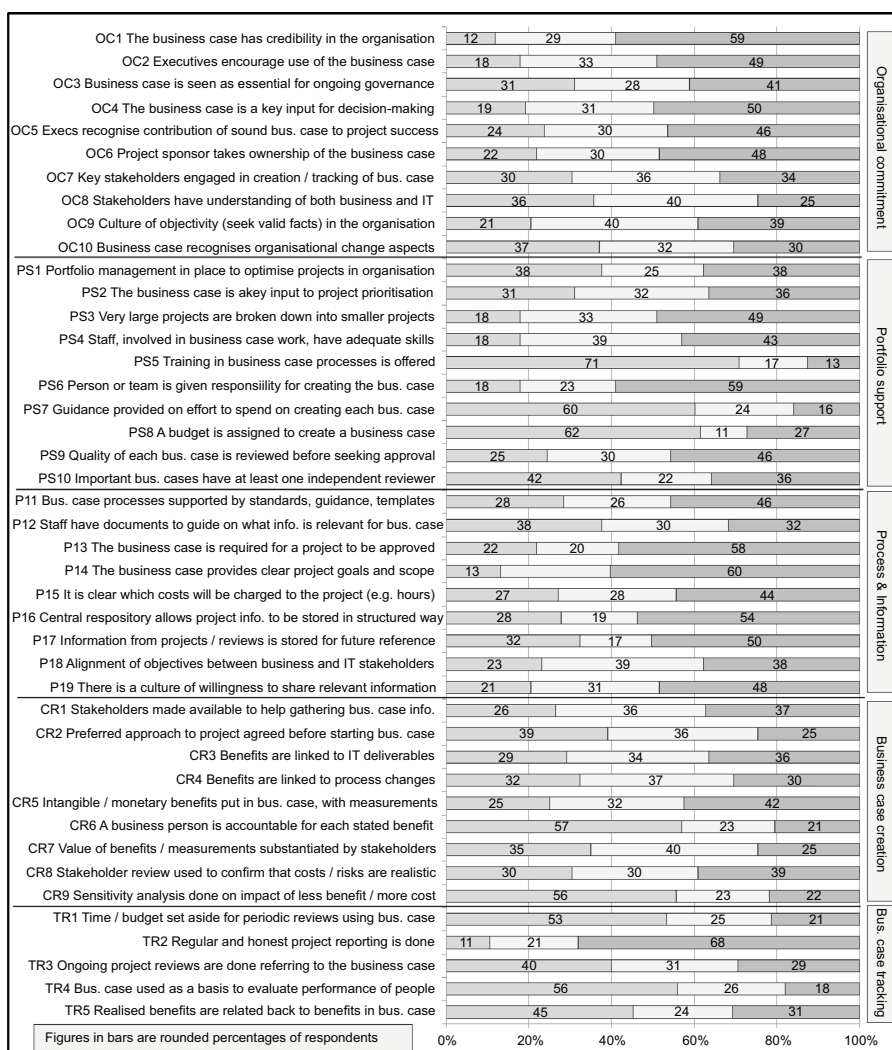
It may also be of concern that there is little training on business case processes (PS5: 13%) or guidance given on the effort required to construct the business case (PS7: 16%) leading to suboptimal results. Figure 5 shows that facilitators in the PI category are adequately provided for (most are close to, or over 50%), with the possible exception of guidance on relevant information (PI2: 32%), which relates to the previous point on training. It should also be noted that alignment of objectives between business and IT is relatively low (PI8: 38%). Figure 5 further shows a notable lack in facilitators for creating the business case (CR category). Of greatest concern is that the preferred approach (CR2: 25%) is often not investigated and agreed upon prior to undertaking the business case, which Samset and Volden (2015) believe is a leading cause of challenged projects.

The most serious shortcomings are in the area of benefits realization, supporting the view of several authors (Breese *et al.*, 2015; Keen, 2011; Ward *et al.*, 2008). During creation, a business-person is seldom made accountable for benefits (CR6: 21%), nor is there an estimate of the value of the benefits (CR7: 25%). There is further deterioration for business case tracking where business case reviews are seldom scheduled (TR1: 21%) or conducted (TR3: 29%), and benefits are not often related back to the business case (TR5: 31%) supporting the view of Marnewick (2016) that the "loop" is not being closed.

It is notable that the low presence of TR1, TR3 and TR5 relate strongly to the low practice of PGs 7 and 8 shown in Table 1. Under tracking, the exception to the generally low presence is regular and honest reporting (TR2: 68%) which relates to PG6 in Table 1. It monitors the "iron triangle" of scope, time and cost, and is generally done irrespective of any business case. It also suggests that with TR4 at 18%, other ways of evaluating managers' performance are being used than accountability for project success per the business case.

6.2 The contrast between the presence of facilitators and their perceived importance
This and the next subsection relate to research question 3. The importance of the factors facilitating effective use of the business case is related to their presence, and in an "ideal world" one would expect that high importance would translate to high presence, and vice versa. As shown in Table 3, what emerges is that, for all facilitators, the mean importance is rated higher than the mean presence-the "gap" of importance minus presence is always positive. Paired samples *t*-tests comparing importance with presence for each of the 43 facilitators showed that all differences were highly significant with a statistic below 0.01.

It is reassuring that the importance of cultural aspects like honest reporting (TR2), and willingness to share information (PI9) rate highly. The importance of sponsorship (OC6) is also emphasized which supports the alignment of business and IT stakeholder objectives (PI8). Clarity of objectives and scope (PI4) is also highly regarded. At the bottom end of the importance scale, the lowest mean score is for PS8, still comfortably above "moderately important", indicating that there are no facilitators that can be disregarded. Nevertheless, it is of concern that CR2 (agreeing on the preferred approach), considered essential by Samset and Volden (2015), is third from the bottom.

While for some facilitators, their presence approaches their importance, there are a number where the gap appears uncomfortably large. Those where the gap is above 0.9 are in shaded cells in the right-hand column, a few of which are regarded by respondents as very important. Some of the highlighted gaps relate to facilitators that are not expensive or difficult to put in place and may suggest helpful actions for executives or portfolio / project offices. Although training (PS5) is not cheap, a similar objective could be met by facilitated discussions involving stakeholders. This might also help to bring business and IT stakeholders closer together (PI8). Sensitivity analysis (CR9) merely involves doing a "what-if" analysis of the impact on the justification if things do not happen as planned. Some business cases are robust to such variations, but others might "fall apart" if risks were to materialize. Such analysis does involve

Code	Organizational facilitating factor	Impor-tance	Pres-ence	Gap
TR2	Regular and honest project reporting is done	4.45	3.83	0.63
PI9	There is a culture of willingness to share relevant information	4.23	3.32	0.90
PI8	Alignment of objectives between business and IT stakeholders	4.20	3.20	1.00
OC6	Project sponsor takes ownership of the business case	4.19	3.37	0.82
PI4	The business case provides clear project goals and scope	4.19	3.66	0.54
PS4	Staff involved in business case work have adequate skills	4.07	3.27	0.80
PI3	The business case is required for a project to be approved	4.05	3.58	0.46
OC2	Executives encourage use of the business case	4.01	3.51	0.50
CR1	Stakeholders are made available to help gather bus. case info.	3.99	3.11	0.87
PI6	Central repository allows proj. info. to be stored in a structured way	3.95	3.41	0.54
TR5	Realized benefits are related back to benefits in the business case	3.95	2.77	1.19
OC4	The business case is a key input for decision-making	3.94	3.50	0.44
OC1	The business case has credibility in the organisation	3.94	3.66	0.28
CR8	Stakeholder review used to confirm that costs / risks are realistic	3.91	3.07	0.85
PS9	Quality of each bus. case is reviewed before seeking approval	3.91	3.27	0.64
OC5	Execs. recognize contribution of sound bus. case to project success	3.88	3.33	0.55
PI5	It is clear which costs will be charged to the project (e.g. hours)	3.87	3.22	0.65
OC10	Business case recognizes organizational change aspects	3.86	2.89	0.97
CR5	Intangible / monetary benefits put in bus. case, with measurements	3.84	3.20	0.64
TR3	Ongoing project reviews are done referring to the business case	3.83	2.80	1.03
PI7	Information from projects / reviews is stored for future reference	3.83	3.29	0.54
OC9	Culture of objectivity (seek valid facts) in the organization	3.82	3.23	0.60
PS3	Very large projects are broken down into smaller projects	3.82	3.42	0.40
PS6	Person or team is given responsibility for creating the bus. case	3.82	3.57	0.25
PS1	Portfolio management in place to optimize projects in the organization	3.79	2.90	0.89
PS2	The business case is a key input to project prioritization	3.79	3.08	0.72
PI1	Bus. case processes supported by standards, guidance, templates	3.79	3.22	0.58
OC7	Key stakeholders engaged in creation / tracking of bus. case	3.75	3.11	0.64
CR6	A business-person is accountable for each stated benefit	3.72	2.48	1.23
CR7	Value of benefits / measurements substantiated by stakeholders	3.72	2.82	0.89
CR3	Benefits are linked to IT deliverables	3.71	3.05	0.66
PS10	Important bus. cases have at least one independent reviewer	3.70	2.77	0.93
OC3	Business case is seen as essential for ongoing governance	3.70	3.17	0.54
CR4	Benefits are linked to process changes	3.70	2.94	0.75
TR1	Time / budget set aside for periodic reviews using bus. case	3.67	2.49	1.18
CR9	Sensitivity analysis done on impact of less benefit / more cost	3.60	2.36	1.24
PI2	Staff have documents to guide on what info. is relevant for bus. case	3.60	2.91	0.69
TR4	Bus. case used as a basis to evaluate performance of people	3.58	2.38	1.20
PS5	Training in business case processes is offered	3.48	2.00	1.48
OC8	Stakeholders have an understanding of both business and IT	3.44	2.87	0.56
CR2	Preferred approach to project agreed before starting bus. case	3.36	2.77	0.60
PS7	Guidance provided on effort to spend on creating each bus. case	3.28	2.31	0.97
PS8	A budget is assigned to create a business case	3.21	2.34	0.87

Note(s): Facilitator category and number are given in the "code" column and bolded where referred to

Table 3.
Organizational
facilitators ranked by
importance (figures are
rounded)

understanding the main risks but need not be done in detail. Once again, benefits realization is prominent (TR5, CR6 and CR7). It should not be difficult to agree up-front, as to which business-person is responsible for realization of the benefits. Not only would this reduce the likelihood of process changes being overlooked (OC10), but it would increase the engagement of such persons during execution of the project. Addressing the gap for ongoing review (TR3) and relating actual benefits to what was planned (TR5) should also be just a matter of process and discipline, rather than substantial expense. The gap analysis thus shows that the effective use of the business case, and hence project governance, could be improved at relatively low cost.

6.3 The relationship between facilitator importance and facilitator presence
Having compared the ratings for the presence of facilitating factors with their perceived importance, it is of interest to establish whether they are related. That is, do organizations where staff believe that facilitating factors are important manage to put the facilitators in place? Conversely, where facilitators are in place, do involved staff consider them to be important? Establishing such relationships is done using bivariate correlations between presence and importance. These findings are summarized in Table 4. The totals are arrived at by summing the ratings for each respondent, by category. The sample means, for importance and presence of each facilitator category, are expressed as a percentage of the difference between the minimum and maximum possible on the Likert scale, to make them easier to compare (mean of 1 = 0%; mean of 5 = 100%).

The mean difference column reinforces the findings from subsection 5.2, that the perceived importance is always higher than the presence of the facilitator category. The biggest difference is for the TR facilitators (26.10%) and the smallest difference is for the OC facilitators (14.75%). Stated another way, the respondents consider that the category of business case tracking facilitators are very important but the most neglected. All five facilitator categories have positive correlations between importance and presence, ranging from 0.351 to 0.439, with a 2-tailed significance of 0.000 (highly significant). So, the greater the perceived importance, the greater the organizational presence, and vice versa. Although causality between perceived importance and presence cannot be proven, it is inferred that they are mutually reinforcing. The standard deviations (SDs) are also shown to give a perspective on the variability of the data. The SDs for importance are consistently lower than those for presence, indicating that the actual presence of facilitators varies more than their perceived importance.

Category	Mean importance % of scale	Mean presence % of scale	Mean difference % of scale	Correlation coefficient *	SD importance % of scale	SD presence % of scale
OC - Organizational commitment	71.35	56.60	14.75	0.351	17.68	20.20
PS - Portfolio support	67.23	47.33	19.90	0.396	17.00	18.93
PI - Processes and information	74.19	57.81	16.38	0.439	14.53	20.08
CR - Business case creation	68.17	46.69	21.48	0.413	17.06	19.56
TR - Business case tracking	72.45	46.35	26.10	0.361	18.05	22.30

Note(s): * All correlation coefficients are highly significant having statistics below 0.001

Table 4.
Mean, SD and correlation, between factor importance and presence

6.4 The relationship between organizational facilitators and business case practice
This subsection covers research question 4. Table 5 gives the correlations between the facilitating factor presence categories and the business case PGs. Facilitator presence, rather than perceived facilitator importance, was used since facilitator presence represents the actual situation. Inputs to correlations were created for each survey respondent, by totaling the ratings of facilitator presence by category and then totaling the use of each process by PG. For the right-hand column, all facilitator presence ratings were totaled, and the total correlated with each PG. All correlations are highly significant (parameters of 0.000).

These correlations are generally higher than the correlations between facilitator presence and facilitator importance. The highest correlation coefficient of 0.672 (bolded) between TR (tracking) facilitators, and PG8 (assessment of benefits) suggests that the presence of TR facilitators has considerable positive influence on use of the assessment processes. The lowest overall mean correlation over all facilitators is for PG6 (monitoring the project) where the mean correlation of 0.371 (bolded) suggests that monitoring takes place almost irrespective of business case facilitating factors. However, monitoring is more correlated at 0.439 (bolded) with the PI (processes and information) facilitators than with others, probably because monitoring mainly uses explicit information. For PI, the opposite is true for the business case PGs (other than monitoring) following project approval (greyed cells). They are less correlated with PI facilitators and more correlated with the other facilitators.

The inference drawn from analysis of Table 5 is that facilitating factor presence and the use of business case processes are highly correlated. Once again, causality cannot be proven, but the correlations support the findings from literature that the presence of facilitating factors relates to greater use of business case processes (Franken *et al.*, 2009; Keen, 2011; Smith *et al.*, 2010; Ward *et al.*, 2008).

6.5 Selection of organizational facilitators to focus on
Having presented the results which answer the research questions, this subsection considers how management might use the results in their own organizations. Because it is difficult to work with 43 facilitators, Table 6 reduces them to a more manageable number to achieve better focus. The approach presented here was to arbitrarily consider only 15 of the 43 facilitators, prioritizing them based on a "score" being the sum of: (1) their importance and (2) the gap between their importance and presence. Thus, if a facilitator is important but already in place it may not be selected. Likewise, if a facilitator has a large gap but is less important it may also not be selected. Appended to the right of the table are columns giving some of the role players involved. Both the role players and their assignment to facilitators in Table 6 are illustrative and the abbreviations used are: "Exec" – Executive, "Bus" – Business, "PMO" – Project management office, "PM" – Project or program manager, "QA – Quality assurance.

Although 15 is an arbitrarily selected number, all the facilitator categories are represented with a leaning towards those that facilitate creation and tracking of the business case. Each organization could select their own number, as well as their own basis for prioritization. Likewise, each organization could decide on which role players are involved in fostering each facilitator

7. Discussion
From the literature it was found that the rate of business IT project success is positively influenced by sound governance which is, in turn, underpinned by an effectively used business case. Indeed Ul Musawir *et al.* (2017) find that the *"availability of relevant and realistic information for making authorization decisions in the business case is the strongest predictor of project success overall"*.

Our evidence shows that the business case is seldom used effectively, and that its use falls off markedly after approval has been given for the project to proceed, calling into question

Correlation coefficients	Facilitator presence categories					
PG (process group)	OC: Org. commit.	PS: Portfolio support	PI: Procs. & info.	CR: Bus.case create	TR: Bus.case track	Arithmetic mean correlation
PG1. BC preparation	0.547	0.517	0.539	0.403	0.407	0.483
PG2. BC groundwork	0.657	0.559	0.494	0.527	0.554	0.558
PG3. Assemble + present	0.599	0.521	0.474	0.463	0.487	0.509
PG4. Prioritize + resource	0.623	0.569	0.442	0.471	0.475	0.516
PG5. Plan + update BC	0.639	0.495	0.369	0.501	0.639	0.529
PG6. Monitor project	0.381	0.335	**0.439**	0.346	0.352	**0.371**
PG7. BC review	0.604	0.460	0.363	0.466	0.669	0.512
PG8. Assess benefits	0.640	0.506	0.491	0.590	**0.672**	0.580

Table 5.
Correlations between facilitator presence categories, and PG usage

Note(s): (All correlation coefficients are highly significant having statistics below 0.001) Greyed cells in the PI column and bolded figures are commented on below

whether the business case was sound in the first place. This research finds that, to use the business case effectively, not only do the processes and their required information need to be understood, but many organizational facilitators need to be in place. An interesting parallel can be drawn: Investigating the analogous domain of problems in IT projects, Wearne (2014) concludes that 75% of project problems are organizational in nature rather than inherent in the project. It may be for similar reasons that organizational factors have much to do with effective use of the business case.

Code	Facilitator description	Score	Exec	Bus	Portfolio	PMO	PM	QA
PI8	Alignment of objectives between business and IT stakeholders	5.20	x	x			x	
TR5	Realized benefits are related back to benefits in the business case	5.14	x	x	x			
PI9	There is a culture of willingness to share relevant information	5.13	x	x				
TR2	Regular and honest project reporting is done	5.08	x		x	x	x	
OC6	Project sponsor takes ownership of the business case	5.01	x		x			
PS5	Training in business case processes is offered	4.96		x	x	x		
CR6	A business-person is accountable for each stated benefit	4.95	x	x	x			
PS4	Staff involved in business case work have adequate skills	4.87		x	x	x		x
CR1	Stakeholders are made available to help gather bus. case info.	4.86	x	x				
TR3	Ongoing project reviews are done referring to the business case	4.86	x	x	x	x	x	x
TR1	Time / budget set aside for periodic reviews using bus. case	4.85	x		x		x	
CR9	Sensitivity analysis done on impact of less benefit / more cost	4.84	x			x	x	x
OC10	Business case recognizes organizational change aspects	4.83	x	x			x	
TR4	Bus. case used as a basis to evaluate performance of people	4.78	x	x			x	
CR8	Stakeholder review used to confirm that costs / risks are realistic	4.76		x		x	x	x

Table 6.
Prioritized organizational facilitators with involvement of role players

Several referenced papers emphasized the need for a business case and given pointers as to how it should be created and used. However, a comprehensive theory on use of the business case for IT projects has not been found. Business case processes from Einhorn and Marnewick (2016) and information required and generated during the processes from Marnewick and Einhorn (2019) already provide some theoretical building blocks. This paper adds further theoretical contributions by introducing the organizational facilitators required for the business case to be used effectively, and then tests the relationships between the facilitators and the business case processes. It is accepted that further work is required before a coherent theory can be proposed, and some of this work is outlined in a following subsection on future research.

Besides the contribution to theory, the findings can serve as a practical guide to organizations wishing to achieve a higher project success rate by getting more value from the business case. The findings would enable a self-assessment to be done as to which facilitators may be lacking, and what optimum subset to address at affordable cost.

8. Conclusions

A survey involving 151 representative respondents was conducted in South Africa on the 43 organizational facilitators derived from literature. It showed that, for every one of the facilitators, the importance of the facilitator was rated higher than the presence of the facilitator in the respondents' organizations, and some of the gaps were large. In other words, the respondents believe that their organizations should do better. In addition, there is a high correlation between the facilitators being in place and use of the business case in practice, especially after the project is initiated.

8.1 Validity limitations

It is acknowledged that this study has some limitations. First, only business IT projects were researched, and while this covers a broad range, it is not comprehensive. Second, the research was done in the developed economy of South Africa which may not be representative of less-developed economies. Third, the facilitators have been provisionally categorized with input from the survey pilot respondents, but further analysis may show that certain facilitators belong in different categories or even that additional categories are needed. Indeed, future research may find additional facilitators that have thus far been omitted. Fourth, the analysis presented was done mainly at the level of facilitator *categories* and PGs (process *groups*) and not at the more detailed level of facilitators and processes. Finally, there is the possibility of some optimism bias from respondents who may have given ratings suggesting what *should* happen or exist rather than the actual situation.

8.2 Avenues for future research

There are several avenues for future research. A similar survey might be used in other economies as an assessment of the degree to which the results are generalizable for business IT projects. With minor modifications, the survey might also be useful for other types of projects. Further facilitators may also arise, which may result in some re-categorization of them.

There is also scope for further analysis with the same data: (1) The high correlations found between facilitator categories and PGs suggests that further analysis at the level of the 43 facilitators and 37 business case processes could be of value. (2) Having established the highest correlations at this more detailed level, qualitative research might be undertaken to understand by what means a specific facilitator interacts with a specific business case process – illustrated by the arrows from the facilitators in Figure 1. Indeed, this would use

process theory in a different way to produce new learning about effective use of the business case. (3) Different groups of role players may not perceive the importance of facilitators in the same way; although the samples would be smaller, it would be of interest to determine whether perspectives are similar or notably different. (4) A factor analysis could be done to confirm or alter the facilitator categories. Hence a model might be built to show how the facilitators interact with business case processes and information to enhance the success rate of IT projects.

Finally, having done some of the above research and analysis, changes to PGs or the processes within them may be indicated. It may also become possible to create more comprehensive theories relating to the business case for IT projects using the existing building blocks of business case processes, information and the organizational facilitators introduced in this paper.

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