

Digital Government

CASE STUDY SERIES

MOVING THE DIGITAL DIAL:

GOVERNANCE & DIGITAL
GOVERNMENT PERFORMANCE
MANAGEMENT

Part II
'Governance & Performance'

Jonathan Craft
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Public Service Commission
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CASE STUDY SERIES

Launched in 2020 this series takes an in depth look at a range of digital government practices and impacts in Canada and abroad. It provides rigorous and comprehensive accounts of successes and failures, and highlights the real world work of digital government.



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EXECUTIVE SUMMARY

Part II of the Public Service Commission application case study series illuminates the importance of governance and performance management for successful digital government. It canvasses the challenges and lessons learned of building effective governance around a complex project, featuring changing objectives, that adopted Agile scrum methods midway through the project. As the need for stronger governance became clear the priority became how to ensure it addressed the technical and business or 'program' requirements of the project. Repeated attempts to calibrate the multiple committees in place finally found traction when an integrated and scaffolded approach to governance was adopted.

This integrated governance approach built connective tissues across teams and units that had historically worked in silos. It also facilitated the development of a shared sense of purpose and deeper understanding of technical and operational expectations and requirements. The scaffolding ensured effective authorities and remits were distributed vertically and horizontally across key actors and teams. Governance was however further challenged by the adoption of digital ways of working which produced tensions around how to support staff using Agile scrum methods while maintaining traditional reporting and accountability requirements.

Similarly, the project's early lack of performance management had to be addressed and raised big questions emerged about how to develop adequate and useful measures for performance management linked to Agile scrum methods but also other project and organizational requirements. Various techniques and tools were applied including de-scoping, changing project management metrics and milestones, using dashboards, show and tells, and executive stand ups with the aim of achieving more consistency and clarity in how performance was being measured, managed, and supported.

Finally, the application rationalization journey was more than a simple IT refresh or digital rationalization of existing services and back end technology. It was a project that unfolded during significant organizational and leadership evolution. The organizations culture and leadership approaches were important features in some of the challenges and how solutions were sought out and implemented. The case demonstrates the importance of a broader set of enabling conditions that are required to facilitate digital government work.

Read more below about the challenges and lessons learned.

1 INTRODUCTION

This is the second case in a two-part series examining the Public Service Commission of Canada (PSC) application rationalization project (AR). This project began as an IT driven rationalization in 2011 but grew, over ten years, to become a broader digital government transformation initiative. Its objective was to overhaul back-end systems and front facing programs that underpin the Government of Canada's hiring and employment testing services. Part I of this case study examines the operational aspects of the project in detail. It unpacks a series of challenges and missteps, and surfaces several lessons learned for those on the front lines of digital government. Part II examines governance and performance management aspects of the AR project. It is based on careful document analysis and eleven interviews with key PSC staff directly involved with AR.

Governance matters are not always front and center in studies of digital government but often contribute significantly to the success and the failures of digital government work. In the case of AR four specific governance related issues were clear. First, there was a widely agreed upon lack of governance early on that limited effective oversight and performance management. Second, the governance that did exist was not directly connected to the AR project. Existing governance failed to provide for an integrated approach that effectively brought together the Information Technology Services Directorate (ITSD) and the Personnel Psychology Center (PPC)

staff to the same governance table in meaningful ways. Third, the 2015 adoption of Agile methods, as part of a digital government project approach, required different governance arrangements which introduced further challenges. Fourth and finally, organizational and project level leadership considerations were frequently raised. Interviews revealed that broader changes and reforms to the PSC itself, along with changes in leadership and leadership styles at the executive and operational levels, contributed to many of the challenges faced by the AR project, but also the ability of the project team to deliver.

AR also suffered from insufficient performance management. Attempts to address these matters shine a spotlight on major challenges and lessons learned around how to measure performance, track and monitor it, and utilize performance information and indicators - particularly in the context of the adoption of digital ways of working in government. They also raise the importance of effective accountability mechanisms to ensure clear ownership of projects and how to deal with persistently problematic projects. We examine how the AR team sought to build additional performance measures, what tools were used to generate performance information and apply it, and how the adoption of digital ways of working changed the performance management requirements and approach used. There are also important questions about how risk was managed and risk tolerance in digital government work. These are interconnected with the broader

questions around digital government and how digital ways of working impact risk tolerance and risk management imperatives for executive and operational staff undertaking the work.

Part II emphasizes aspects of digital government that are sometimes overlooked, namely the governance and performance management of digital government. It reveals that the 'official' model of PSC governance and project management for IT-enabled projects played out differently in practice, resulting in delivery delays and an overrun on the initial project budget. As digital government takes shape across various governments in various jurisdictions this study sheds light on some of the challenges in getting the governance right, and in managing the performance

of digital government projects. The report begins by outlining the pertinent PSC and AR governance arrangements and then reviews some of the challenges around governance, leadership, and cultural change that were pivotal to the missteps and failures, but also the successful turnaround of the AR project. It concludes with a variety of lessons learned that apply to others seeking to engage in digital government projects who recognize the importance of building and sustaining effective governance and performance management.



2 REFRESHER:

AR and PSC Structure and Governance

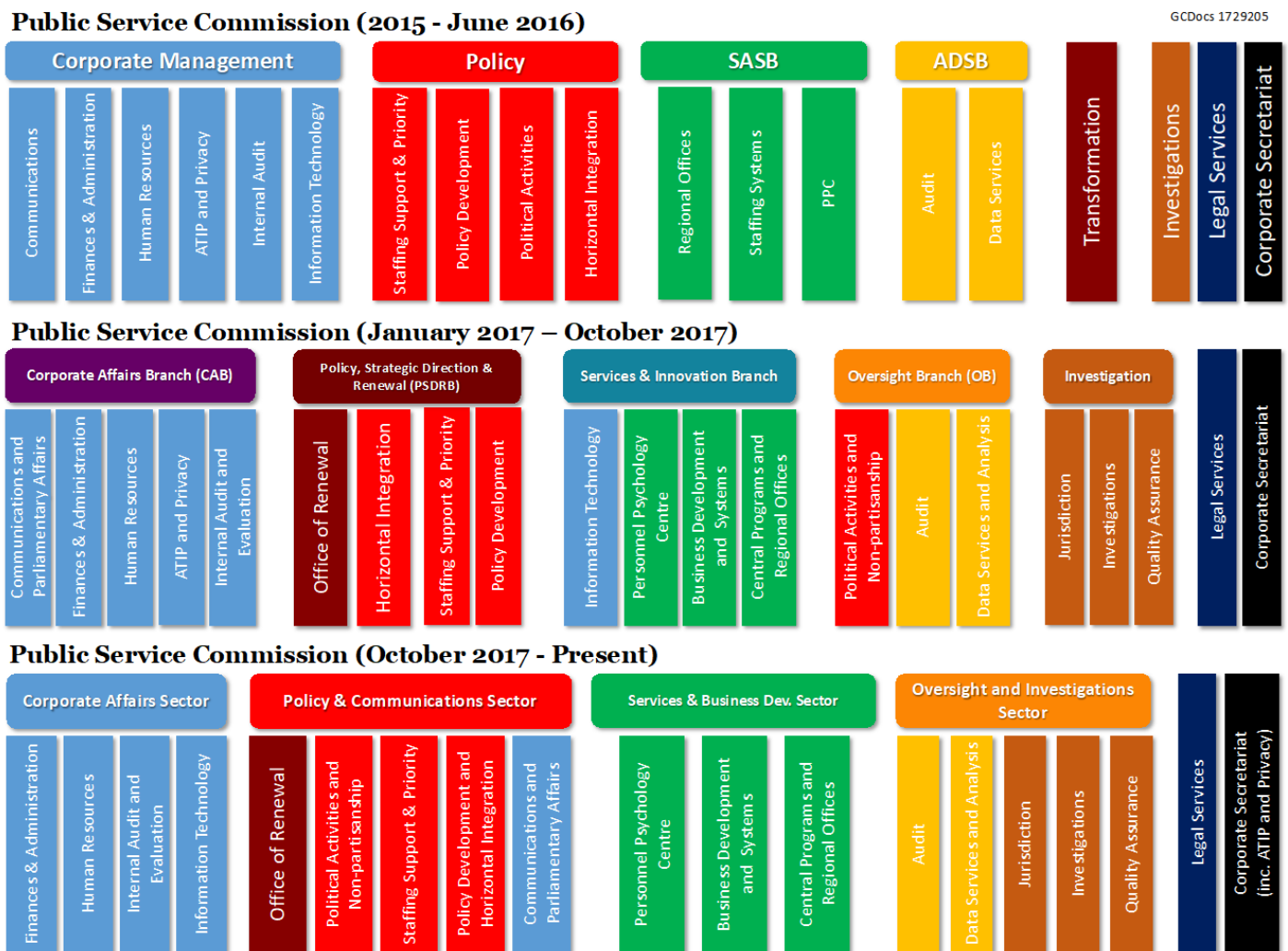
A detailed overview of the PSC and the AR project are available in Part I. The AR initiative began in 2010 with the objective of rationalizing all hiring and testing applications utilized by the PSC Personnel Psychology Centre (PPC). The project originated in the information technology (IT) shop until 2017 when an integrated project team involving the ITSD and the PPC were stood up. AR originally included many other applications and functions but in 2018 most were put on hold and removed from the AR project as delays and overages necessitated prioritizing high throughput applications. In the end, AR would consist of two “modern products” and one “subproduct,” namely Test Definition (TD), Apollo-CAMM and Test Migration (TM). Apollo-CAMM and TD are flexible testing applications designed to facilitate PSC and its external clients to administer a variety of testing services across Canada that are reliable, secure and accessible. These revamped applications improve upon the old system in the sense that they are web-based, correspond with the Government of Canada’s “common look and feel” and are not built using vulnerable, nearly obsolete software.

The Public Service Commission of Canada (PSC) is responsible for ensuring the federal public service’s professional, non-partisan status, and is a core institution that fulfills enterprise functions spanning the public service. The PSC’s basic purpose is crucial to the success of the Government of Canada, as it manages most testing processes and back-end systems that facilitate the composition of Canada’s non-partisan and professional public service and reports independently to Parliament on this mandate. To do so, the PSC operates business lines that support core functions for employee assessment and hiring, including employee test accommodations, second language testing, occupational and leadership testing,

360-degree feedback, and departmental recruitment exams. This enable the delivery of a merit-based hiring system that the PSC is mandated to uphold for the public service. In order to do this the PSC operates complex information technology architecture and software applications, which are highly interdependent in nature. These testing applications needed a fundamental upgrade for some time and in 2010 the AR project was initiated as a response.

Currently, the PSC is composed of one President who has the following direct reports: four Vice Presidents, an Executive Director and General Counsel, a Chief of Staff, an Ombudsman, and a Chief Audit and Evaluation Executive. As per Figure 1 below, the PSC has evolved over time. As of 2020 it consists of four sectors that are headed by Vice Presidents including: Corporate Affairs Sector, Policy and Communications Sector, Services and Business Development Sector and the Oversight and Investigations Sector. The

FIGURE 1 Evolving Structure of the Public Service of Canada



Source: Provided to the authors by PSC.

governance of the PSC is also enabled by various committees that contribute to the development of projects and maintenance of public service staffing and assessment.

The governance structures at play in the PSC exist at the strategic, sector, operational and project levels. They entail the use of adequate processes to support the delivery of IT-enabled projects, the management of resources, risk management processes, and to enable the general oversight of project monitoring (Public Service Commission 2018). IT-related projects include a formal process by which high-level decisions are made. As far as written guidelines go, they are usually defined and articulated in a project charter and include clear terms of project reference, escalation procedures, scope change approval requirements, and clear

delineation of decision-making bodies. Typically, project steering committees and project management teams are established and serve as the first and most direct layer of governance.

One key factor in determining how these project guidelines are managed and fulfilled pertains to having a dedicated, cross-functional project team that has the right members from the right areas to ensure optimal collaboration, innovation and efficient project delivery. As the following sections will describe, there have been a few distinct and notable lessons learned from the IT-enabled AR project, regarding its governance model and project management styles, proving the significance of responsible governance and robust project management to the delivery success of IT-based products.

3 BUILDING AR GOVERNANCE CAPACITY AND GETTING THE RIGHT MIX

We heard repeatedly from staff that the AR project was launched in 2010 with little to no formal governance. While committees for oversight and management existed, AR was not integrated into them.

As one respondent put it, *“was there governance for this project? Yes. Was the governance functioning at a really high level for the entire duration of this project? Certainly not. The first couple of years the business was under-involved because it started out as an IT project.”* (Interview 3).

The early governance was seen by several staff interviewed as being about going through the motions and lacking in rigor. One interviewee explained, “there was very little, and for whatever governance there was early on it was mainly about getting through the administrative hurdles of having said that they’d been to governance. Otherwise, we would not have found ourselves in the situation we are in today, right, where we have a project that was supposed to last a year” (Interview 10). This comment also underscores a clear finding from Part I of this case study series. The unrealistic timetable, scope, and resources dedicated to AR should have been flagged, and ultimately corrected, by governance mechanisms much earlier in the project cycle.

One of the major challenges and lessons learned from AR then, is how to ramp up governance adequately for a digital government project. More governance was put around AR as it received

additional scrutiny for missed deadlines and budget overruns. Governance was a response to the lack of delivery of products and a sense that the project had gone off the tracks. The response included creating a complex set of operational level project specific committees along with a heavier reporting requirement, and stronger oversight by existing executive governance tables. Working on an IT and digitally oriented project ultimately tested the organization’s traditional governance model in place when the project initially started over ten years ago. The initial effort to ‘put governance around’ the project was, however, not overly successful. For some time despite the attempts to ensure greater oversight the project continued to languish.

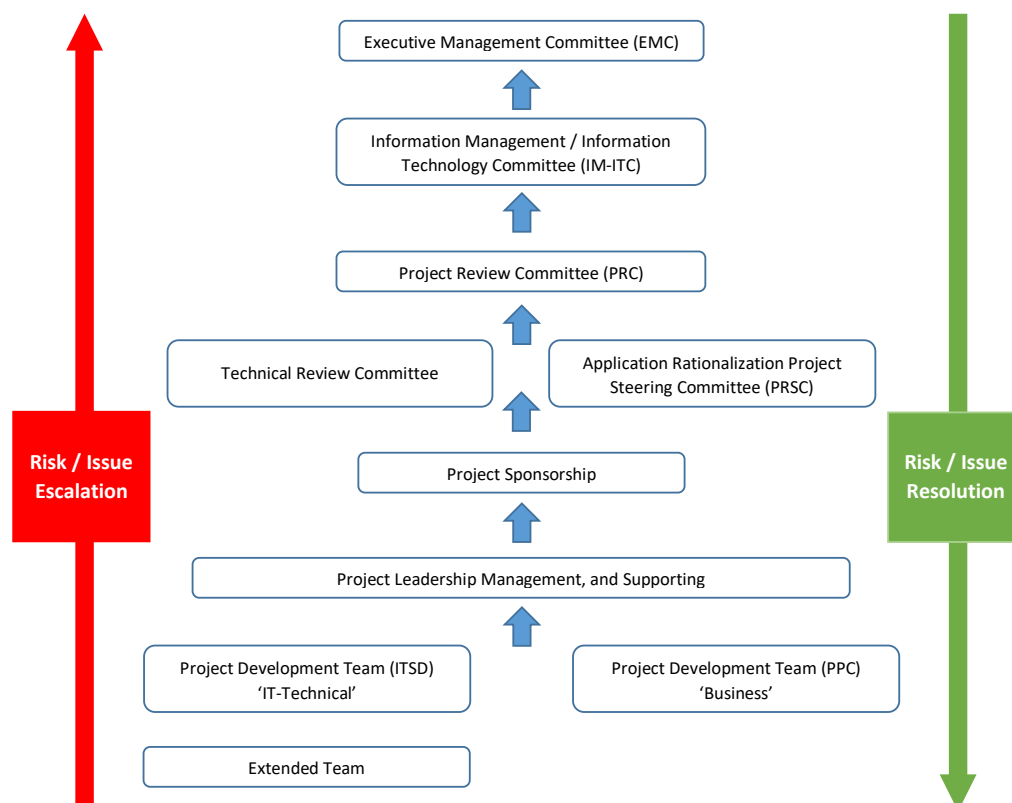
The major turning point for AR occurred after the 2017 ‘deep dive’ review with the EMC committee deciding to put in place a formal integrated governance approach. As one program staff interviewed explained, “Before 2017 the program side didn’t have anybody at the table and we weren’t at the ITSD table, so there was no integrated governance before 2016/17” (Interview 11). Work since 2017 has essentially involved adjusting the original committee system that saw ITSD and PPC integrated into existing governance (see Figure 2). The governance set up featured the Executive Management Committee (EMC), and Informational Management/IT Management (IM-ITC) Committee, and the Project Review Committee (PMC), as well as more operationally focused committees

including the Technical Review Committee (TRC) and the Application Rationalization Project Steering Committee (PSC). This committee system has gone through some major changes, notably the elimination of the technical review committee, but the general structure and operating logic remained intact over the project life-cycle.

The project steering committee for all sub-projects was composed of management team members. This group met regularly (monthly/quarterly) to make high-level decisions (such as HR, cost and scoping changes) and track the project's strategic progress. This committee reported to the Information Management/Information Technology Committee (IMITC). Of note, AR's standard reporting was not directly to IMITC but rather via the ITSD project manager and the project

executive. Secondly, a project core team for non-agile sub-projects (Test Migration and Apollo-CAMMS Data Migration) composed of working-level employees met regularly (weekly/biweekly) to discuss operational issues and track the project's detailed progress. This committee reported to PRC on project management issues. Lastly, there was a Scrum for AGILE sub-projects committee (Apollo-CAMMS, Test Definition) composed of working-level employees and management. This group met daily at Sprint stand-ups to discuss what they achieved, expected to achieve in the short run, and to track the project's detailed progress. This structure reflects a layered approach to governance with PSC staff of various seniority and technical knowledge organized hierarchically to oversee and direct IT projects.

FIGURE 2 AR Project Governance (2017)



Source: Adapted by Authors from documents provided by PSC

From a governance perspective, 2017 onwards was about getting the balance and interaction of these committees right. This committee system was not only elaborate but took some time to optimize the balance of authorities and structure (size and staff composition) of the committees. As one interviewee put it “As an example, we had a steering committee for the project that had too many people around the table. It was a steering committee, and we would have upwards of 25 people sitting around the table. And we’ve reduced the steering committee to just the executives and it’s about six now” (Interview 3). More than one staff pointed to the utility in a tighter ‘governance table’ and one that provided more strategically focused direction. However, this committee was not operational until 2019. It was clear that it took quite some time to figure out how to balance the various governance trade-offs around inclusiveness and performance. The point was that it was not just having governance - but having a space for senior executives to be able to engage freely in coming to consensus on tough choices or how to remove roadblocks. As one staff person put it, “we learned to balance transparency with the need to address efficiently – and sometimes bluntly – issues, obstacles that we were facing. So, we went from open forum to more closed forum” (Interview 11). On the one hand, a more inclusive committee or governance mechanism may produce more diverse feedback but conversely, it can result in arenas that are less conducive to frank discussions, and decisions, around performance management requirements.

Others pointed to issues with the purviews and authorities of committees. Each committee served a unique function, and together helped provide project direction, oversight, and support. The PRC committee for example, was found to have had too much authority early on and was not well placed to ensure project milestones were being met. As one respondent explained, “it took quite some time to get the terms of reference for the committee where they needed to be, to ensure that PRC knew they were not to make decisions regarding re-baselining projects as that was the purview of the IMITC committee” (Interview 10). This was echoed by others who noted the path dependence of having initially set up the PRC committee to be making recommendations directly up to the EMC committee without adequate input and review from the IMITC committee or the CIO. In essence, the governance involved a mismatch of prioritization and review that would ensure both the technical IT and programs aspects had sufficiently been reviewed, and integrated. It would not be until 2018 that a reform would see the IMITC take a more pronounced leadership role in vetting and monitoring major projects, including AR. Finding the balance between the dual reform and transformation needs of both the

technical side of the project, as well as the programs side, was no easy feat.

As detailed in Part I, a lot of this involved issues around developing project specifications and requirements (for both sides) but taking those from paper to practice also produced issues. There was a need for an integrated approach, but governance and operational work also had to respect that there was expertise and requirements on both sides necessitating some autonomous project work too. As one respondent noted, “We had the client sitting in on the technical meetings which I felt was a mistake from the beginning because the client was there to tell us what they needed in the end, the end behaviour, but how we get there was not – should not have been part of the client’s conversation because they didn’t have the knowledge to be able to make that work” (interview 9). Echoes of this sentiment were shared by many on the business or programs side that felt that IT did not have a full understanding of the implications for, and requirements to execute AR.

It was also clear from respondents that AR governance arrangements at times did not facilitate effective reporting relationships. For example, some noted that the project manager did not present in a meaningful way to the ITMC for many years and when that was reformed, some progress was made in identifying issues earlier and ensuring that there was better integrated governance. It resulted in multiple executives across different tables being better informed about key issues (Interview 10). Others noted that the committees’ relationship to one and another changed little but that frequency and depth of reporting expectations, particularly those from the IMTC committee,

increased substantially as more attention was cast to the problematic aspects of AR (Interview 11).

Several participants noted that the governance set up was often dealing with operational and detail specific matters and lacked a strategic focus or capacity. Partly, this was a product of the size and composition of committees as noted above. Some of the committees were being used to go through project reporting and updates and could have been better used to drive strategic priorities and allocated resources. As one respondent put it, “what we tried to do was work with the project manager at the time, so we needed to really elevate it. We needed to talk at a higher level about this strategically; we did that early last year [2019]” (Interview 1). Despite many of the clear issues with governance, staff were clear that governance was not in and of itself a silver bullet. As one respondent rightly pointed out - you could change governance as much as you want but if the fundamental objectives and ways of tackling persistent problems are wrong then all the governance in the world is not going to solve your problems (Interview 7).

A final governance issue that deserves attention is the ‘ownership’ of the project management role. As noted in Part I there was significant churn in project managers, particularly early on in AR. This had a destabilizing effect and saw significant resources sunk into on-boarding and team building. Second, ITSD has always staffed and managed the project management position. This is consequential as it is directly tied to the question of how integrated governance and project management are secured. While there is no definitive way to know whether project managers that were

jointly managed may have offered more successful project management, it is clear that PPC not having the ability to engage in the project management staffing or ongoing management, impacted the nature of the project management work. While centralized project management resources exist in the PSC, respondents were clear that they played no major role in the management of AR (Interview 11). Organizations undertaking complex multi directorate digital government projects may want to explore and think carefully about how project managers will be sourced and attached to some or all of the units engaged in the project.

Changes to governance arrangements and a different approach to managing project performance (see below) were however crucial to advancing AR. Most significantly were the repeated project de-scoping exercises where the ultimate project ended up much thinner than originally planned. A variety of changes were introduced to the governance scaffolding - or the governance at various levels or orders of the project. Attempts to strengthen the strategic leadership and governance capacity were introduced in the fall of 2018 when the IMITC committee began to make project recommendations for all major projects across PSC to the Executive Management Committee (EMC) which made decisions. This replaced the previous governance format whereby the Project Review Committee (PRC), located towards the bottom of the committee hierarchy would recommend prioritization of projects to the CIO.



4 MANAGING AR PERFORMANCE

Approaches, Metrics, and Digital Imperatives

The early challenges, and failures of AR to meet with the scheduled deliverables and live within budget reflect in part, not just poor project scoping, but also reflect ongoing challenges in how progress is monitored, and course corrections implemented. This is a broader challenge facing all digital government projects. Performance-based public management involves allocating responsibility for the performance of a system and being accountable for its results (Pollitt and Bouckaert 2004). The 2017 deep dive acknowledged AR's challenges in this regard finding it "difficult to quantify progress before 2017-2018" (PSC 2017, p.6). Three particular issues were flagged as contributing to an under-performing project. First, early IT emphasis on decommissioning and insufficient allocation of resources for development. Second, the 2012 pivot towards emphasis and budget on ordering & inventory system along with multiple designs and coding approaches resulted in a series of false starts and project restarts. Third, a more onerous documentation and IT requirements in 2014, flowing in large part from attempts to ensure more accountability and a more hands-on management of the project to overcome persistent failures at delivering on time and on budget. However, analysis of documents and interviews points to major challenges involving governance and performance management.

The decision to adopt agile methods and apply digital ways of working as of 2015 introduced additional performance

management issues. Digital ways of working challenged existing structures, required considerable investment of time and resources to train PSC staff, and resulted in project performance "slowed due to on-boarding Agile" (PSC 2017, p.6). Staff interviewed spoke to obstacles to be able to work in digital ways. Structurally, the siloed nature of the teams was identified by respondents as problematic: "Op-Dev is working agilely, like in an agile way, but every build you do requires somebody from middleware who's not working in the same way or is not in your team. Miscommunications and delays occur because it's a priority for Op-Dev, but it's just something else in the queue [for middleware]" (interview 1). An awkward juxtaposition of digital ways of working within traditional processes and hierarchy heavy public administration structure were also noted regarding reporting and monitoring. As one staff explained "Even in the IT team, they were still reporting to different managers and a little bit too siloed and worked with hand-offs; and to be agile you really have to remove that. You can't have a hand-off and dependencies like that" (Interview 7).

Protracted and multilevel decision-making processes were highlighted as a hindrance to performance. As one participant put it, "the process was, I think, a bit crude, but was really heavy. There were multiple levels of approval: management and then upper management and then committees and then trying to communicate with other departments

such as SSC. It was really a heavy process and created delays” (Interview 6).

In the words of another interviewee, *“We were stuck in a rut and spinning our wheels. The governance at the time was starting to get in the way a little bit.”* (Interview 9).

Despite a transition to agile, the process of obtaining approvals typical of government was cited as a contributor to delays, especially before the implementation of an “emergency CAB process” in June 2019, intended to streamline decision-making (PSC 2019, p. 17). In many ways these are not challenges exclusive to AR. Rather, these are the tough challenges that public sector organizations and teams will face as they seek to adopt digital ways of organizing and working. They underscore the ever-present tensions regarding the need for direct lines of accountability and spans of control in traditional public administration with the delegation and discretion required for digital ways of working and failing fast’ through sprints and minimum viable product development.

Establishing and implementing effective metrics for evaluation was a key challenge. According to one interviewee, “early on there were no substantive metrics being presented, in great part because they tried to achieve too much and it was way too complex, and I think there was a very poor understanding on the part of IT [of] what the business was all about” (Interview 10). Others pointed to both the challenges in establishing the right measures and ensuring there was consistency and continuity in their application over time. As one interviewee put it “one lesson learned for me is to absolutely get the right metrics for understanding how we’re making progress –whether it’s how many features, whether it’s how many story points ... this has changed multiple times and I think that hasn’t helped our ability to understand the scale and scope of the work ahead of us, how long it will take, and how much it will cost” (interview 3).

Earned value and story points came to be the preferred measures for evaluating performance and progress in the AR project. Earned value refers to a percentage of a budgeted workload completed at a particular point in time, while story points are units of measurement that represent effort required to complete items in the product backlog. These approaches to performance evaluation and management were integral to the attempts to implement a more agile way of working within the AR team. Yet, interviewees identified shortcomings with both measures. In the words of a respondent, “earned value was useful and gave us an idea but was

not necessarily reflecting the true picture. I don't think we can rely on the data. All this to say that the metrics or the indicator that we share with management for them to make decisions could have been improved. I'm not saying they were totally off but having better tools at hand that better represent the real status of the project could have helped" (Interview 8). Another staff noted that despite the widespread use of the earned value approach "we never got an earned value of what we should— it was always less of what we should be in the project which means the project is not meeting its milestones; we're slipping behind" (Interview 1). Similarly, a story points approach was seen as a mixed blessing. For some, it represented a more useful and accurate measurement approach to managing the backlog and tackling sprints of work compared to earned value, but staff also raised that there was some imprecision and variation in how the approach was used. As one interviewee put it, "I think story points have promise. What I would say is that I think everybody around the table needs to understand how they're being used and what the limits of the particular approach that's adopted is. And fully understand whether or not it's a true story point or not" (Interview 11).

In the end the introduction of the agile-scrum approach also impacted the performance and performance management requirements. One issue was linked to the size of the project team. Similar to the governance challenges noted above, the large size of the project team led to challenges in ensuring agile methods could perform as expected. As one respondent explained, "The more difficult thing was we still have a huge team, so you usually see a team of 10 or 12 people in an agile team, and at some

point, we were like 23 or almost 30 people in the scrum in the morning. So that's really heavy and it's really demanding because there's maybe 20 developers, 23 developers who keep asking questions to one client. So that's a lot of management at the same time" (Interview 6). The agile and non-agile aspects of the project were governed by different performance reporting approaches. With non-agile teams (i.e., Apollo-CAMMS Data conversion, Test Migration), following periodic core team meetings with a standing agenda and minutes to discuss any subject related to this project. For both agile and non-agile run teams, any significant risks and/or issues were submitted to the project steering committee for review and approval. When asked about the extent to which scrums were effective in moving the project along, one respondent replied "I think it's a mix, because sometimes scrums didn't really have specific targets, basically the target was to work on the stories we had. Instead of having, for example, one specific goal. I think it involved a too-wide scope" (Interview 4).

Another respondent attributed inefficacy to the approvals process: "*I'm trying to release as fast as we can to the client so we can actually see changes... [but] stuff would move a lot faster if we didn't have like all these bureaucracies, red tape*" (Interview 2).

Reflecting on Agile more generally another staff pointed out "Agile has some really strong metrics that can be used and that are really quantitative and I'm a quantitative person, so I really appreciate the quantitative, but I think if they're not fully used and we start making quantitative excuses then we got off track (Interview 11).

5 PERFORMANCE MANAGEMENT TOOLS

A prominent tool that was deployed several times was that of project de-scoping. This tool, most prominently used subsequent to the 2017 deep dive project analysis was seen by many as a necessary but painful instrument to address ongoing performance issues. By this point the PSC had invested heavily in AR and needed to see a return on that investment. As conveyed by a interviewee, “we are now at the point where it’s viewed as a project that can’t fail: we can’t afford to turn back, we’ve de-scoped it as much as we can de-scope it, which I think has been the governance reaction to, you know, ‘hey what the heck is going on with this project? Get it done’ and so we keep shrinking the scope of the project and it will get done” (Interview 3). It however was seen as a key contributor to delays and frustrations as one respondent conveyed: “we have seen enormous amounts of work by the business, by the Personnel Psychology Service Centre, get flushed down the toilet because the vision has changed, or the scope has been reduced dramatically. By that I mean hundreds of pages of business requirements. Whole teams that were working on the business transformation component to this.

Complete systems that were supposed to be updated and modernized for which we had done all the business requirements and work, but that was tossed aside” (Interview 3). These requirements being developed by the programs or ‘business’ side in isolation speak to the lack of integration across technology and program teams. This should be rectified by better leveraging interdisciplinary digital teams within government.

Another tool used to break bottlenecks was the introduction of a stand-up style meeting but for executives. These were director and DG level meetings that were short and used to address ongoing operation issues and as a forum for expedited decision making. As one respondent put it, “I think, [it] really helped. It helped make decision making faster and I saw a change in the pace once that was established” (Interview 6). These stand ups helped executive level staff support agile ways of working at the project level by providing quicker ways to unblock problematic issues or to speed up decisions that were needed to advance project milestones. Importantly, when these types of tools were connected to governance arrangements, it helped ensure that performance information was generated, and more quickly when agile approaches were used and could be levered to catch problems or course correct more effectively.

Challenges in Communicating Performance Results and Barriers

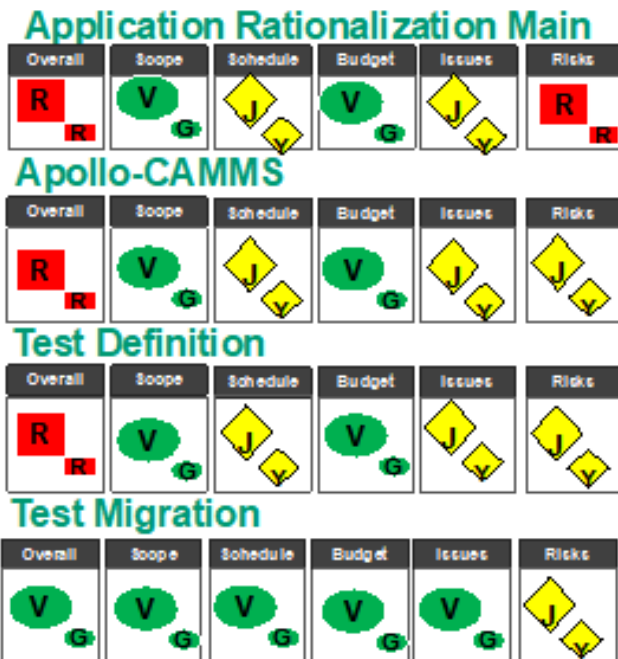
Part of the challenge with AR was not only which metrics to use but how to communicate and report on project performance. The PSC adopted a dashboard reporting system which used the traffic light type of protocol (see Figure 3). It communicated areas where, in green, project is on track with no immediate risks; yellow used to signal projects may require changes or additional attention; or Red where projects had issues that require immediate attention (see Figure 4). While not a novel tool, dashboards of various sorts have become a popular way to visualize and manage project performance.



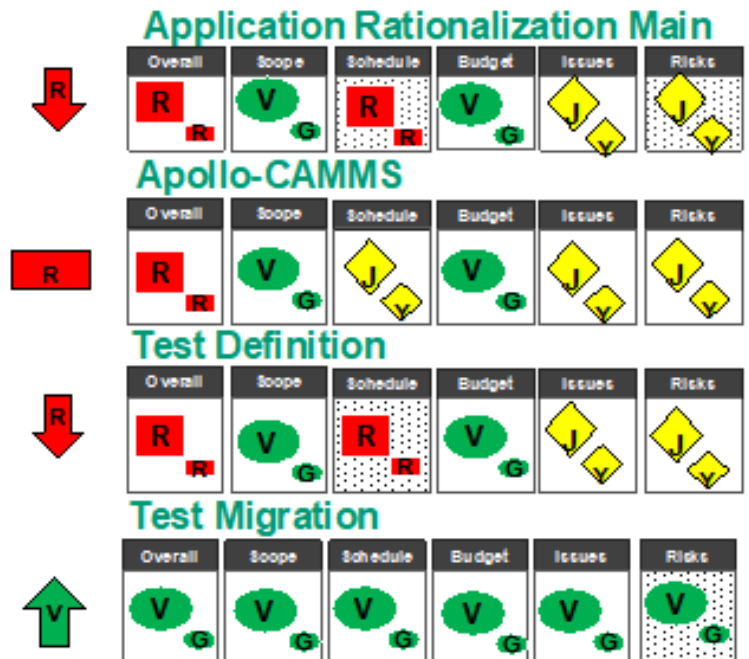
It was clear that the longstanding performance issues of AR needed improved performance information reporting. Indeed, several respondents noted that dashboards were useful to help provide a fulsome picture of both the moving parts and the project as a whole.

FIGURE 3 PSC AR Dashboard

Project indicators from Jun 27, 2019:



Recommended Project indicators⁸ for Jul 30, 2019:



Source: Provided to the authors by the PSC

FIGURE 4 PSC Project Indicator Guidelines

	Green	Yellow	Red
Project Overall Health	Permutations not listed in yellow nor red.	One red indicator and four green indicators; Two yellow indicators and three green indicators	At least two red indicators; One red and at least one yellow indicator; At least three yellow indicators.
Scope	Project on track: identified changes are not expected to negatively impact the project's scope, cost or schedule.	Some course correction may be required: identified changes may negatively impact project's scope, cost, or schedule.	Significant course corrections may be required: identified changes may have a significant negative impact on the project's scope, cost or schedule.
Schedule	Variance is < 10%: project completion is expected within the planned schedule.	Variance between 10 and 20%: Project completion may not be possible within the planned schedule.	Variance > 20%: Project completion may not be possible within the planned schedule. Scheduling decisions are required.
Budget	Variance is < 10%: The project is expected to be completed within budget.	Variance between 10 and 20%: the project may not be possible within budget. Additional funding or re-profiling may be required.	Variance > 20%: Project completion may not be possible within budget. Funding decisions are required.
Issues	Project on track: all identified issues are manageable.	Some course correction may be required: One or more of the identified issues are potentially unmanageable within the project's scope, cost, or schedule.	Significant course corrections may be required: One or more of the identified issues are unmanageable within the project's scope, cost or schedule, or the activities undertaken to date to resolve the issue(s) have not been effective
Risk	Project on track: the risks are not expected to impact the other project metrics or overall business outcomes	Some course correction may be required: One or more identified risks may impact the other project metrics or overall business outcomes.	Significant course corrections may be required: One or more identified risks may impact the other project metrics or overall project.

Source: Provided to the authors by the PSC

Some noted that it was less effective in that it was, at times, subjective and could mask ongoing issues or positive developments. Others pointed to the need to actually demonstrate to management and leadership where things were at. As one staff explained, "When you see clicking around in the actual system, not a representation of it, and not a flight deck, and not a dashboard, you get a much better sense of how things are going" (Interview 7). The eventual ability to turn around the longstanding issues with AR were in part attributed to the ability to couple these tools, providing effective and regular reporting and updating through dashboards but also providing live demonstrations of how products and services worked.

Managing Risk

Managing performance involves managing risk. The project dashboards were also a key mechanism to relay information about the assessed risk of the project. How risk was dealt with was a major feature of both operational AR decisions but also strategic decisions about how to course correct the project. The lack of integrated governance noted above was again quite pertinent to risk assessment and management practices of AR, as well. Respondents and documents made clear that there were both IT/IM risks, as well as business or program risks. As one interviewee explained, "I've been at the table with, you know, [with senior staff] to say what the business impacts are of not continuing that project. But the risks

are IT risks. I'm not the person who knows what it means that this was developed on Open Road or that's how fragile it is and that Shared Services Canada won't support the system and what that means for IT" (Interview 3). Subsequent to the adoption of agile methods, the approach to risk was revised in the 2017-18 to include broader governance supported by way of committee involvement but also included more operational risk approaches, which saw risks raised and managed either at the Agile stand-up daily sessions or at the periodic Project Core team meetings. They were recorded in MS Project Online under the risk register at the Main project level and will be reported on regularly. For each risk, the Agile teams/core teams created an action mitigation plan in order to minimize the possibilities of these risks occurring or to minimize the impact. AR used a risk registry system whereby key risks were identified and catalogued along with the requisite response and/or need for resources or further attention. The risk registry was reviewed at steering committee meetings, which occurred monthly. Commitments to re-allocating resources as required were established in the risk assessment that coincided with the new project charter following the 2017 deep dive, and the 2019 project charter which emphasized "strong project management rigour" with the aim of early identification of issues belying project delivery (PSC 2019: 39). This thrust involved contracting a greater number of dedicated business analysts (DBA) and permitting developers to assume DBA roles to relieve some of the workload on DBAs. Greater emphasis on managing risk through the registry and concerted attention to the high-risk aspects of AR was seen as a positive development.

As one interviewee explained, *"Now we get ongoing budget updates, we get project*

management updates that are done on a regular basis. We talk about the risks and issues related to the project, and what are the strategies to mitigate these risks? Is everything that's being said understood by all? I would say no. Is everything that is being said understood by some? I would say definitely, which is a big step forward compared to five, six years ago" (Interview 10).

Some risks cannot be foreseen, however. In the words of one respondent "usually we'll do a risk management but there was always something new to add to the list, to the risk register —something that was probably never seen before. For example, the fact that SSC never delivered the environment. That was unexpected. The fact that we had to change technology in the middle of the project a few times, that was not expected" (Interview 8).

A final aspect of risk mitigation and management relates to human resources (HR). It was clear that at an operational level the project had suffered due to staffing churn (see Part I). Some interviewed however were candid about the need for management to do a better job of building in safeguards and stopgaps to ensure that if staff were lost, either due to illness or to more permanent moves out of the organization, the risks of major project setbacks could be managed. As one staff put it, "if everything is down to that one developer off in the corner, well he's gone on sick leave for six weeks because, you know, his wife's very ill. That shouldn't be why the project stalled. And it's not about saying it's that guy or that section's fault. It's about what do we need to do to make sure there are safeguards, to make sure that it's not dependent on one individual person" (interview 9).

6 CULTURAL CHANGE AND LEADERSHIP

Documents and interviews quickly made apparent that the AR project journey involved more than a simple IT refresh or digital rationalization of existing programs and services. It was about organizational culture, leadership, and ways of working. PSC senior management had been well aware of the need to modernize the operations of the commission for quite some time. It was on the record as being determined to lead a comprehensive effort to transform the way the organization does its business in order to better meet employees and client needs (Public Service Commission 2013). The AR project reflects the tensions and challenges in trying to modernize the PSC culture and the significance of resource and time requirements to adopt digital ways of working.

The analysis of interviews has revealed that the AR project suffered significant setbacks because of larger PSC culture pertaining to the adoption of an agile methodology, development of integrated teams and improvement in the recognition and tracking of performance management for digital applications and IT projects more generally. As noted at length in Part I of this study AR suffered considerable setbacks given the issues in ensuring effective processes, organization, and communication between the IT and program groups within the PSC responsible for AR. Staff of all ranks noted that a culture of silos, particularly between IT and non-IT staff endured, as one staff put it, “I think the culture in the PSC is very siloed. I think before I came it was very us and them. Very much business and IT, us and them”

(Interview 1). Part of the issues with AR were inadequate governance mechanisms to ensure that operational level work benefited from integrated approaches that understood and could strategize around shared and discreet problems for the program and IT sides of the AR project. Additionally, there was a clear need for senior management to continue to pursue ways of ensuring that the dependencies for each were clear, for IT to succeed programs needed to be at the table to help articulate why and how things needed to work the way they did, and conversely, program officials needed to understand the realities of implementing and sustaining IT infrastructure and applications given resource and time constraints.

The clear frustrations from both sides – ITSD who sought clearer understandings of the ‘business’ or program needs and functionalities which themselves were not always well documented or clear – where matched by the PPC or programs side frustrations over the “IT folks” not getting how things worked or what they did. As one respondent put it:

We got the impression sometimes that they already had made up their mind about how this was going to unfold and what they were going to develop. And they were going to bring the business processes to align itself to that solution ... There was this disconnect I think between the business and IT, and in great part it was a language disconnect but it was also a disconnect on the part of the business and IT about understanding where the

other partner was at. I think it led to conversations which ultimately were non-conversations. (Interview 10)

Several staff from across the spectrum of seniority and functional areas confirmed that they were aware that the culture needed to change to better reflect digital ways of working. As one respondent explained their objective was “to really completely transform the culture of the team there. And the approach was instead of changing the culture, we’re going to inject a new one” (Interview 7). When pressed for details this was explained to involve the on-boarding of new staff, many of which from outside of government, who would bring more contemporary digital ways of working to the organization (e.g., working in the open, with open source, and agile methods). There was a recognition on the part of senior management that the culture and ways of working needed to be modernized. This was understood to likely result in delays to AR as staff turned over and new staff were on-boarded, but that these investments and costs would result in an organization that was “better set up for the future” (Interview 7). Adopting agile ways of working and the formalization of a more integrated project team and governance structure required the creation and maintenance of new partnerships. This interdisciplinary style essentially called for a shift in how

collaboration and governance were perceived in the PSC, as negotiations regarding the AR project’s scope, resourcing and work methodology took place on an ongoing basis. Changing the culture of how work is done, what teams look like, and how they operate are no small feats. Combined with the larger IT overhaul and modernization objectives it is clear that this work required significant investments and detracted from the ability of the AR team to execute.

Examining the governance and performance of a project necessitates thinking about the role of leadership. All the more so when a project represents an attempt to adopt a digital government approach. Indeed, many staff interviewed raised issues around leadership and challenges at organizational and project levels as important to AR. One of the clearest was issues with changing visions and broader organizational changes within



the PSC. These were noted as having direct implications for the scope of AR and available resources. Staff interviewed underscored the impact of major changes in the vision for AR and how that was communicated. It was explained there were three different visions over the course of the project life cycle, each with major impacts to how operations and working level resources were organized and deployed. As one staff put it, “this has gone from an IT rationalization exercise, I think that was vision number one, to a business transformation exercise for the Personnel Psychology Centre. That was vision number two. And to the third vision which we have now, which is we need to replace our core testing system before it crumbles into dust because it’s on antiquated technology, language, and it’s fragile and at risk” (Interview 3). Leadership not only has to set a vision but is also responsible for effectively, and consistently, communicating that vision. The changing nature of AR combined with changes in leadership and project management resulted in mixed messaging. Several staff noted that there were issues in how the

project was understood given these mixed messages. As one interviewee put it “I think at some level higher of me there were many people of the same level that had different visions, and I think at some points it was just creating confusion because they were sending different messages and we didn’t know what to do with the different visions from higher up (Interview 4).

Interviews and documents also noted the impacts of CIO and project management changes as well as staffing changes at the ‘business’ or operational side of the PSC. These facilitated overcoming persistent issues in how work was undertaken, fostered new energy and boosted morale at the working level, and saw new energies put to work for the execution of more realistic and practical product and system renewal. However, as one respondent noted, changes in the organizational leadership saw a leadership style that was more risk averse, particularly around the technical capacities, requirements, and the work required to ensure a modern and capable PSC (Interview 5). The re-prioritization of key PSC functions with an increased emphasis placed on the compliance and investigative work undertaken by the commission was noted by some who pointed out that it came with a cost, as attention and resources were harder to come by for the programs side of the organization.

Leadership styles of key PSC staff within the organizational ecosystem were also highly consequential. This includes when it was lacking due to other organizational priorities and staff churn, but conversely in making the tough decisions around de-scoping and investments in broader IT modernization



required to advance AR. The major issue of where the project was being led from within the organization coupled with the lack of integrated governance was a major contributor to poor performance. As one respondent noted, “it was in my view led by the wrong folks. I don’t think IT should’ve led this project. I think the business should’ve led this project. I think the project was way too big. You know, it set out to do everything, including the windows, all at once. Ultimately, I think we just didn’t have the IT capacity or expertise to carry it out. And I think if you put these three ingredients together you can’t get any other outcome than a failure” (Interview 10).

Part of the leadership challenge for AR was how to keep the project on the radar of senior staff given the shifting landscape at the PSC and changes in the prioritization of compliance and enforcement over programs. Several staff interviewed noted the lack of prioritization was problematic both in terms of the PSC itself and was compounded by its lack of prioritization with Shared Services Canada (SCC), tasked with coordinating and managing shared IT infrastructure, as that new department was overwhelmed by various requirements and challenges of its own (Auditor General 2015). As one staff put it, “Different teams on the ITSD side sometimes there’s a bit of friction but mostly it wasn’t against each other. It was more maybe occupied with other higher priorities. So [AR] was constantly being pushed to the back burner” (interview 9).

Finally, part of the leadership improvements suggested by staff was to ensure that at all levels of the organization, but particularly those in the executive suite, needed to play a stronger challenge

function, even on projects that involved technical matters. A range of staff interviewed noted executives without a technical background cannot be expected to have expertise, but they must find ways to ensure challenge functions are being brought to bear through committee, audit, or one-off engagements. Several of the executives interviewed for this study were forthcoming in accepting some responsibility for the poor performance of the AR project. Many noted that they were not familiar enough or did not pay sufficient attention to the metrics used, and in scrutinizing their effectiveness in providing an accurate picture of the project. One executive candidly stated, “speaking for myself personally, I can’t speak for all my colleagues, I don’t think I invested sufficiently in understanding some of the metrics on the project” (Interview 3). There is an important challenge function that can be played by executives, and part of the leadership role is determining how best to do that. Asking the right questions extends to how the progress of a digital government project is going to be measured and ensuring that the right performance information is available for key decision tables.



7 KEY CHALLENGES AND LESSONS LEARNED

7.1 Governance matters

This case highlights what happens when insufficient governance is put around new projects or adjusted as projects change. Indeed, governance matters but this case points to the ways in which care needs to be taken in striking governance structures, establishing processes, and facilitating its adaptation to changing circumstances. Key challenges in this case involved integrating the various sectors

of the organization into meaningful and functional governance, modulating committee systems to deliver on multiple governance objectives, and facilitating both improved accountability and reporting, while still providing sustained strategic direction.

! KEY LESSONS LEARNED



Lesson 1

Creating integrated governance that can couple the IT/IM and program aspects of projects is essential for digital government work. This requires attention to who is on committees, the authorities and powers of committees, and seeking to balance the respective functions of committees charged with providing oversight and direction.



Lesson 2

Scaffold governance appropriately: senior leadership realized too late that governance needed to be integrated but also scaffolded at various levels within the organization. The involvement of multiple and different levels of staff (DG, VP, etc) through formal committees strengthened the organizations ability to secure performance.



Lesson 3

Develop governance that responds to competing priorities. AR required some governance mechanisms that were expansive and inclusionary and others that were more restrictive and closed. These facilitated different objectives and provided different governance capabilities to ensure the project was progressing.



Lesson 4

Do not overdue governance. Participants noted some governance mechanisms struggled with bloated memberships or with too much process. These ended up creating performance issues of their own.



Lesson 5

Revisit the suitability of governance if transitioning to digital ways of working. Avoid or adapt waterfall governance mechanisms for agile oriented projects but recognize that there may be instances where both forms of governance need to coexist.



Lesson 6

Create and nurture strategic governance capacity. Insufficient attention was being paid to strategic imperatives and governance needs of AR. The project required both detail and operational specific governance but also a strategic body that could avoid the weeds and see the forest for the trees.

7.2 Technical Challenges

There were major challenges around establishing useful and accurate performance measures, adopting some but not all of them to the digital ways of working that had been put in place, and implementing a mix of waterfall and 'agile' suited performance tools. Attempts to manage AR performance was often characterized by mixed outcomes. Take for instance de-scoping, which while necessary to make management of the product backlog tenable, involved the abandonment of features and led to major frustrations on the programs side.

Lessons learned

- ▶ Ensure a performance management framework in place early and that conscious decisions are made, and communicated, around what aspects of performance are being measured and managed (and why).
- ▶ Connect performance management and reporting to the governance. Make sure the levers are connected to actual authorities.
- ▶ Ensure executives are signing-off on performance management reports.
- ▶ Revisit performance management frameworks regularly.
- ▶ Calibrate performance management to digital government ways of working and avoid porting over existing approaches without modification.

- ▶ Be aware of the trade-offs that may be involved in adopting performance management approaches or tools (e.g. de-scoping).
- ▶ Performance management may involve a mix of agile/waterfall tools. This will likely create frictions and tensions which can be useful, but care is needed in understanding how they impact teams doing the work and fit with overall strategic directions.
- ▶ Decisions need to be made around tipping points where projects are 'too big to fail' or where they can be terminated. Can the organization actually deliver it?

Organizational change and Leadership for Digital Government Work

Digital government reform is at its essence cultural transformation of how departments, and units and teams, operate. The challenge in this case was how to transform an organization that had a long-established culture and way of working. Leadership of the PSC and the AR project were major challenges. At a more general level, the PSC itself was going through leadership changes and the visions that were brought to bear on the organization's role were in a state of flux. The greater emphasis on compliance and investigations work resulted in the AR project, and IT investments and sustainability, not placing high on the

organizational priority list (Interview 10). This created challenges downstream as the organizations changing visions impacted

the scope and aims of AR (see Part I for a full review).

! KEY LESSONS LEARNED



Lesson 1

Invest in building a shared sense of purpose: ensure that visions or project objectives are consistent, and if they evolve, ensure consistent communication as to why. From a leadership perspective a key lesson learned was that not enough had been done early on to build a shared sense of purpose and build consensus with the various staff required to make AR work.



Lesson 3

Executives and managers must play strong challenge functions even on more technical projects. Ask questions or find staff who can help you ask the right questions. This was particularly clear around issues of how performance was being measured and managed for AR.



Lesson 2

Shifting to a culture that works collaborative and horizontally (e.g. breaking down silos) requires sustained engagement by leadership to create linkages and nurture collaboration. Formal committees and joint ownership of projects helped AR achieve this. It was clear that much earlier integration of programs and ITSD staff should have occurred to improve project management and governance.



Lesson 4

Executives/managers have to provide incentives and space for project leads and staff to work in digital ways. Leadership is needed to not only provide adequate resources but facilitate a working environment that allows for discretion and delegation balanced against the needs for accountability and clear reporting.

! KEY LESSONS LEARNED



Lesson 5

Project managers and leaders need to be effective at 'managing up' in terms of making a clear case for their project and ensuring that it is a priority, and if not, that senior executive support is sufficient to ensure adequate resourcing to avoid major project failures.



Lesson 6

Be prepared to make tough decisions about staff retention or replacement and if 'going digital' whether culture can be changed or requires wholesale replacement.



Lesson 7

Allow sufficient time and space for changes in leadership/key staff to wash through a project. Acclimatizing to new working styles or approaches to new leadership takes time and will delay projects, at least in the short term.



8 CONCLUSION

This case study makes clear that governance and performance management are important aspects of digital government work. Many of the challenges and learnings detailed in Part I are linked to governance and performance management issues. Repeated attempts to address problematic aspects of AR can be traced to the early lack of governance. Putting governance around AR was a challenge and animated by the larger organizational struggles of how to successfully bring together the PSC's ITSD and programs or 'business' sectors. This will be common to many public sector organizations which were often created in separate silos with strong sectoral divisions that sequester technology and programs into distinct solitudes. The lessons learned above are applicable to many organizations that are attempting to address longstanding cultural and organizational barriers to effective governance and performance management. For the AR project this was a long journey that involved multiple attempts to modify governance and secure improved outcomes through stronger oversight but also increased attention to the need to provide strategic direction.

The governance arrangement relied on a committee system, as many public sector projects and programs do. Standing up effective governance involved finding the right balance in assigning responsibilities and authorities, but also ensuring that the governance arrangements were complimentary. That committees were effective and produced

value added benefits rather than worked at cross purposes. In the case of AR this required some time and the stratified governance approach implemented eventually led to stronger governance and better project outcomes. Key lessons learned point to the importance of the size, staff compliments, and balance among the committees involved as important.

Adopting digital ways of working in 2015 created some clear governance and performance challenges too. How could traditional accountability measures, hierarchical committee structures, and frequent reporting be coupled with the need for agile and user centered approaches that favored frequent iteration and MVP product development? It compounded existing difficulties involving a lack of performance information and performance management. The rationalization had the intent of trying to make things simpler for users, by collapsing various applications into a more user friendly and coherent application suite. As the project progressed additional performance metrics were helpful to respond to the shifting purposes of learning what was so problematic and how it could be addressed.

Tough choices and difficult work lie ahead for management tables, executives, and project leadership teams engaged in digital government work. They will need to secure balanced (and often integrated) governance approaches and attempt to implement performance management approaches that produce usable performance information with clear

connections to a governance mechanism. Likewise, leadership will continue to be a key part of what was clearly more than a simple project rationalization but rather a broader attempt to change the culture and ways of working of PSC staff. What is measured, how it is measured, and how governance is built to support digital government work requires careful thought and this AR project demonstrates some of the common pitfalls but also innovative solutions that can be adopted to address these challenges.



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ANNEX

Glossary and Acronyms

Term or Acronym	Definition
ACIIS	Assessment Center Integrated Information System
APOLLO	Term used to represent CAMM application
AR	Application Rationalization Project
ARC	Architectural Review Committee
BA	Business Analyst
BDSD	Business Development and Systems Division
SMC	Sector Management Committee
BPO	Business process optimization (BPO) refers to optimizing organizational activities by reducing and eliminating inefficient operational activities or enhancing value-adding activities.
BRD	Business Requirements Document
CAMM	Candidate Assessment Management Module
CIO	Chief Information Officer
DG	Director General
EA	Enterprise Architecture
ELs	Effort Levels
EMC	Executive Management Committee
EPIC	Document that defines the scope of an Agile project
FAD	Finance

Term or Acronym	Definition
FY	Fiscal Year
IM/ITC	Information Management / Information Technology Committee
IT	Information Technology
ITSD	Information Technology Services Directorate
OIMS	Order and Inventory Management System
OLTF	On-Line Training Facility
MVP	Minimum Viable Product
PIA	Privacy Impact Assessment
PMF	Project Management Framework
PPC	Personnel Psychology Centre
PSC	Public Service Commission
SA&A	Security Assessment and Authorization
SBD	Services and Business Development
TBS	Treasury Board Secretariat
TD	Test Definition
TSRR	Test Scoring Result Reporting
UX	User eXperience

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