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Muhammad Rasheed Khan
The University of New South Wales, rasheed-khan@live.com

Walter D. Fernandez
The University of New South Wales, w.fernandez@unsw.edu.au

James J. Jiang
National Taiwan University, jjjiang@ntu.edu.tw

Gary Klein
University of Colorado at Colorado Springs, gklein@uccs.edu

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The shifting sand of program coordination effort: Lessons from IT-enabled transformation programs

Muhammad Rasheed Khan  
University of New South Wales  
Sydney, Australia  
Email: r.khan@unsw.edu.au

Walter D. Fernández  
University of New South Wales  
Sydney, Australia  
Email: w.fernandez@unsw.edu.au

James J. Jiang  
National Taiwan University (NTU)  
Taipei City, Taiwan, China  
Email: jjjiang@ntu.edu.tw

Gary Klein  
University of Colorado at Colorado Springs  
Colorado, USA  
Email: gklein@uccs.edu

Abstract

Information Technology (IT) enabled transformation programs are collections of interrelated projects and operational activity aimed at achieving strategic change of significant complexity, where the opportunity for change is provided by IT. This paper reports on a study of major Australian organisations that are using IT-enabled transformation programs to achieve strategic transformation of their work. While the program management literature has focused on the coordination of the multiple projects and related operational activities within the programs, little is known about how these programs deploy efforts to coordinate activities in response to contextual pressures. This exploratory, multi-case study asserts that a significant effort is needed to coordinate responses to factors external to the program. In addition, this study shows the key internal and external forces that combine in shifting the locus of effort in coordinating and integrating multiple activities and projects in major IT-enabled transformation programs. Three areas of effort are identified: creating change momentum, seeking customer engagement, and managing public image. The findings are presented in the form of a contingency model.

Keywords Program management, coordination teams, case studies
1 Introduction

Program management is frequently defined as coordinated management of multiple or interrelated projects and operational activities aiming to achieve a major strategic outcome for the organisation (e.g. Caldwell 2003; Cash Jr. et al. 2008; Maylor et al. 2006; McElroy 1996; Parolia et al. 2011; Pellegrinelli 2011). We are particularly interested in transformation programs (citation withheld); these programs aim at changing organisational practices, and thus have a distinct relationship with the organisations commissioning the program (the initiating organisation), because the initiating organisation itself is the target of the change sought by the program (Johansson et al. 2007; Pellegrinelli 1997). Thus, these programs need to coordinate not just across the projects within the program but also across the many functional areas of initiating organisation that are impacted by the change. Furthermore, programs require coordination with influential actors in the environment that are external to the initiating organisation but have the potential to impact the program (Sauer and Willcocks 2007).

Integration and coordination are key elements of managing transformation programs. Effective integration requires extensive coordination of the change initiative’s interactions with its context (Stretton 2016). Also, when projects exist under a program, the program performs the coordination of these interactions with and among its component projects (Thiry 2004; Turner and Speiser 1992). Pellegrinelli (2002) identified the importance of program-organisation interactions in creating and enacting change in the initiating organisation and called for development of concepts to facilitate the management of these interactions.

Responding to Pellegrinelli’s (2002)’s call for further research, we conducted an exploratory multi-case study aiming at explaining how contextual and environmental factors affect coordination practices of information technology (IT) enabled transformation programs. We do so by exploring the practices of program coordination teams in coordinating the program-organisation and program-environment interfaces. Our study is delimited by focusing on efforts to coordinate the interaction between (a) the program and the organisation, and (b) the program and the organisation’s key external influencers. Coordination practices internal to the projects in programs are outside our research’s interest.

The paper proceeds with a theoretical background on relevant aspects of the research problem so that the method adopted, and our findings could be interpreted in the light of the literature. Before we conclude, we present a discussion on the salient aspects of this study and its contribution to knowledge.

2 Background

2.1 Change Programs

Programs are frequently undertaken by business and government organisations to achieve strategic change in organisational culture, processes, or structures (Artto et al. 2009; Jiang et al. 2015). Such, programs are therefore, also called change programs (Martinsuo and Hoverfält 2017) and development programs (Johansson et al. 2007). Programs provide the necessary link between projects and organisational strategy (Turner 2009). Program management ensures alignment of projects with ever changing business environment and a focus on strategic outcomes (Pellegrinelli 2002). By taking into account the power dynamics and relationships with senior organisational leaders, program management creates the context for success of projects that constitute the program (Hatzakis et al. 2007).

2.2 IT-enabled Transformation Programs

The opportunity for strategic organisational change is often presented by IT (Martinsuo and Hoverfält 2017) hence, such programs are also called IT-enabled transformation programs (Gregory et al. 2015). While IT projects are significant part of such programs, the whole program contains many other projects. All these IT and non-IT projects contribute to organisational transformation together. We focus on IT-enabled transformation programs that are internal to the organisation; that is, programs undertaken by the initiating organisation, to transform its own operations. Other organizations such as consultants, contractors, external customers and suppliers may participate in such programs, but the day-to-day management and the responsibility of benefits realisation, lies with the initiating organization (Lehtonen and Martinsuo 2008; Lehtonen and Martinsuo 2009).

Management of IT-enabled transformation programs is extremely challenging (Gregory et al. 2015;

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1 The word development here refers to organisation development (Johansson et al. 2007) rather than IT or IS development.
Jiang et al. (2014). Such programs are characterised by high degree of innovation and complexity which require substantial effort in coordination and communication (Gregory et al. 2015). Program teams need to monitor business, technology and political environment affecting their program and coordinate resources to deal with the changes caused by these environmental factors (Li et al. 2011).

Management of IT-enabled transformation programs is further complicated by the involvement of multiple internal and external stakeholders, including top managers, functional managers, suppliers, employees, and customers. Understanding these stakeholders, and incorporating their emergent and evolving needs into the program requires substantial effort from the program management team (Murray-Webster and Thiry 2000).

While programs have been in practice for a long time and ‘(p)rogram (m)anagement has emerged as a distinct discipline in the late twentieth century’ (Thiry 2015, p. 3), there is a dearth of academic research on IT-enabled transformation programs in information systems (IS) literature. Although the interest in the understudied area of program management is gradually increasing in IS literature (such as Gregory et al. 2015; Jiang et al. 2014; Parolia et al. 2011), we still know very little about the nature of challenges in the management of IT-enabled programs and how to manage them (Jiang et al. Forthcoming). Hence the calls for further research in this area continue (Gregory et al. 2015; Jiang et al. 2014; Martinsuo and Hoverfält 2017; Näsänen and Vanharanta 2016).

2.3 Coordinating IT-enabled programs in their context

Coordination, in general, is defined as “the use of strategies and behavior patterns aimed at integrating and aligning the actions, knowledge, and objectives of interdependent members, with a view to attaining common goals” (Rico et al. 2008, p. 163). Routine operational work (business-as-usual) in permanent organisations is often coordinated through structural mechanisms such as rules and regulations, schedules, reporting lines, job description, and personal communication (Van De Ven et al. 1976). In contrast, more recent research in organisations, indicates that coordination of socio-technical work is facilitated by networks of relationships (Faraj and Xiao 2006; Okhuysen and Bechky 2009).

Thus, it is important for program coordination research to consider the dynamic relationship between the program and the organisation undertaking it. This coordination can be categorised as follows:

- **Inter-project coordination of component projects**: required for delivery of artefacts (Pellegrinelli 1997) necessary to enable the change sought by the program. Such as information systems, business processes, reporting structures, physical infrastructure.

- **Coordination of the interaction between the program and the organisation**: needed to create an environment in which the program can continue to operate, prepare and guide the organisation through the transformation it creates (Lehtonen and Martinsuo 2009).

- **Coordination of the interaction between the program and the organisation’s key external influencers**: required to maintain ongoing relevance (Kreiner 1995), for the management of organisation’s reputation and external relations for program’s political (Sauer and Willcocks 2007) and economic survival.

While coordination of all three above-mentioned categories is important, we focus on the last two categories as they pertain particularly to the enactment of change in the initiating organisation, which is the program’s raison d’être. In doing so, we respond to the calls made to study coordination of the program with its context (i.e. the initiating organisation) and environment (Artto et al. 2009; Lehtonen and Martinsuo 2009; Lycett et al. 2004; Pellegrinelli 2002).

Therefore, on the basis of the above discussion, we define program coordination for the purpose of this study, as the process of integrating the various efforts, within and outside the program, required to realise the program’s goals.

2.4 Contextual factors affecting coordination mechanisms

Research has identified several contextual factors that affect the choice of coordination mechanisms in projects, including: task and goal interdependence (Malone and Crowston 1994), task analysability (Dietrich et al. 2013), uncertainty (Ahern et al. 2014), use of multiple teams and longevity of task performance (Faraj and Sproull 2000; Faraj and Xiao 2006).

Building on these previous studies, further research is needed for identifying the factors that affect the focus of program coordination effort. Since, every program is situated in its unique context, program’s structures and management strategies must be responsive to their contextual and environmental
contingencies (Pellegrinelli et al. 2007). However, to the best of our knowledge, research has not developed contingency models specifically for coordination of programs, which is one aim of this paper.

3 Research Method, Data Collection and Analysis

We based our method selection on four considerations: a) we needed to situate the phenomenon of coordination in its context; b) due to the novelty of the phenomenon, an exploratory approach was required; c) we aimed to contribute to both, the academic knowledge and program management practice; d) we needed a rigorous method to analyse our data.

The combination of Grounded Theory Method (GTM) and case studies (Fernández 2004; Fernandez and Lehmann 2011) satisfied our requirements. Thus, borrowing data collection and analysis techniques from classic GTM (Glaser 1978; Glaser 1998; Glaser and Strauss 1967), we conducted multiple case studies. This approach is a tested tactic in IS research (e.g. Kirsch 2004; Levina and Vaast 2005; Orlikowski 1993).

Following, GTM principles of theoretical sampling, constant comparison, memoing, and sorting (Birks et al. 2013), we selected four programs (see table 1) from four Australian organisations for case studies due to their differences and similarities (Glaser and Strauss 1967).

<table>
<thead>
<tr>
<th>Program Pseudonym</th>
<th>Fast-Response</th>
<th>New-Org</th>
<th>Customer-Win</th>
<th>Digital-Media</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry</td>
<td>Emergency Services</td>
<td>Public Sector</td>
<td>Banking</td>
<td>Press and Media</td>
</tr>
<tr>
<td>Key deliverables</td>
<td>New operations model; new building; new IT systems; new business processes around staff scheduling and job functions</td>
<td>New operating model; new electronic work environment; new building; changed job descriptions and career paths</td>
<td>New customer facing applications for new banking products; integrating existing disjointed customer facing web applications</td>
<td>New job descriptions and career plans; new management structure; new IT system with portability across all publications of the company</td>
</tr>
<tr>
<td>Goal</td>
<td>To reduce the emergency response time across one state of Australia, by transforming the existing operating model.</td>
<td>To foster a culture of collaboration among different parts of the organisation, enabled by new IT and physical infrastructure</td>
<td>To improve customer satisfaction by providing world leading, seamless digital banking experience across digital and branch platforms.</td>
<td>To introduce new reporting and pre-publishing processes to prepare the company for transforming to a digital media company.</td>
</tr>
<tr>
<td>Duration</td>
<td>4 years</td>
<td>3 years</td>
<td>5 years</td>
<td>2 years</td>
</tr>
<tr>
<td>Projects</td>
<td>12</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Salient characteristics</td>
<td>• Business continuity and response time are critical • Strong team commitment • IT-Business divide • Resistance pockets • Political sensitivity • Low resourcing</td>
<td>• Yearly peak workload season • High cultural change in traditional public service environment • Highly committed sponsor</td>
<td>• Strong business-IT relationship • Fast paced agile program management • High experience in project and program management</td>
<td>• Cost cutting • Major lay-offs • Organisational reputation • Physical and psychological stress on program team</td>
</tr>
</tbody>
</table>

Table 1: Summary description of case programs used in this study.

Data collection and analysis began with Fast-Response as our foundation case (Fernandez and Lehmann 2011) and proceeded in an overlapping manner with other cases. Data from these cases were then contrasted and compared to attain theoretical saturation (Glaser and Strauss 1967). All case programs had the common goal of creating new operating model using IT. Space limitations prevent us from providing a detailed account of each case.
We conducted open ended interviews in conversational style. Interviews began with questions regarding the role of the interviewee in the program, and their key concerns. Interviews were recorded and later verbatim transcribed using a professionally accredited service provider. A total of 34 interviews (average duration 43 minutes) were conducted with 28 distinct participants, including program managers/directors, project managers, CEO, CIOs, program steering committees/boards and other relevant actors. In keeping with the GTM principle of theoretical sampling, interview protocol was modified based on the analysis up to the point leading to that interview.

The analysis was facilitated, but not automated, with Atlas.Ti software. In total 173 open codes were created which were aggregated to 14 second-order codes. We conceptualised these second order codes into the three types of coordinating practices performed by the program coordination teams and identified three contextual factors affecting these practices. The interviews and analysis were intertwined with one following another, over the period of 14 months (May 2016 to July 2017). During the analysis, we coded the data for coordination practices, the factors affecting them, and interrelation of actors involved in those practices. This analysis led us to the concepts of program coordination team, coordination practices, and contextual factors affecting coordination practices, as discussed next.

4 Findings

We observed that our case programs were coordinated a group of actors, which we called Program Coordination Team (section 4.1). We then identified the coordination practices of this team (section 4.3) but noticed that these practices were not performed equally in all case programs. At this point, we went back to the data to identify the factors that affected the focus of coordination practices (section 4.2).

4.1 Program Coordination Teams

Our analysis shows that program-organisation and program-environment interactions are coordinated by what we termed the program coordination team (PCT). Program coordination teams are ad hoc teams different from the official program management teams. In the cases we studied, program management teams often consisted of program leadership (program manager/director and their deputies), support roles (such as program coordinator), and project managers. Whereas program coordination team membership goes beyond the program management team boundaries.

We argue that PCTs emerged because of the nature of the programs studied. We studied transformation programs that were internal to the organisations and aimed at bringing change within those organisations. Due to this internal nature, many component projects were carried out by functional areas over which program managers have no formal authority. Operational managers, for example, can act as project managers in addition to their routine business-as-usual responsibilities. In these cases, the operation managers are made officially accountable for the work to be carried out but often they may not actively perform the coordinating effort of (a) liaising with the program team and (b) getting the work done in their respective organisational units—often because ‘they didn’t have any more time to be across the details. We had to drop it down a level to do that.’ [Manager, Fast-Response]. In this scenario, the employee who acts as the contact person for the program team, would be considered member of the program coordination team, regardless of her/his official title. Thus, the PCT’s membership often differs from official program governance arrangements.

Even when project managers work full time for the program, they still need to liaise with other organisational divisions to effect change delivery. Our interviewees indicated that in many cases, project managers relied on unofficial contacts in operational divisions because ‘they were easy to access as they were not as high in the organisational hierarchy’ [Program Coordinator, Fast-Response], were ‘better informed about the project work; or more committed to the program’ [Program Manager, New-Org]. Thus, forming PCTs is necessary even when project managers are working fulltime on the program.

4.2 Contextual and environmental factors affecting coordination practices

Before we discuss coordination practices (section 4.3) we introduce three factors emerging from our data as core elements affecting all coordination practices in the cases studied, as follows:

1. Organisational program and project management (PPM) maturity refers to the degree to which organisation has formalised project and program management procedures, support structures and the organisation’s experience with projects and programs.

2. Internal resistance pressure (IRP) shows the resistance to the program by the stakeholders that are internal to the organisation. Our case programs, changed organisational processes,
technology, job structures, job locations, career paths etc. Therefore, these programs faced varying degrees of internal resistance.

3. **External reputational concerns pressure** (ERCP) shows possible influence on the program of the stakeholders that are external to the organisation. Our case programs, had significant reputational concerns for the organisations involved. The consequences ranged from brand image, serious financial penalties, to possible loss of lives. Therefore, the external stakeholders were interested in these programs and wanted to influence them.

We ranked case programs on the levels of the three contextual factors, as Figure 1 shows. Scores of 1 and 2 indicate low levels presence of a contextual factor, score of three indicates medium level presence and scores of 4 and 5 indicate high level of presence of that contextual factor. To assign these rankings, the first author prepared case histories and drew up initial rankings on the factors with corresponding justifications from interview transcripts. Based on this evidence, the authors discussed the rankings and adjusted until consensus was reached. This analysis was done to support the arguments for the effect of contextual factors on coordination practices as explained in section 4.3. In the following section, we describe key coordination practices of program coordination and discuss how each of them is affected by these contextual factors.

![Figure 1: Comparison of case programs on three contextual and environmental factors.](image)

### 4.3 Key Coordination Practices and the Effect of Contextual Factors

#### 4.3.1 Creating change momentum

Program coordination teams create momentum for change in the initiating organisation by establishing a shared vision and leading change and innovation. While programs begin as a top-executives’ vision of a transformed organisation, this vision implies change, and thus resistance can be expected. Thus, to materialise that vision, the PCTs worked on ensuring that everyone involved in the program shared the same vision. This meant that the PCT members needed to be ‘out talking to people and meeting with people at all levels of the organisation to get them to understand the [CEO]'s vision’ [Project Manager, New-org]. In most cases, the PCT’s effort for creating shared vision were supported by the organisation’s top management. Yet, even when senior executives do not actively lead the creation of shared vision, the PCT continued to do so. In one case, it was reported that the new CEO did not lead the program proactively, neither within nor outside the organisation [Fast-Response], so PCT members at various levels of the organisation actively led the creation of shared vision for the program because they were highly committed to it [Program Director, Fast-Response].

Coordination team members also take on the role of leading change and innovation. They volunteer to adopt new technology and processes themselves and act as change champions in their organisational areas [CIO, New-org]. Being early adopter of change, helps increase user confidence and uptake [Sponsor, New-org]. "You really have that rolling change champion effect without actually knowing that you’re doing that." [Program Sponsor, Fast-Response].
The practice of creating change momentum was more prominent in two case programs: Fast-Response and New-Org where internal pressure was high and medium respectively. In both cases, the organisations had strong employee unions. Both these programs significantly altered job specifications of employees and their location of work. In the case of Fast-Response, shift roster scheduling was automated and shift times were changed. All these changes created serious concerns for many employees. Program coordination members were able to win over the sceptical employees by explaining the program vision and its importance for the future of the organisation [Sub-program manager, Fast-Response]. Coordination team members also volunteered themselves to pilot the new job and process designs [Program Manager, New-Org]. Therefore, high levels of internal resistance pressure (IRP) caused the PCTs to focus on creating change momentum.

In the other two cases, Customer-Win and Digital-Media, the IRP was low and hence change momentum practice was not a prominent focus of the coordination team. In Customer-Win, the IT department was already recognised for its lead role in business innovation in the organisation over the years. The CIO described the bank as an ‘IT company with competitive advantage in financial services’. Therefore, the program coordination team did not have to focus on creating change momentum, it already existed in the organisation. In the case of Digital-Media, the program strategy was to create a totally new digital operating model and hire staff who were suitably equipped to work in the new digital environment, thus closing the old mode of operation [CEO, Digital-Media]. Therefore, in the case of low IRP, the PCTs did not need to concentrate effort in creating change momentum.

4.3.2 Seeking customer engagement

Programs often begin without a detailed implementation plan [Program Sponsor, Fast-Response]. As program’s delivery strategy develops, projects are identified as mechanisms to achieve that vision. This uncertainty creates, coordination issues with government and private sector routine planning processes and organisational culture because programs are unable to provide comprehensive plans in advance — ‘They wanted to know what exactly it is going to look like. They wanted that up front’ [Program Manager, New-Org]. Even if interim plans are provided, they can quickly change as new gaps in initial understanding are discovered, or new projects are required to remain relevant to the changes emanating from environmental volatility.

Coordination teams deal with the issue of lack of initial detail and understanding of how programs evolve, by engaging customers (employees of initiating organisation) and relevant organisational units from the very start of the program. Coordination teams invite these internal customers into program design — ‘We wanted to take them on this journey with us, we’ll design it with you as we go’ [Program Manager, New-Org]. This inclusion effort has several benefits: it educates the program customers on how the program operates, keeps them informed of the progress, and allows the program to benefit from employees’ detailed expertise and knowledge. Engaging the customers in the initial design of the change program helped the PCT to achieve ongoing customer support from a large base of organisation. Customers who were initially engaged, spread their support through their networks of organisational relationship — ‘You get people that have got that network already to spread the change and understand why we’re doing it’ [Program Director, Fast-Response].

The practice of seeking customer engagement was observed to be more prominent in Fast-Response and New-Org, which can be explained by the presence of both low and medium PPM maturity and high and medium internal resistance pressure. Lower levels of PPM maturity, when combined with higher levels of IRP required the PCTs to develop channels of seeking support and cooperation which did not exist in the organisation before. In Customer-Win, a higher PPM maturity program, the organisation already understood how program work evolves, and thus funding and organisational arrangements were prepared to take that evolution into account. Also, in Customer-Win a culture of customer engagement already existed due to their high experience in project and program management. Therefore, low PPM maturity and high IRP caused the coordination teams to shift the focus of effort towards seeking customer engagement.

4.3.3 Creating and maintaining public image

Coordination teams engage in managing the public image of the program by anticipating and responding to the political nature of environmental dynamics. These actions include informing local politicians before program delivers visible changes in their area, sending out periodic communications externally to interested stakeholders, and defending the program in media outlets [Project Manager, Fast-Response; Program Manager, Digital-Media]. In two case programs, politically strong employees and customers, attempted to bring the program into disrepute within and outside the organisation. Such negatively impacting actions include public protests, taking legal industrial action, and negative
representations to the media, and lobbying politicians and community leaders. We also found that it was important to have coordination team members who could use their deep knowledge of their organisational environment in dealing with political dynamics. As a manager commented, 'a lot of the stuff I've done is more organic in that it's about using my experience and knowledge of the organisation and what were the industrial and political sensitivities, and to navigate pathways that promoted those deliverables' [Portfolio Manager, Fast-Response].

As expected, all case programs generated some public facing information regarding the program. But managing public image demands a significant PCT effort when the program can seriously impact organisational reputation. The practice of managing public image of the program, was seen prominently in Fast-Response and Digital-Media where the external reputational concerns pressure (ERCP) was high and medium. In the case of Fast-Response, ERCP was high because community leaders and local politicians were worried that the program could cause delay in responding to emergencies; if this was proven true, the organisation’s reputation would have been affected. The Digital-Media program also had high ERCP because of negative publicity due to large-scale lay-offs and its consequent union activity. Thus, the presence of higher levels of ERCP required PCT’s focus on the programs’ public image.

5 Discussion

This study focused on providing an understanding of important coordination practices performed at the program’s interface with the initiating organisation and its environment. We identified the notion of program coordination team and we posit that the members of the PCT are often distributed in program related organisational areas. Their distributed actions enact collective program coordination. Thus, we contribute to coordination literature by explaining distributed coordination in program management.

Our findings show that the PCT, as a distributed group of actors, provides effective change leadership in programs instead, or in support of, the formal organisation leaders. This finding is made more relevant by research suggesting that ‘formal leaders may launch such initiatives, but have little to do with organizing and guiding the actual work’ (Pasmore and Woodman 2017, p. 8). We found that interactions of committed PCT members with their colleagues motivate them to support the program thus improving program coordination. In this sense, we provide support for perceiving coordination as a motivational process achieved through frequent conversations among peers (Quinn and Dutton 2005).

We identified creating change momentum as one of the key processes of PCTs. Research has acknowledged that transformational change in organisations requires creating and maintaining momentum for transformational change (Jansen 2004; Jansen et al. 2016). By explaining the creation of change momentum by PCTs, our study provides understanding of one important mechanism of achieving transformational change in organisations through programs.

While the importance of creating change momentum (Jansen 2004), engaging customers (Markus and Mao 2004), and political reputation (Drummond and Hodgson 2003; Sauer and Willcocks 2007) have been previously known, this is the first study to combine and explain them in the context of coordination of IT-enabled change programs.

The three key coordination practices we identified for coordination of the program with the initiating organisation and important environmental stakeholders, are performed in all programs to a certain degree. However, we found that the attention of the PCT shifts between the three practices. We argue that which practice receives more focus from the PCT often depends on a combination of three core factors: Organisational PPM maturity, internal resistance pressure (IRP), and external reputation concern pressure (ERCP).

When internal resistance pressure is high, programs can be undermined by employees who fear the program’s effect on their practice. To overcome IRP, the PCTs shift effort on creating change momentum and seeking customer engagement. When the organisational maturity in managing programs is low, PCTs shift effort towards engaging with customers to foster mutual understanding and cooperation. Conversely, mature program and project organisations understand how programs operate and a culture of cooperating with projects and programs is likely to exist, thus reducing the effort needed to maintain such engagement. The presence of external reputational concerns, creates pressure to safeguard the organisation’s reputation. This pressure causes the PCTs to shift effort towards maintaining public image of the program. The above discussion is summarised in the form of a contingency model (Figure 2).
By presenting our findings in the form of a contingency model that is useful for program management practice and future research, we have also responded to a call for contextual contingency models in program management (Artto et al. 2009). This contingency model of program coordination efforts, contributes to the stream of program management research that studies programs in their context and the effect of environmental factors on program management strategies (e.g. Näsänen and Vanharanta 2016; Pellegrinelli et al. 2007; Yu and Kittler 2012).

Due to the mainly inductive nature of our inquiry, we have only identified coordination practices and affecting factors that we observed in our data. Thus, our theorisation is at substantive level and further work is required to expand its theoretical reach. We call for further research to verify and extend our model.

Our study also has implications for program management practice. Program practitioners need to identify their PCT members early and be aware of the contextual factors of their program. Our model could serve to create awareness on PCTs and on proactively anticipating the shifting of focus needed to respond to the contextual factors and different types of pressure.

6 Conclusion
We reported how IT-enabled change programs are coordinated with their initiating organisations and environment. We found that a team of program and organisational actors, the program coordination team, carries out this coordination by performing three key practices: creating change momentum, seeking customer engagement, and maintaining public image. The focus of the coordination team fluctuates among three practices. Which coordination practice receives more effort from the coordination team, depends on three contextual and environmental factors: organisational project and program management maturity, internal resistance pressure from employees, and external reputational concerns pressure. We presented our findings in the form of a contingency model that contributes to the extant knowledge, offers opportunities for further research, and can be useful for practitioners.

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