

# Developing the capability to terminate IT projects when they can no longer deliver business value: a discussion of key insights from practitioners.

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**Purpose:** This paper addresses the problem of ensuring that the capabilities are in place to identify when a project can no longer deliver value and to take appropriate action to terminate the project.

**Design/methodology/approach:** Focus groups with project management practitioners were used to collect in depth qualitative data. This was then supplemented with a questionnaire, which included both closed questions and the opportunity for free text answers.

**Findings:** The problem of getting better at stopping projects is both common and difficult to solve. It has many facets, which include complex people and cultural issues, processes and procedures as well as financial reporting and project governance. In order to improve, therefore, it is useful to address these different facets in a coordinated way using a capability approach with a focus on business value.

**Research limitations/implications:** The data from practitioners is retrospective, as their actions were not actually observed by the researchers as they were happening. This means that faulty recollection may influence the results but, it also allows for insights from reflection to be incorporated.

**Practical implications:** An organizational capability approach focussing on all three aspects of capability; people, processes and technology can help organizations get better at stopping projects. Specific recommendations are provided and analysed in terms of their respective capability focus.

**Social implications:** If performance in terminating projects is improved, it has the potential for significant benefits and cost saving for society in terms of improved government services and the ability to halt projects around new policy initiatives when emerging evidence shows that they will not work.

**Originality/value:** It provides detailed practitioner input on the problem of stopping projects and suggests recommendations for improvement in the context of a structured organizational capability approach with reference to a particular framework, IT-CMF.

**Keywords:** Project escalation; Business value management; Capability; Project termination; IT management; IT-CMF; maturity models.

**Paper Type:** Research paper

## Introduction

In general, terminating or stopping projects is the last thing people want to do. In much of the academic literature, the process of stopping a project is known as project termination (Drummond, 2005) and there are a range of studies in different contexts examining the reasons why projects are terminated, such as the construction industry (Udofia et al., 2015) and the impact of senior management input into project termination (Unger et al., 2012). During the focus groups with practitioners, however, participants used the terminology of 'stopping' projects, so the authors decided to use this term in line with the practitioner focus of the study. It seems to be human nature to see project completion as a success and project abandonment as a failure with the subsequent negative emotions and impact on staff morale (Pflügler et al., 2016). Sometimes, however, it is important to stop a project because changes have occurred and completing the project can no longer provide the anticipated business value for the organization. Even a well-planned project, in terms of its original business case, that also appears successful on objective metrics such as budgetary control and scheduling, can arrive at this crisis point. The skill of successfully managing projects is already well covered in the literature, see for example (Nasina and Nallam, 2016) on managing cost escalation in pharmaceutical projects, and in detailed guides to successful project management such as from the Project Management Institute (PMI, 2017). Studies have also been done using these PM models to analyze the reason for failure, for example, an examination of work on IS project failures using PRINCE2 (Hughes et al., 2017). Unfortunately, however, even a well-managed project with effective cost controls following established good PM practice can still fail to deliver value. A review of literature on the critical success factors for projects done in 2012 indicates that as the field matures it has been acknowledged that longer term strategic issues also need to be taken in account (Müller and Jugdev, 2012) and a more recent review in 2017 discusses the complexity and contextual variation of the relative role of hard criteria

(e.g budget) and soft criteria (e.g stakeholder satisfaction) (Albert et al., 2017) in evaluating project success. A project can be “going well” in terms of cost, time, and meeting defined requirements, but at the same time may be drifting out of alignment with the overall strategic needs of the organization because of important changes in the external or internal competitive environment. According to a Project Management Institute (PMI) article “Successful projects can be defined as those that meet their business goals (p.22)” (Foti, 2001). Projects that can no longer deliver value which are not stopped will continue to drain resources from the organization. Eventually, or in some cases quite quickly, this can fatally impact the organization, particularly when one considers the high cost associated with capital IT projects. The inability to identify and terminate escalating projects reduces the capacity to stay in business or, in the case of public organizations, can negatively impact the delivery of a quality service. This paper concentrates on the problem of improving the readiness to recognize these changes and developing the ability to deal appropriately with them, through an analysis of discussions and questionnaire responses from expert practitioners. It makes a new contribution to the understanding of this problem by gathering detailed data from experienced practitioners on their experiences of stopping projects, and also by interpreting it through the perspective of a capability approach (Peppard and Ward, 2004) focussed on business value with a particular focus on the IT Capability Maturity Framework (IT-CMF) (Curley et al., 2015). The research priority was primarily to provide new insights for practice, rather than to make a contribution to theory, though this study does show new connections between the capability model of organizations and a particular project management challenge. The focus on improving practice is reflected in the methods, as the data is gathered from people with considerable experience who not only share their experiences but also then share their learning with a focus on how to improve and do things differently.

The capability perspective provides a framework for actively working on all the various factors of this widespread and challenging problem. The concept of capability includes the multi-faceted roles of people, processes and technology (Ross et al., 1996) (Neely et al., 2001) (Peppard and Ward, 2004) working in a coordinated fashion to enable positive change. It often involves the use of maturity frameworks (Young et al., 2014) (Bushuyev and Wagner, 2014) to provide a means of assessing current state capability (how good right now are my people, processes and technology?) and desired state capability maturity (where do I need to be to meet my organizations aims?). Maturity models are one way of trying to improve capability and competitive advantage though it should be noted that they are no guarantee and studies show varying impacts of their use (Jugdev and Thomas, 2002a; Mullaly, 2014). This study’s aim is to discuss how a capability approach can provide support for organizations to get true value out of their IT resources by building their business-value-

focused capabilities in the area of project management, so that they have the capability to recognise and to stop escalating projects. The reason why a capability approach was chosen is that the problem of being able to terminate projects is a particularly challenging one for project management which requires rigorous attention to people, processes and technology. It is not the kind of problem that can be tackled in a modular sense, as the way the people aspect of it interacts with processes and technology is particularly difficult since issues of failure, professional pride and momentum all play a part. The limits of a process based approach to improving Project Management have been acknowledged when the project scenario develops above a certain level of complexity (Pasian, 2014). The role of people skills and emotional intelligence is also gaining increasing traction in project management research (Maqbool et al., 2017). A capability approach will make it less likely that an organization will carry on with projects that are well past their ability to deliver value and encourage the making of informed and timely decisions on when to “pull the plug?”.

The authors see business value as a key factor for consideration when stopping projects and argue that the need to stop projects often arises because changes mean that they can no longer deliver business value. What is important to the business and what constitutes value can change, sometimes very quickly, because business priorities change and/or the external environment changes. Clearly, the relationship between the business priorities, as reflected in the strategic business plans and the external environment, is one of complex interaction. There is a range of possible scenarios in which value shifts may occur and below is a list of some indicative examples which are covered in the PRINCE2 project management method (p.50) (AXELOS, 2017).

- The project is capable of delivering the planned value but there has been a change in what is important to the organization, so that the planned value is no longer of value.
- What is of value to the organization does not change, but new, unforeseen information or events – such as economic and/or political instability in the target region - mean that it has become impossible for the IT project to deliver value.
- The value was poorly understood at inception and appeared positive, then understanding was clarified over the course of the project execution to reveal it had limited value.

These scenarios, amongst others, change the ability of a project to deliver the intended value.

The appropriate response to this change raises two problems. Firstly, the problem of knowing when it is time to change priorities, which requires the ability to accurately know what is of value to the business and how it may be changing. Secondly, the problem of making sure that

this change is reflected quickly in what the business is actually doing and also not doing. In this paper, the authors are focused on the second problem.

The ideas discussed in this paper develop, with the support of empirical data, in more detail the initial research outlined in the authors' whitepaper and conference paper (Crowley and Thornley, 2014a, 2014b). This paper's aim is to discuss how a capability approach can provide support for organizations to get true value out of their IT resources by building their business-value-focused capabilities in the area of project management, so that they have the capability to recognise and to stop escalating projects. In order to meet the research aim of investigating the role a business value capability approach can assist in effective project termination we developed the research questions detailed below. Firstly, we wanted to establish how widespread the problem of not being able to stop projects was so the objective of the first question in relation to our aim was to ascertain the extent and thereby the significance of the project escalation problem. Clearly, if this turned out to be a very rare occurrence then there is little value in investigating it or trying to develop practice guidelines to improve capability. Our second research question is to gather data on the extent to which the reasons that projects needed to be stopped arose out of business value issues. This was necessary to gauge the importance or otherwise of business value as key component of the problem and to judge the potential role that a business value focussed capability approach could help. A business value focus was important for this question as, in line with our capability approach, we wanted to ascertain the importance of strategic and value based reasons rather than pragmatic or cost based reasons. Finally, we directly asked participants for their suggestions on improved practices that could assist capability in stopping projects. This was to gather collective expertise, within the perspective of the capability approach, on approaches that could improve organizational capability in project termination and thus meet our research aim of finding out how a capability approach can help organizations.

The research questions addressed in this paper are:

- How common is the problem of failing to stop IT projects that should be stopped?
- What are the main reasons why IT projects that should be stopped are not stopped and how does this relate to business value?
- What practices and approaches can make organizations better at stopping projects that should be stopped?

These questions are addressed by firstly providing an overview of the key themes surrounding business value, the capability approach and the problem of stopping projects emerging from the relevant literature. Secondly, the data is provided on the views and experiences of practitioners in IT project management from both focus groups and a questionnaire. Finally, some conclusions are drawn about the key capabilities required to make it easier to stop

projects that no longer deliver value and these are linked, when appropriate, to the IT Capability Maturity Framework (IT-CMF) (Curley et al., 2015).

## **Literature review**

In this paper, the problem of stopping projects is analysed through the lens of both business value and the capability approach. Thus, before analysing the problem of stopping projects in the literature some context is provided on the nature of business value and the capability approach.

### ***Business value***

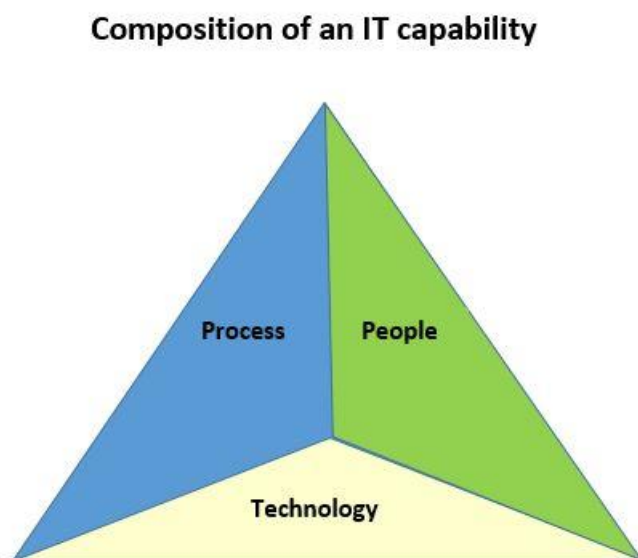
Business Value is a term that has not been well defined either in the literature or in its everyday use and this has perhaps hampered its progress as a well-defined research topic (Cronk and Fitzgerald, 1999)(Schryen, 2013). Business value is a subjective term and in the context of this research, it refers to something, which would generally result in profit for a commercial entity or improved service for a public entity. It is not the same as financial value as there are clear measures to ascertain the financial value of an organization or project, which are generally agreed upon such as discounted cash flow (Pass and Ronen, 2014). Business value is a different and less quantitative concept and whilst it is related to financial value, they do not have as straightforward causal relationship. It is hard to reliably measure the value of any activity or project to an organization for many reasons including the time lag on return on investment (Schryen, 2013). Since value is contextual in nature for this paper the term is used to describe whatever is important to achieve for a particular organization. This aligns with the definition by Curley(Curley, 2004) which defines the phrase "IT Business Value" as the business value contribution driven by IT investments. Organizations implement IT projects to improve the efficiency and productivity of their value creation processes, i.e. to develop something of importance to them. This is related to the concept of benefits management (Ashurst and Hodges, 2010; Ward et al., 1996; Ward and Elvin, 1999) in terms of ensuring a focus on relevant benefits contributing to organizational strategy rather than simply completion of projects. A focus on benefits contributing to business value is an essential component of developing the capability to stop projects, as the focus on completion rather than contribution is a key factor in the escalation for projects that should be stopped. Business value has been a difficult concept to gain traction in organizational practice (Jugdev and Thomas, 2002b) and the evidence from research suggests that many projects still do a poor job of ensuring value delivery and actually assisting in implementing business strategy. It is also unevenly distributed amongst different types of project management with some sectors, for example construction, still focussing very much on a delivery rather than a value approach as discussed by (Hjelmbrekke et al., 2017). Even in scenarios where current best practice in project management has been followed, it is very difficult to see clear evidence

that projects have delivered strategy (Young and Grant, 2014). The challenges of gaining business value from implementing Building Information Modelling (BIM) information technology is discussed by (Love et al., 2014) and their work develops a framework, which explicitly addresses benefits realization and business value in BIM implementation and use. Creating effective business value through IT will generally provide a competitive advantage (Melville et al., 2004; Mukhopadhyay et al., 1995; Peppard and Ward, 2004; Soh and Markus, 1995) The mere implementation of IT alone, however, can no longer assure business value and its associated competitive advantage because over the last two decades IT has become a commodity good, i.e. providing little differentiation (Carr, 2003) Despite the ubiquitous nature of IT, effective IT management, which delivers value to the organization continues to be a challenge for many organizations. Getting better at stopping projects can help address this. Unger (Unger et al., 2012) suggests that getting better at stopping projects can increase the overall likelihood of project portfolios actually implementing strategy. Thus, getting better at stopping projects has significant benefits for the value delivery of an organization's project portfolio. In particular, they find that it is important to be able to steer resources away from a failing project, in order to keep the total project portfolio on track to deliver strategy. Similar findings are discussed by (Daniel et al., 2014) in terms of how successful project portfolio management is a key part of developing dynamic capabilities which make response to change possible. An essential part of this was the ability to effectively "kill projects" that no longer contributed to strategy. Increasingly, the focus is moving towards the business value that can be derived from IT projects rather than straightforward implementation metrics. Business value results from the optimized application of IT to deliver planned benefits, which contribute to the creation of value for the business. Changes in the internal and external environment and consequent risks and opportunities need to be anticipated, and the ability of each IT project to continue to deliver business value needs to be monitored. This is reflected in changing emphasis in the project management literature from the traditional metrics of on-time, on budget and on target to include more value based metrics such as value, goal, and satisfaction (Bierwolf, 2016). In a recent thought leadership publication by the PMI, the CEO of Safaricom, East Africa's most profitable company which is best known internationally for its pioneering mobile money service, M-Pesa, confirms that with less than a year's implementation of benefits realization management, the quality of project business cases has improved bringing noticeable benefits to the company (The Economist Intelligence Unit (EIU), 2016). The PMI's 8th Global Project Management Survey 'Pulse-of-the-profession 2016' study report states "We know that when project and program benefits are identified as integral parts of the business case, and tracked from project initiation through transfer to the business and beyond, organizations can better ensure they're delivering business value" (PMI, 2016, p. 18). This is also evident in PRINCE2 which discusses the value of the business case in section 6, p.49, stating "The business case is at the centre of any impact assessment

of risks, issues and changes by asking the question: How will this risk, issue or change affect the viability of the business case and the business objectives and benefits being sought?" (AXELOS, 2017).

### **Capability Approach**

Capability improvement is an approach to organizational change, which acknowledges that a range of factors needs to improve in a coordinated and inter-dependent ways in order for improvement to occur. These factors can be summarized as people, processes, technology (Figure 1) and all of these needs to be improved in order to improve at stopping projects though, in this case, people and processes are the most important factors. One example would be that there is little value in implementing a project reporting process to alert management to project problems if the organization has not done work to ensure that the culture will not penalize people who report problems. An example of this is recent work by (Ronnle, 2017) on the Swedish high speed rail project which examined how extensive CBA data was ignored and effectively replaced by alternative data ignoring cost which, however, had a far greater influence on the decision of key political stakeholders than the complete CBA data. The availability of the data and its reporting is not, in itself, enough to get projects terminated.



**Figure 1: The components of capability improvement**

**Adapted from: Ross, Beath & Goodhue (1996) Develop Long-Term Competitiveness through IT Assets. Sloan Management Review, 38 (1): 31-42**

An organizational capability refers to an organization's ability to *"perform a set of coordinated tasks utilizing organizational resources for the purposes of achieving a particular end result"*



(Helfat and Peteraf, 2003, p.999). A capability can also be understood as comprising the differentiated resources that generate operational and strategic value for an organization (Bannerman, 2012). A capability based approach can inform and enhance an IT project's business value delivery and been shown to consistently lead to improved performance (Curley et al., 2012; Donnellan et al., 2011; Kenneally et al., 2013; Peppard and Ward, 2004). The role of capabilities has been discussed in a range of project management issues, such as the specific capabilities that are need for project alliancing involving multiple organizations (Hietajärvi et al., 2017). Peppard and Ward (2004) describe a capability approach as the strategic application of competencies to achieve organizational goals. It includes related concepts such as dynamic capabilities, which are the capability to sense and respond to change appropriately (Teece and Pisano, 1994). The Innovation Value Institute has developed an IT capability maturity framework (Curley et al., 2015) using design science methodology to produce artefacts, which address the problem of how to realize value from IT investments (Carcary, 2011).

### ***Stopping Projects***

“Project escalation” (Keil, 1995) occurs when an IT project that can no longer deliver value, is allowed to continue. This specific term, as it is referred to in this research, is used to describe the way that failing projects are allowed to continue despite overwhelming evidence that they are destined to fail. Project escalation arises when there is a continuing commitment to a failing course of action and represents a decision to continue in the face of negative feedback and can also be referred to as “runaway” or “derailed” projects. In the broader management literature it is referred to as escalation of commitment i.e. the tendency to carry on regardless of low likelihood of success. It is known to be problematic area of study which many divergent patterns and multiple internal and external factors that play a role (Sleesman et al., 2017). This use of the term “escalation” should not be confused with another use of the word “escalation”, which can often refer to the action of raising an issue for resolution to a higher authority.

The decision to call a halt to a problem project is not an easy decision to make. The negative feedback about the project can be about uncertainty surrounding the likelihood of goal attainment, and a lack of clear evidence about whether to continue or not (Keil, 1995; Brockner, 1992). This issue also has to be seen in the wider context of the organizations project portfolio and the likely knock-on effects of termination or continuation (Meyer, 2012). A choice has to be made between continuing the project, which is associated with certain costs, and abandoning it, and normally there is some ambiguity associated with the consequences of either action. Even if the project is currently facing negative interim outcomes, the eventual project outcomes may or may not be negative (Pan, 2006). The Hubble telescope and Sydney Opera House are some notable examples that were initially

viewed as project failures, due to being over budget and schedule, but are seen as outstanding successes today in terms of delivering long term-value (Baker, 2002).

A project arrives at an escalation decision point of whether to stop or carry on through a combination of psychological, social, and organizational factors (Keil, 1995). Analysis of this problem generally emphasises the centrality of human factors and in particular the human tendency to 'hope for the best' in the face of negative evidence which in turn can become part of how an organization does things and thus become a wider and more intractable issue to solve. The problem of optimism bias, the human tendency to underestimate both the likelihood and potential negative impact of bad things happening, is seen a serious problem in the Project Management literature as evidenced in the extensive literature review of (Prater et al., 2017). There appears to be a strong tendency for individuals to ignore signs that things are going wrong and this can become institutionalized within the organization creating "organizational blind spots" which contributes to continuing with doomed projects even if the results could destroy the organization (Fotaki and Hyde, 2015). The Project Manager and Project Sponsor have several, sometimes conflicting, considerations to take in a decision to de-escalate a project and there are often a number of important questions, which have been inadequately addressed. How do they know the project is escalating, if the criteria to judge this have not been clearly defined at the project start? Is there a good business case to refer to, which details the expected generation and realization of benefits (Zwikael and Smyrk, 2012)? Are there relevant metrics available to judge the effectiveness of the investment in delivering value? There are usually multiple stakeholders with varying expectations, and perceptions of success and failure are complex in that one person's success can be another person's failure (Al-Ahmad et al., 2009). There is evidence that the likelihood of project escalation is increased by organizational pressures to succeed, whilst organizations that have an explicit permission to fail are more capable of stopping projects (Mahlendorf, 2013).

Additionally, the problem of sunk costs and justifying the project decision-making to date in the face of prior resource use needs to be addressed (Jijie and Keil, 2007; Keil et al., 2000; Yamakawa and Cardon, 2017). What level of additional risk is appropriate to take, when so much has already been invested? This can be a difficult decision as large risks can sometimes produce very large rewards (Keil and Mähring, 2010).

Generally, it would be seen as sign of a "good" project team that they will have a high commitment to the project. In the case of escalating projects, this very commitment can work against the project manager. Commitment is an emotional state, which can impact negatively on one's ability to make a rational and objective decision in relation to project termination. In an apparent paradox, some work (Jani, 2010), shows that the higher the efficiency of the project manager the more likely it is that they will fail to stop projects due to their self-confidence providing misguided optimism on their ability to overcome the risks. In more

recent work it has been shown that a tired manager who has had their ego depleted is more likely to make a rational decision about terminating a project than one who is not tired and full of confidence (Lee et al., 2017). The project sponsor, who usually makes the decision, has their reputation, and the resulting likely taint of failure to think about also. Another challenge for preventing project escalation is overcoming both the “mum effect”, i.e. reluctance to report observed project issues, and the “deaf effect”, i.e. reluctance to hear bad news about project problems (Cuellar, 2009; Lee et al., 2017). Indeed, research by (Sarens and Nuijten, 2016) on the relationship between internal auditors and project managers in troubled projects suggests that any indication of the “deaf effect” in project managers should be taken as an early warning that a project should be terminated. The dynamics behind these phenomena are clearly complex but work by (Kvalnes, 2014) suggests that it is generally not the individual moral failure of people to tell the truth about problems, but rather a complex set of organizational and circumstantial factors that somehow make normally honest people able to lie without guilt. This has also been referred to as “groupthink”, where somehow group dynamics and structure prevent people from calling a halt to what is likely to be a doomed course of action. This has been examined in terms of how insights from the analysis of mountaineering disasters, when failure to turn back is often fatal, can be used to help our understanding of similar experiences in the project manager context (Hällgren, 2010). The competences and skills needed to be effective at stopping projects are clearly complex and perhaps, in some cases, in conflict with the traditional perceived qualities of an effective project manager or indeed mountaineering leader, i.e. a self-confident person who can drive actions to completion and overcome any fears or doubts about potential failure. The required competences as discussed by Havila et al. (Havila et al., 2012) include complex people skills as well as operational skills and they suggest that “*relevant competences should revolve around an approach which is proactive, holistic and strategic*” (p.98). The literature in general suggests that getting better at stopping project should take an organizational capability approach, in combination with looking at the skills and competences of individuals. Relationships are key and work by (Nuijten et al., 2016) showed that if project managers saw the person giving them the ‘bad news’ about the project as a collaborative partner rather than a rival they were far more likely to take their feedback on board.

The capability to stop projects can also be viewed as a strategic objective to effectively focus the efforts of an organization. Doing too many projects, even if they all appear to have value, will in itself pose a risk to organization by diluting efforts and distracting employees with multiple conflicting demands for their attention and time. This approach to stopping projects argues that the most effective method of avoiding unnecessary projects from damaging the organization is not to start too many projects in the first place, rather than just getting better at terminating ones that have started (Ronen et al., 2012). The research concludes, “*The experience of many companies shows that greater value creation, higher throughput, greater*

*profitability, and greater market share can be achieved by abandoning some projects and trimming other projects to their barest essentials (p.7126)".*

Agility, the ability to respond quickly to external change, is a key factor in maintaining competitive advantage. The focus is normally on being able to start new projects or products quickly, but it is also important to be able to stop quickly and cancel projects that will not bring value. Flynn (Flynn et al., 2009) suggests that an organization that is good at knowing when to stop projects is also good at learning from projects. Thus improving organizational maturity in this area will have desirable wider positive impact of delivering successful, business aligned projects. The practice of continuing with doomed projects may also be an indicator that there is poor articulation and communication of what is really important to the organization or what represents business value for that organization. This is a problem that needs to be addressed not only due to its drain on resources but because of its corrosive effect on the ability to innovate and stay competitive. There is a tendency to continue commitment to a project even when its value is in doubt due to underlying emotional and political factors (Cleland et al., 2000). For example, the project manager and team members may fear loss of power, status or even their job because of such project termination. Organizational politics may also come into play where the project in question is a "pet project" of some senior executive sponsor or where "groupthink" leads the team to believe all project difficulties can be overcome in time.

## **Methods**

The authors used a mixed methods approach to ensure that both in-depth and experiential qualitative data from focus groups and a workshop, as well as a broader range of responses across a wider population by using a questionnaire is collected. In both cases, the authors' questions were formed from the original objectives/research questions, which were derived from the literature review.

The authors carried out three focus groups, comprising of eleven participants in total, all with over ten years of project management experience, and Figure 2 below provides more information on their characteristics. The participants were purposefully selected from a range of organizations within the research institute's network of contacts. The authors asked people to join who had considerable experience of IT project management and who had done some work on adopting the capability approach as either consultants or end users, so they could have a strong confidence that they were getting authoritative insights from experts. Some participants of the focus groups (6) had also had direct involvement in providing expert input on developing content on Business Value within IT management for the IT Capability Maturity Framework (IT-CMF). In managing the focus groups, the authors had two researchers present, one of whom concentrated on facilitating the group and asking questions and the other who

observed and took notes. After the focus group, the notes were circulated to participants to give them the opportunity to correct any errors or add any additional thoughts. The results from the focus groups were analysed using qualitative coding techniques (Mostyn, 1985) to identify the key themes as they addressed the research questions. These were done independently by both researchers and then discussed and synthesised to reduce the influence of bias. After the authors had completed the focus groups, they carried out a questionnaire, which had ninety one respondents, details of which are also given in Figure 2 below. The authors distributed the questionnaire through LinkedIn Groups related to project management which were: Agile Project Management Group; PMO - Project Management Office; Project Management Research and Practice; Software Project Management Group; PMI project, Program and Portfolio Management ; PMLink - Project Management Link – Project; Program & Portfolio Managers; PMP; PMBOK ; PMO; the Innovation Value Institute. The authors also alerted the PMI Institute locally to the authors' questionnaire and they agreed to distribute it to their members. The questionnaire was analysed using Excel to organize responses, and then the open questions were analysed using the qualitative coding techniques used for the focus group data.

It is acknowledged that the data is both retrospective and subjective as participants are providing their own interpretations of past events, which the authors did not observe, e.g. they ask for participants' opinion on whether a project should have been stopped rather than observing that project in train and collecting data. These risks in terms of reliability are reduced, however, by the known and validated expertise of the focus group participants and the focussed distribution of the questionnaire through expert channels. The authors also further developed recommendations for practice in a workshop with a new group of five experts who provided valuable feedback on their clarity and content. The bias of the authors own interpretations is also a factor (DeWalt and DeWalt, 2010) but this was mitigated by checking focus group notes with all participants and by coding the qualitative data using the perspectives of two researchers.



**Figure 2: Participant statistics for Focus Group (n=11) and for Questionnaire (n=91)**

## Results

The key questions explored were:

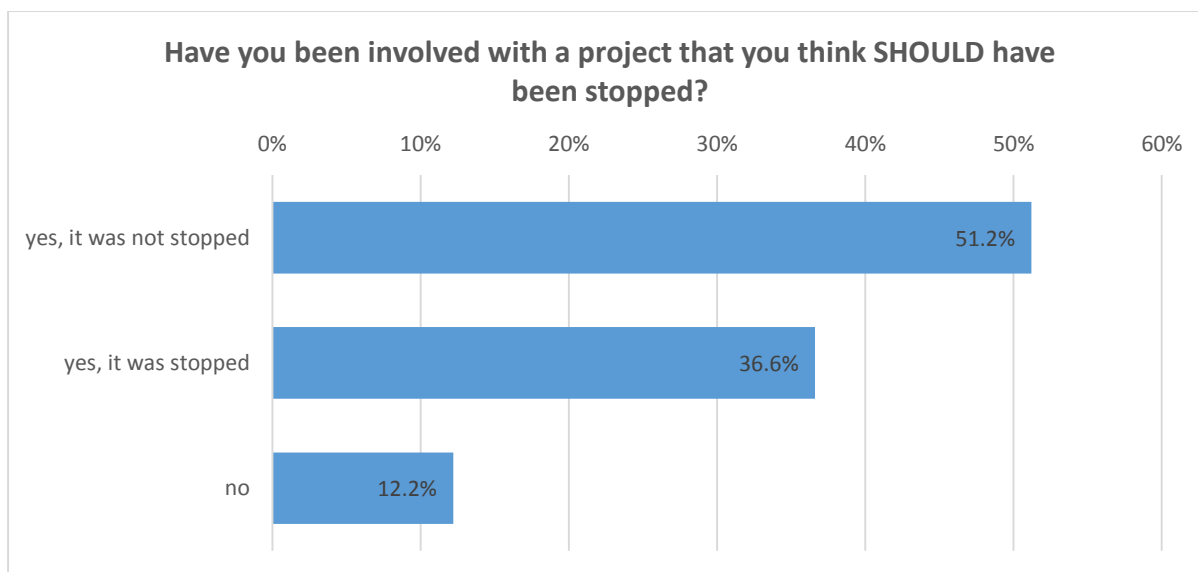
- *How common is the problem of failing to stop IT projects that should be stopped?*
- *What are the main reasons why IT projects that should be stopped are not stopped and how does this relate to business value?*
- *What practices and approaches can make organizations better at stopping projects that should be stopped?*

In summary the data from both the focus groups and the questionnaire suggests that escalating projects is a very common problem, and one that many respondent practitioners had experienced. The barriers to stopping projects were numerous but the main message from the data is that human factors, particularly the lack of “courage to stop”, are key, and that a failure to properly formulate the business case for projects left them vulnerable to continuing even when they could not deliver value. In terms of what practices could improve performance in stopping project there was range of suggestions from respondents, but the key themes were: business case and business value; change management; prepare to fail; people management; staged delivery; governance; tracking and metrics; prior research; stakeholder management. The research questions are now addressed in turn in more detail using data from both the focus groups and from the questionnaire.

### ***How common is the problem of failing to stop IT projects that should be stopped?***

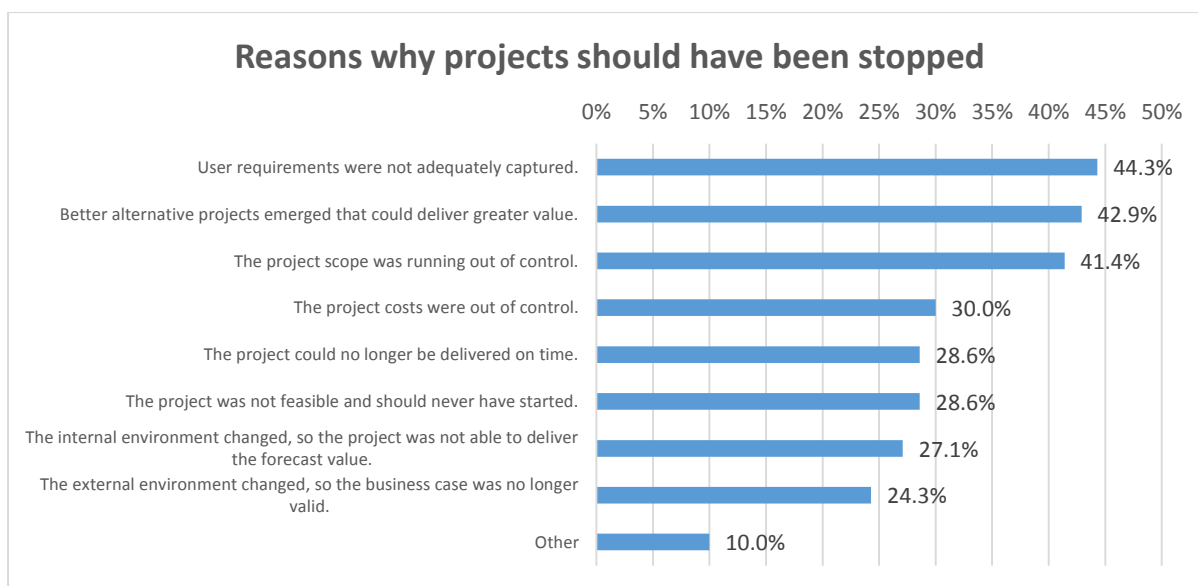
A shared finding across all the focus groups was that it was a very common problem and as one participant commented, *“It is actually rare for projects that should be killed to be killed”*. Most participants had multiple experiences in their career of “runaway projects”, though there were a small number of examples provided where projects had been appropriately stopped.

It was more common in the questionnaire than in the focus groups that people had come across projects which had been stopped, though it was still significantly more common for projects to be allowed to continue. 12.2 % of questionnaire respondents had never come across a project that should have been stopped which may just be reflection of the larger number of participants making it more likely that rare events would be reported. In addition, in the focus groups there was no one with less than 10 years’ experience whilst in the questionnaire 41 % had less than 10 years’ experience thus reducing the chances that they would have experienced projects that should have been stopped. Figure 3 below shows the questionnaire results on projects that respondents felt should have been stopped.



**Figure 3: Experience of project that should have been stopped and whether these were terminated or not**

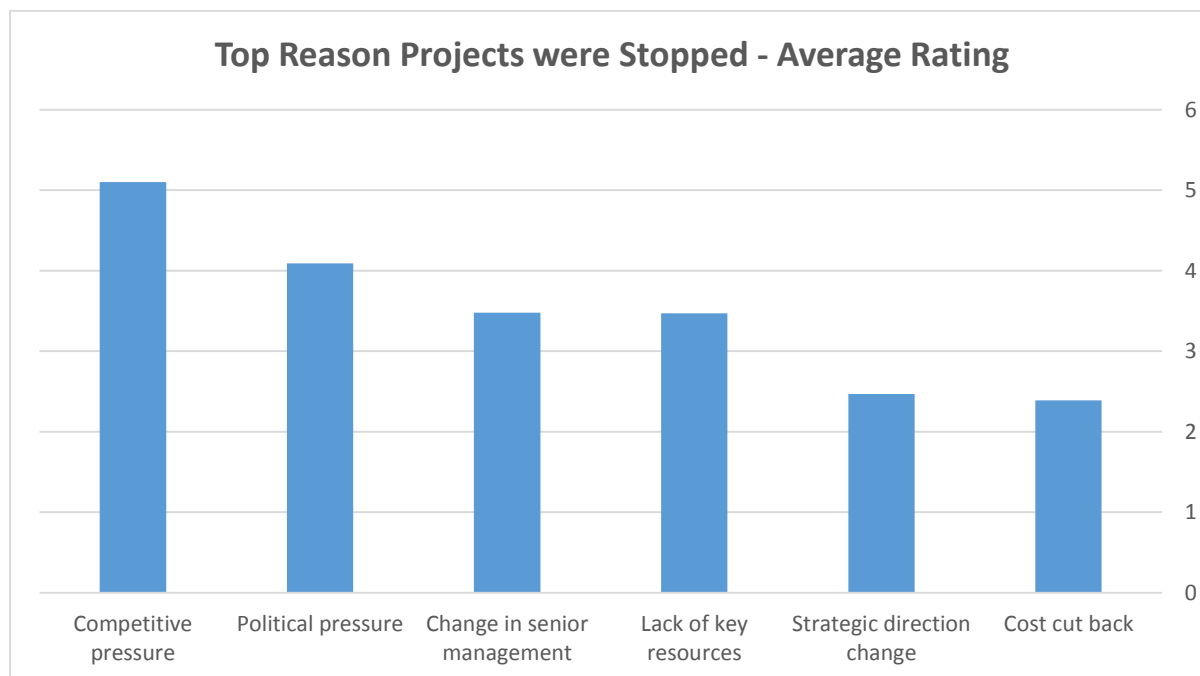
In terms of why projects should have been stopped, the focus groups responses saw this mainly as an issue of projects diverting from business value for a range of reasons (e.g. changed competitive environment) or also, within the public sector, as a result of changed regulatory environment which made the project redundant. The results from the questionnaire on reasons why participants thought project should have been stopped (even though they were not actually stopped in these cases) are detailed in Figure 4 below.



**Figure 4: Reasons why participants suggest that projects should have been stopped**



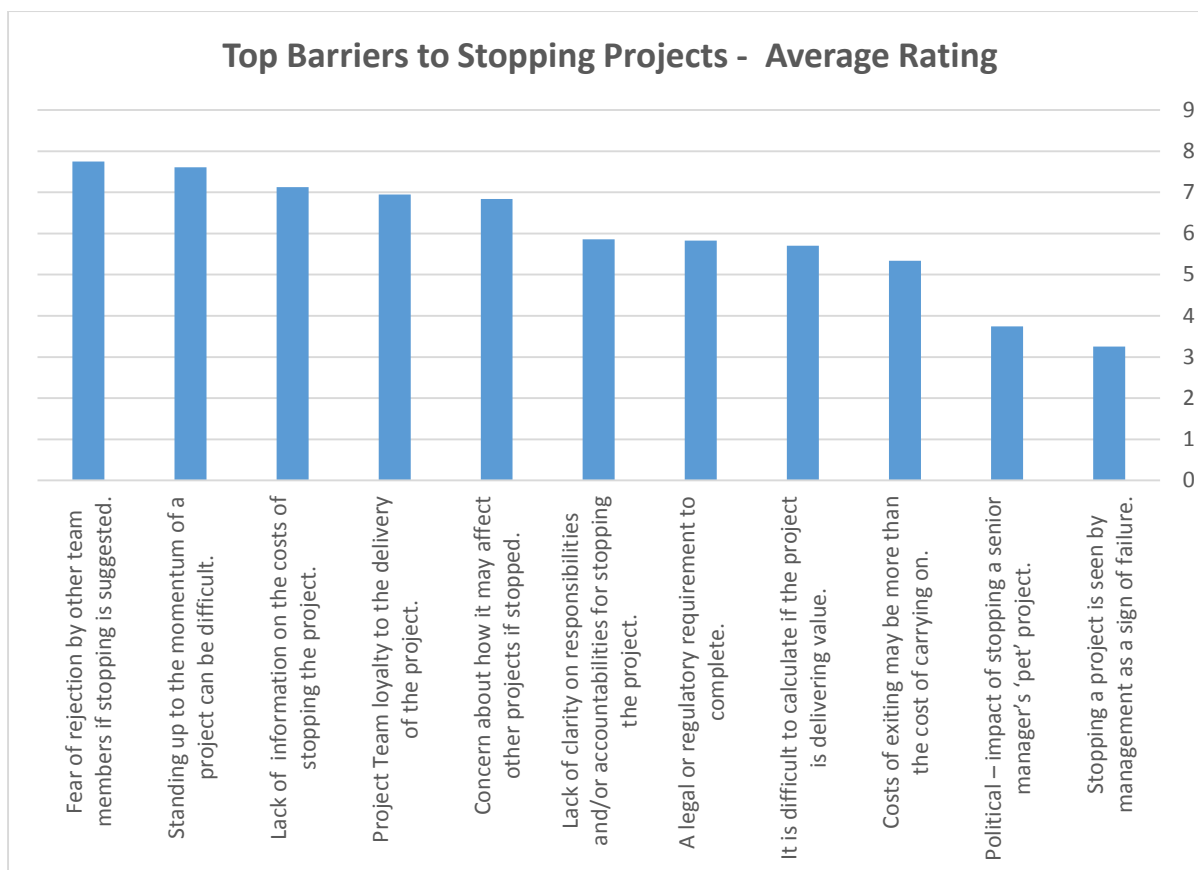
Of interest is that the most popular reason (note these were not exclusive choices) is to do with failure to capture user requirements. This was also mentioned in the focus groups in terms of one public sector example where inadequate research had been done on the actual practice and needs of the intended users of the system. Reasons that respondents (36.6 %) experienced projects that did stop are ranked in order of frequency in Figure 5 below.



**Figure 5: Top six reasons that projects were actually stopped**

### ***What are the main reasons why IT projects that should be stopped are not stopped and how does this relate to business value?***

Here the authors analyse the main themes that emerged from the focus groups and questionnaire on reasons why projects tended not to stop or the barriers to stopping. The two most prominent themes or issues that arose in the focus groups were firstly, what was perceived as the human nature issue of the “courage to stop” problem and secondly, the role of the business case for the project. These themes were mainly reflected in the questionnaire results though the top reason given in the questionnaire is “fear of rejection” but this can be interpreted as a lack of courage and also shows the real human reasons for this fear. In terms of the business case, two reasons given in the questionnaire relate to lack of information to effectively calculate the value and the cost of the project. Results from the questionnaire are provided below in Figure 6 and then the findings from the focus groups are discussed in more detail.



**Figure 6: Top barriers experienced to stopping projects – ranked in order of importance**

### ***Courage to stop***

Stopping a project is normally seen as a sign of failure and one participant described projects as the project manager’s “children” suggesting a desire to protect them at all costs. Stopping was somehow equated as a failure despite the fact that the effects of carrying on were actually far more detrimental to the organization and indeed could cause it to fail completely. A key discussion point was that the consequences of being associated with a failed project are emotionally very difficult and could have detrimental personal/political effects, in terms of reputation and credibility, for a person’s status and career progression. The instinct for self-preservation was normally felt to commit people to carry on with projects even when there was a clear risk this could backfire on them and the organization if project ended up losing a lot of money.

In one example from the focus groups, the project manager had decided not to start a project, as “*the numbers did not stack up*”. This was clearly the right thing to do but he was very hesitant in making the decision to stop and felt he was still seen as failure. The perception of the failure was seen as a central problem in effectively stopping projects and it was also noted that this could vary depending on the seniority level of the project initiator, with the more

senior person being seen as “*having more to lose*”. There was strong agreement from participants on the existence of a “*limited tolerance of project failure*” and that there was no “*OK to fail*” culture. Many argued that an organization should be prepared for a project to fail and try to eliminate the stigma by building a failure strategy into the plan. The persistence of the perception that any stopping is a sign of failure was seen as very pervasive by participants, whilst they acknowledged that on the rational level people in these situations do realize they are persisting in a doomed course of action. Thus, it was agreed that a simple awareness of the fact that a project is not going to deliver value is not enough for it to be stopped, as complex people issues have to be addressed for this awareness to result in action.

### ***Role of business case***

Ensuring IT project alignment with strategic priorities using a business case was seen as very important by all focus group participants. One reason for projects not being stopped was lack of adequate stakeholder involvement and engagement, meaning that project managers were simply able to “brush under the carpet” any problems arising, as there was no one to force them to overcome their fear of reporting problems. It was also felt that if the project manager, rather than the business sponsor, is given too much control then it becomes much harder to stop projects.

### ***What practices and approaches can make organizations better at stopping projects that should be stopped?***

This discussion in the focus groups concentrated very heavily on the role of the business case in ensuring and maintaining a link with business value, and how effectively managing this could make it easier to stop projects that should be stopped. The key topics identified were: business case and business value; change management; prepare to fail; people management; staged delivery; governance; tracking and metrics; prior research; stakeholder management. These are now discussed in more detail with additional relevant data from the questionnaire.

### ***Business case and business value***

A key point agreed by participants was the necessity of acknowledging the changing nature of a business case over time. A project could be performing well in terms of deadlines and budget but unless there was a regular check that it was still delivering business value and benefits, it could be a dangerous drain on the organization’s resources. The role of business value was seen as central to a meaningful business case and a business case could only make sense in terms of how it demonstrated that a project could deliver outputs important to the organization. It was suggested by one participant that all business cases should have a “use by date” and be continually reviewed with the question “why are we still doing this?” There should be a continuous review loop checking the business case against current business strategy to see if gaps are emerging. Unfortunately the experience of the participants was

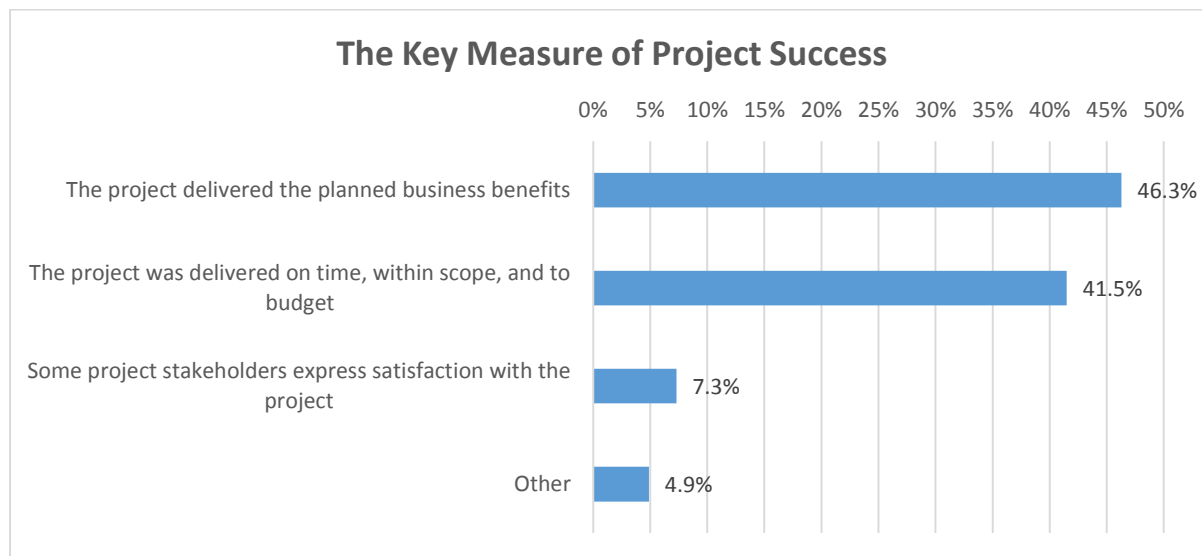
that normal practice for most organizations was that business cases were not looked at once a project had started. The scope of the business case was also key, as the business case of a particular department may well not make sense in terms of the business case for the whole organization or *"align with the wider vision"*. Some participants had seen IT projects which had been a success in the project sponsor's department but this had been at the expense of the wider organization. "Shadow IT", the practice whereby ad hoc and uncoordinated IT projects start in different parts of an organization, had often left a *"legacy of complexity and compatibility problems"*. In general, "random suggestion" as an approach to IT project management were surprisingly hard to stop.

It was said by one participant, *"Everything relies on the quality of the business case"*. A weak business case gives the project manager no way of measuring progress or power to stop the project, as they cannot calculate if it delivering value in either a tangible or intangible sense. In terms of who should be responsible for developing the business case there was some disagreement. Some felt that the sponsor rather than the project manager should deliver the business case and then the project manager should just deliver the project. The intention here was to separate project delivery from the business case to hopefully make it easier for the business case to be used to review the project's progress by somebody who was not already invested in delivering the project. It was felt by others that the business must own the business case from the outset, ensuring full involvement from all relevant stakeholders, and not just leave it to project manager

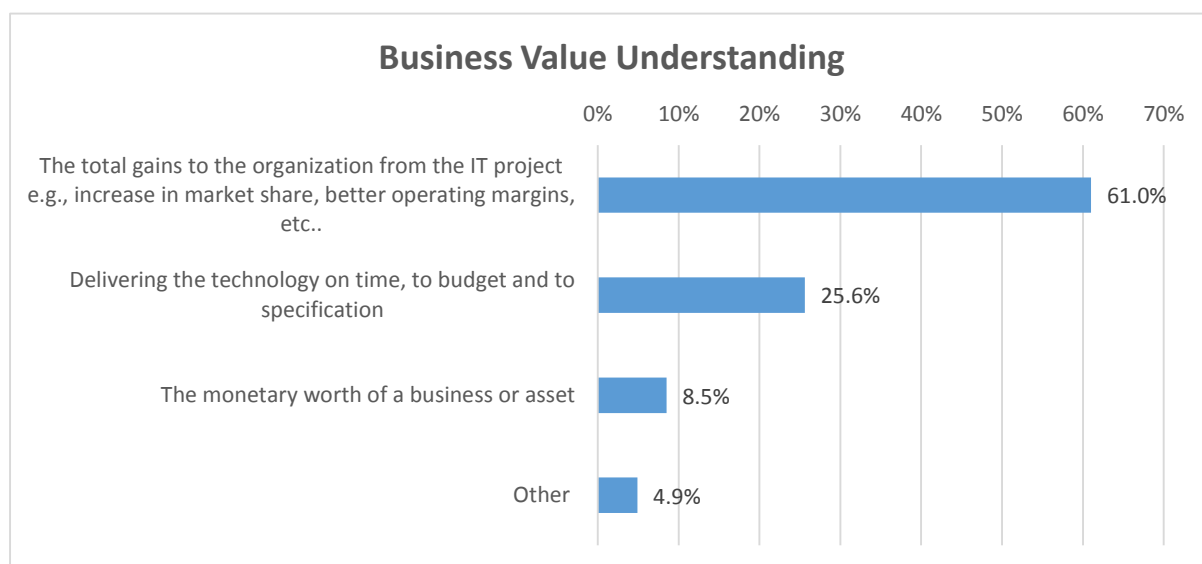
The role of financial information in the business case was seen as very important acknowledging, *"It can be hard to measure value"*. This was seen as a serious problem with measuring the long-term cost/benefit analysis and the total cost of ownership. A cost/benefit analysis can *"become stale very quickly and needs multiple check points"*. Support from Finance was seen as essential and they should held accountable for the financial information flow of the project, so that a realistic financial picture can be maintained. The culture of always spending allocated budgets so the question becomes *"what shall we spend it on?"* rather than *"should we spend it?"* allowing unnecessary projects to start. The way in which the financial management of IT project was organized was also seen as a key factor. Some large projects are considered capital expenditure (CAPEX) with the expectation of amortising their costs over many years operational life. If they are stopped the organization has to *"take the full hit"* in the current financial year, which could become a reportable item in the annual accounts if it impacts the bottom line. The difficulty of accurately measuring long-term benefits was seen as a serious problem and it was suggested that a project manager should be accountable at least six months after the end of a project to see if expected benefits materialized. A return on investment can take five years and there is also the difficulty of knowing exactly which project contributed to certain outcomes over a longer period of time.

In terms of the public sector representatives on the focus groups it was said to be very rare to review IT projects and ascertain if they had really delivered the promised savings. It was also felt to be very seldom that they actually had delivered savings.

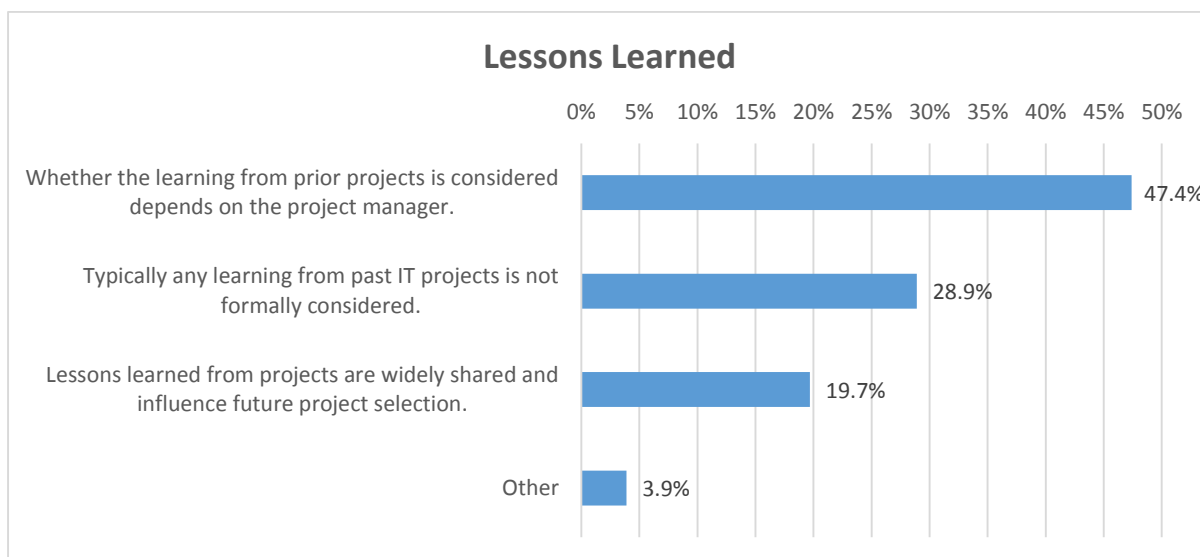
Figures 7 and 8 show the results from the questionnaire on the role of the business case and business value. Figure 9 also shows how lessons learnt from previous projects were used to assess business value. Only 19.7% of respondents had some formal method of ensuring that lessons learnt from past projects were widely shared in terms of assessing the business value of proposed projects.



**Figure 7: Project success measures most frequently used**



**Figure 8: “Business value” term understanding by participants**



**Figure 9: How lessons learned from projects are captured and disseminated**

### ***Change Management***

Another important theme, which emerged from the focus groups, was the role of effective change management in moving an organization towards a position in which it did have the capability to stop projects. The question was posed by one participant, as *“How would we advance an organization towards a state where people were able to stop projects?”* This was felt by all participants to be both a psychological and a procedural issue. It could be seen as a huge change in human behaviour as it involves their emotions, i.e., how they feel and act. It was described by one participant as a complex mixture of *“logic and emotion”*. This cultural change would take time to happen and procedural changes could support it by being very transparent thus making it harder to *“game the system”*. It was also acknowledged that change was hard work as, in the words of one participant, *“in any change the average Joe tends to think about what he will lose”*. The aim would be for all employees to have *“loyalty to the delivery of the business case not a particular project”*.

### ***Prepare to fail***

One popular suggestion was to try to eliminate the stigma of stopping by having a failure strategy in the project plan. A project plan should include *“pause and consider”* stages and an exit plan with clear instructions (which must be stronger than just *“refer to a committee”*). An example was given which is described below as an informative success story.

One CIO in a large company adopted two management practices, which worked for her:

- She briefed contract Project Managers at the start of a project that they would lose their job immediately in any project where project dashboard status went directly from Green to Red without passing through Amber.
- She automatically culled 10% of projects every year so that, over time, the stigma of being associated with a project that had been terminated was removed.

### ***People management***

As discussed previously the issue of stopping projects is complex in terms of how people perceive and deal with stopping as a sign of failure. It was suggested that organizations should reward bravery and courage in their employees and embed this in the governance system. In this way, people are more likely to put up their hand and say “stop” and to overcome the human reluctance to go “against the tide”. It was seen as important that the culture must recognize that project termination is a sign that the governance and management processes are working, rather than a failure for which someone must be blamed. It was said that “stop itself is very emotive term” and that a range of ways of describing how projects were progressing needed to be used. In some cases, for example, a project may be “out of control” with regard to the original implementation but may in fact deliver value in an unexpected way. It was agreed that the “blame game is to be avoided”. One suggestion was that there should be a “whistleblowers welcome” policy and one company had a process whereby anyone can call up an issue and it goes right to the top. The complexity of this was also recognized, as whistleblowers still had to come back and work with their team on the next project, so it can never be easy. This issue of complexity came up a recurring theme in that all focus group participants felt project termination to be a very difficult problem in which there were no easy answers and in which every option was likely to have some negative consequences.

### ***Staged delivery***

The strategy of having stage gates to delivery rather than a final “big bang” delivery was seen as helpful in allowing projects to stop. This should be seen as a case of adopting a different mind-set and, rather than looking on it as stopping, look on it as a stage gate in a portfolio review. The questions to be asked at these stages include the following. “Are we healthy enough to proceed? At this stage, we have achieved a certain understanding so do we now invest more? Will this project be able to deliver new/alternative value in an unforeseen way?”

The adoption of agile project management techniques (Azanha et al., 2017; PMI, 2017), where the assumption is that there will be changes required, as the project progresses and the client gains better understanding of their needs and the potential project benefits, was seen as making it easier to stop projects. This approach embraces learning and discovery as the project unfolds and has built-in process to accommodate emerging change.

### **Governance**

There was a view from the focus groups that one person should be accountable for business value who can stop or radically change projects. It was seen as important not to allow, “*shadow projects under the radar which mess up architecture*”. One participant said with some force that “*you need fear to stop people doing this!*” The aim should be to stop sinking money into useless projects and free up money for innovation.

For this to work it was argued that a highly effective and functioning portfolio management and governance suite is required that is operating without sentiment. All projects should be looked at through a value lens and the question asked if they should be advanced, reduced/scaled back, or killed off. Good governance was seen as arising from higher levels of maturity at an organizational level, not just within IT.

### **Tracking and metrics**

The ability to have a clear picture of what was happening with projects was seen as essential and this was described by one participant as the need for “*transparency and one version of the truth*”. It was felt that if projects were visible to all employees it would make it harder for runaway projects to continue. There was also a recognition of the need for financial and dependency information in terms of what the “knock-on” cost effects of stopping one project may have on other projects as information on inter- and intra- project issues were both necessary to make the right decision. Sometimes it may make sense to continue with a “failing project” as the consequences of stopping it could actually cost more than allowing it to continue. In these circumstances, continuing was not seen as a mistaken commitment to proceed because of high sunk costs but a realistic appraisal of the true costs of pulling the project for the entire organization. It was felt necessary to ensure that there are lead metrics to provide early indication when things are not proceeding as expected, supported by effective reporting and escalation processes such that timely corrective action, including termination, can be taken. A quote from the questionnaire given below also emphasises the importance of gathering data over time and including previous projects.

*“Make sure that there is a good "lesson learned" data gathering and improvement tracking process”.*

### **Prior Research**

There was also some discussion about the steps to take to make it less likely that projects, which were likely to be candidates for stopping were ever started. A key point that was highlighted was the need for accurate research into current system, architectures and practices to ensure that new IT projects would not be conflicting with these. The question should be “*does it fit in with what we already have?*” in terms of architecture and “*does it align with current practice?*” The advice was “*you need to look at the ground, at what is*



*actually happening, not start with the software*". Very good pre-qualification of projects was seen as essential so that organizations had enough rigour and discipline at the front end (due diligence) to ensure that approved/started projects have a good chance of success. The quote below provided from the questionnaire also emphasises the importance of planning for the possibility of stopping even before starting.

*"There is always the possibility that a project could be stopped or delayed and so it should be addressed in the Project Charter. It should include conditions for termination, proposed metrics to help notice increases in the risk of project termination"*

### **Stakeholder Management**

It was strongly felt in the discussion that the effective management of stakeholders could make it less likely that projects were not started that were likely to fail. One participant said that from his experience *"9/10 of failures seen are due to poor stakeholder management"* and all agreed that the project manager must have good engagement with the business and his/her role should be primarily around stakeholder management and communication. Indicative comments on stakeholder management were:

*"Communications between the subject matter experts, line of business and technology must be regularly scheduled and include potential impacts on the value of the project"*.

*"The project sponsor and project steering committee have to be actively involved over the life of the project. They need to have transparent metrics (i.e. Earned Value, Gating Criteria, etc.) to be able to judge the current status of the project as it progresses through the life cycle"*.

*"Communication - ensure stakeholders are aware of the reasons. Reasons why project should be stopped are never clearly outlined and cause confusion"*.

## Discussion and recommendations

The authors' analysis of the literature and the data collected all support the view that effectively stopping projects that should be stopped is a complex area with many difficult, and sometimes conflicting, human aspects. It is a problem with serious potential consequences for organizations and the vast majority of IT managers have come across at least once in their careers. As such, it is an important, common and difficult problem. If performance in this area can be improved it has the potential for significant benefits and cost savings for many organizations and with benefits to society in terms of improved government services and the ability to halt projects around new policy initiatives when emerging evidence shows they will not work. The authors aim was to gather detailed data from experienced practitioners on this problem and provide some insights to improve practice by interpreting it through the perspective of a capability approach focussed on business value. How does this analysis lend evidence to the view that a capability approach based on business value may improve performance in this area?

Firstly, it is fairly clear that this is not simply a problem of IT project management but requires and organization-wide commitment to changing practices and culture. As such, an organizational approach, which acknowledges and works to improve the relationship between IT and the rest of the organization, is likely to be more successful rather than simply a focus on IT or on project management methods. A capability approach is well suited to lifting the maturity of the entire organization and is also able to address the people side of the problem. Secondly, business value would appear to be key to the problem of stopping projects as it is only when there is a clear view of what business value means for an organization that it is possible to make a judgement about whether a project may or may not still contribute to it. It is not enough to simply look at financial metrics but a full benefits and business value approach for the whole organization as well as the individual project should be taken

The graphic in Figure 10 is a summary of the analysis of the data, presenting the recommendations of good practices from participants against each of the two issues of project escalation - to properly identify or terminate an escalated project. The authors show a list of the subsidiary items or things that can go wrong and cause a failure, and then associate the relevant IT-CMF components, which address the two high level issues. This figure offers some guidance to practitioners on how to address project escalation problems and how to help prevent possible problems arising.

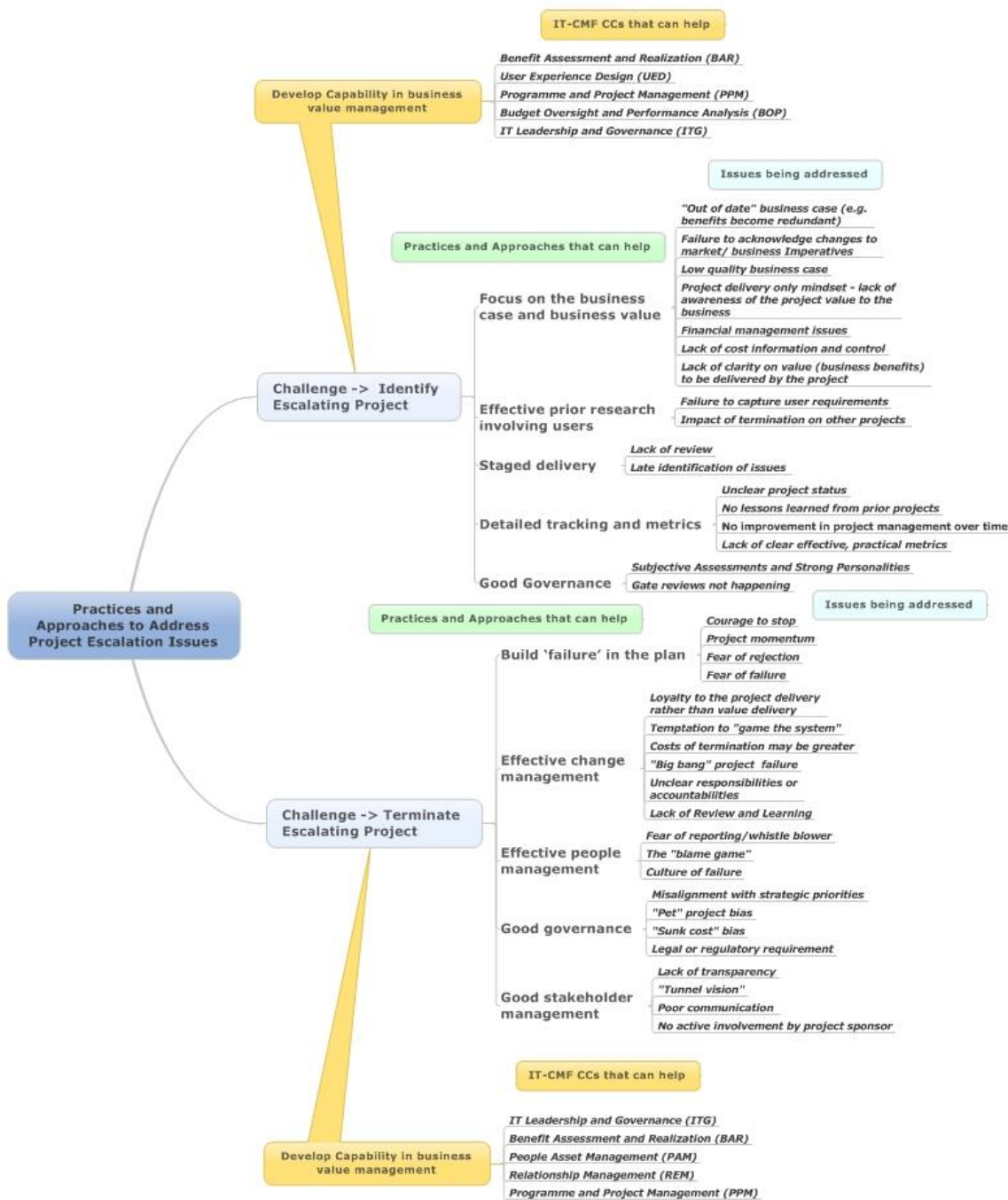


Figure 10: Recommendations to identify and address IT Project Escalation

Clare Victoria Thornley, Catherine Anne Crowley, (2018) "Developing the capability to terminate IT projects when they can no longer deliver business value: A discussion of key insights from practitioners", International Journal of Managing Projects in Business, Vol. 11 Issue: 2, pp.406-431, <https://doi.org/10.1108/IJMPB-06-2017-0060>

Table 1 below provides a summary of the recommendations and shows the relative input in terms of the capability components of people, processes and technology.

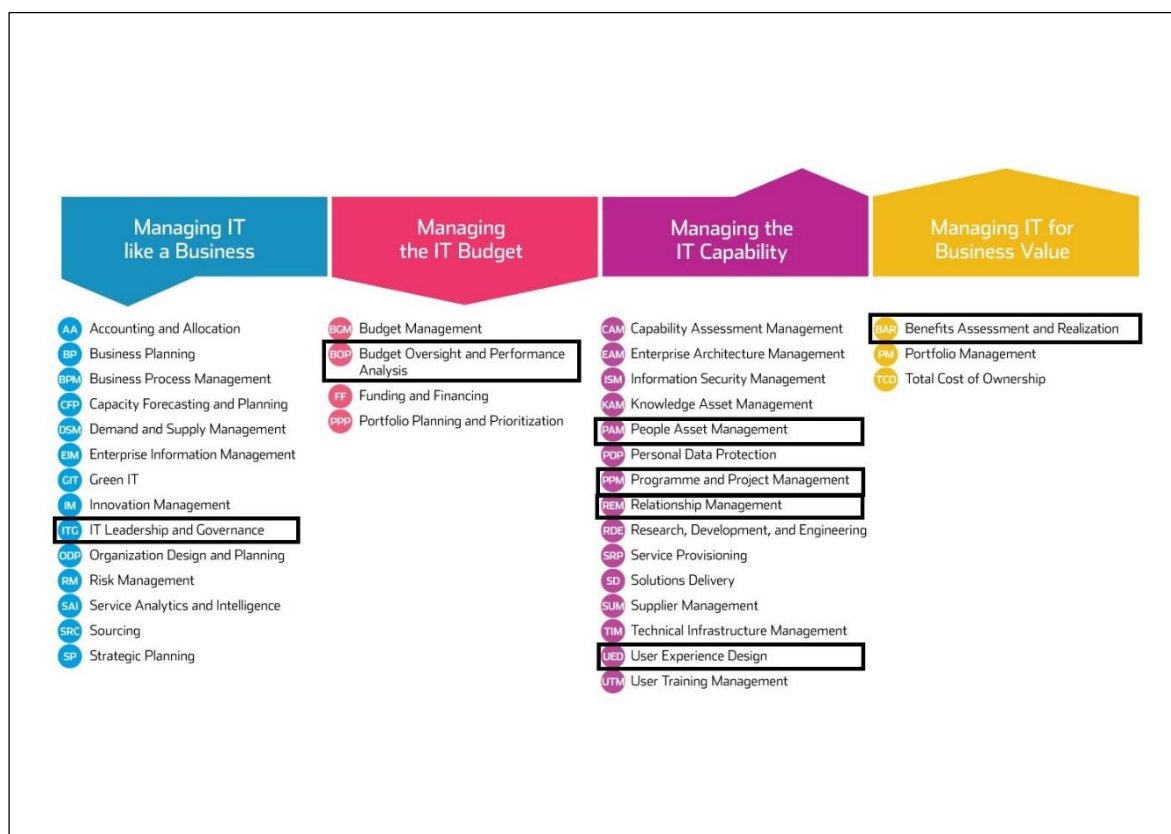
<b>Recommendations</b>	<b>People</b>	<b>Process</b>	<b>Technology</b>
Focus on the business case and business value	secondary	primary	supporting
Effective change management	primary	secondary	supporting
Effective people management	primary	supporting	supporting
Good governance	secondary	primary	supporting
Effective prior research involving users	primary	supporting	supporting
Good stakeholder management	primary	secondary	supporting
Build 'failure' in the plan	secondary	primary	supporting
Staged delivery	secondary	primary	supporting
Detailed tracking and metrics	supporting	primary	secondary

**Table 1: Recommendations in terms of people, processes and technology**

The data shows that many of the reasons why projects fail to stop are due to lack of focus on the “bigger picture” of business value and also a related lack of processes and culture, which enable such a focus to be meaningfully implemented in the organization. In this sense, the data supports the findings of previous research in particular that the people aspect of this problem is both important and difficult to solve (Mahlendorf, 2013), and that new processes can contribute to improving performance. The recommendations to cull projects and to shift culture also support the strategic approach suggested by (Ronen et al., 2012) rather than simply reacting as projects appear to go wrong. The recommendations from the broad range of practitioners also focus on a mixture of cultural issues, such as trying to shift away from a “blame culture” to suggesting some practices and approaches that make this more likely, such as, for example, having stage gates and mandating that a certain percentage of projects be cancelled every year. These findings suggest that cultural issues and infrastructure issues need to be addressed as well as just processes so a whole organization capability approach is needed. This view is supported by recent work, discussed earlier, by (Ronnle, 2017) on the Swedish high speed rail project which showed that detailed progress and data reporting on problems still failed to get the project stopped. This was because there was inadequate understanding of the cultural and stakeholder issues involved which effectively blocked the data having any effect. It should be noted that, as one would expect, some of our

recommendations from practitioners, such as the role of the business case or the use of stage gates, are in line with the best practice guidelines in the Project Management published guidelines such as PMI and Prince2 where (p.48) “The business case theme is central to PRINCE2 projects as it is at the heart of why a project is being done.”(AXELOS, 2017).Our findings also suggest, however, that these process or practical recommendations, must be done with a careful management of the cultural and people factors for them to be successful. A recent PMI article highlights the role that effective stakeholder management can have on reducing the negative reaction to culling projects that need to be terminated (Mustafa, 2017). On a broader project management perspective our findings also support the view that project management needs to move beyond an operational activity and ensure that is a part of organisational strategy delivery (Jugdev and Thomas, 2002a).

This indicates that improving capability in business value management, through introducing and improving these processes with associated cultural shifts, will improve an organization’s ability to stop IT projects that should be stopped. A capability based approach has been shown to consistently improve the performance of organizations (Mithas et al., 2011) and one framework that is relevant here is the IT Capability Maturity Framework or IT-CMF (Curley et al., 2015) as it includes both the technical IT aspects but also the cultural and behavioural issues around project management and developing a focus on business value management. The table below summarizes the critical capabilities covered by the IT-CMF and shows the breadth of both technical and managerial content available with key capabilities in relation to project escalation highlighted.



**Figure 11: IVI's IT capability maturity framework with critical capabilities most relevant to preventing project escalation highlighted (IT-CMF) (Source: Innovation Value Institute)**

The critical capabilities that are of particular relevance to getting better at stopping projects are for example, IT Leadership and Governance (ITG) with its focus on governance processes and Benefits Assessment and Realization (BAR) which aims to create a culture of business value in IT management. Reducing the chances of project escalation is a complex problem with many facets ranging from financial reporting issues to the softer issues such as managing people's fears of failure and rejection. A low maturity approach is characterized by ad hoc attempts to fix the project in hand while higher levels of maturity focus more on an organization-wide improvement in change management and learning (Flynn et al., 2009). Improving organizational capability drives project performance and is critical to an organization's ability to respond to change (Bannerman, 2012). A capability-based approach can help address many of the process, technical and human-centred issues around stopping projects and reduce the chance of "runaway" non-value delivering projects being allowed to damage the organization. Increasing maturity in project escalation management can be complex, but it has multiple benefits.

## Future research

The problem of getting better at stopping projects is common, has many negative social and business consequences and is difficult to solve and therefore it is research problem which needs further work. It has many facets, which include complex people and cultural issues; processes and reporting procedures as well financial reporting and project governance. As such, it is useful to develop work, which can address these different facets in a coordinated way and the capability approach with a focus on business value would appear to be useful direction to take.

One issue which would be of interest for future research is how to manage some of the contradictions in this improvement process and whether a capability approach can assist in this. The literature and study data shows that recommendations often involve the balancing of competing requirements and that are no actions in this area which will not have some negative consequences . How to recruit dynamic solution-focussed project managers who will still have the ability to shout stop if a project is no longer delivering value? How to put governance and control mechanisms in place that don't "pull the plug" at the first bit of bad news, but can if things go badly wrong? How to maintain a big picture organizational level view for all employees and avoid what may be an overall detrimental loyalty to one department, team or project manager? How to be focussed on success but still allow for failure?

The research participants provide some useful insights on approaching these problems but this clearly is complex issue, which requires an organizational level approach to managing these multiple issues in terms of people, processes and technology and how they interact. Future work will focus on using capability improvement and business value as an approach to investigate how guidelines and management practices could be developed to assist practitioners at getting better at stopping projects.

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