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PROCUREMENT OF FACILITY MAINTENANCE

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Abstract: This paper provides a brief review of the literature, provides a preliminary review of Defence Construction Canada's (DCC) request for proposals (RFP) template, and provides a preliminary review of a specific Public Works and Government Services Canada's (PWGSC) RFP. The scope of the DCC RFP template is limited to maintenance and support services for a selection of buildings within a geographical area for a defined period, e.g., five years. The three service categories included are hard services (exterior and interior maintenance, electrical, etc), soft services (road and grounds, housekeeping, etc), and ancillary services (monitoring, budget control, etc). The scope of the PWGSC RFP includes management services, services to establish third-party leases and agreements; lease administration services, project delivery services, and various optional services. The differences between the scopes, submission requirements, and evaluation processes are reviewed. The title of the RFPs provide an indication of the difference in the scopes, the DCC RFP is titled "Facility Maintenance Support Services" and the PWGSC RFP is titled "Real Property - 1 Property Management and Project Delivery Services." The submission requirements and evaluation of the proposal also differ. The DCC RFP requires technical and financial responses that are evaluated on a scale of 0 to 3. The PWGSC submission requirement is comprehensive and detailed, with several rubrics provided to assist bidders in preparation, as well as to understand the evaluation process. This paper provides a preliminary review for those interested in facility management and identifies areas for future research.

1 Introduction

This paper focuses on the procurement of facility maintenance services for federal infrastructure institutions. The motivation transpired from one of the author's professional experience in the management and execution of maintenance work from a contractor's perspective. The paper begins with a brief review of facility management and maintenance literature, then provides a preliminary review of Defence Construction Canada's (DCC) request for proposals (RFP) template, and a preliminary analysis of a specific Public Works and Government Services Canada's (PWGSC) RFP. Note that in the case of DCC the RFP is a template and in the case of PWGSC the RFP actually resulted in a contract being awarded; furthermore, both reviews are preliminary in the sense that a thorough analysis of all sections of the RFPs was not completed. Following the review, the differences between the two RFPs are discussed and future research building on this review is identified.

The authors' objective is to describe the procurement process, i.e., the processes that are enacted prior to the execution of work. The longer-term goal is to provide a foundation for future research that will be of value to those bidding on maintenance work as well as procurement decision makers who design procurement processes. The purpose of this research is to provide an alternate perspective for procurement specialists. An elemental understanding of the RFPs used by two of the largest institutional facility owners in Canada is the starting point for this future research.

2 Background Literature

Facilities management is similar to many industries and struggles to transform research into practise. As recommended by Roper (2016) further academic/industry collaboration needs to extend beyond one-off cases. Garg and Deshmukh (2006) completed a comprehensive literature review of 142 papers and highlighted emerging trends. A notable trend was the transformation of the attitude toward facility maintenance from a necessary evil to a profit partnership. In the early days (1950's) the practise was corrective maintenance, then industry transitioned into preventative maintenance, and in the 1980's into reliability-centred maintenance. This was later followed by strategic maintenance management and electronic counter measures.

Recently Atkin and Bildsten (2017) published an editorial on the future of facility management and summarized that current research is focused on sustainability, environmental performance, and social and economical performance. However, they identified a need for improvement in operational performance of facilities at the design and construction phases.

Katchamart (2013) proposed a product-process matrix to assist facility management organizations with development of their strategy. Facility management has been perceived as a department to reduce cost; however, it should be a mechanism that can add value to the core business. The product-process matrix describes four different value-added positions that facility management can provide, which are briefly summarized below. The facility manager must work with key stakeholders to understand the department's strategic role.

Support: Support the main activities of the organization without disturbing the bottom line. Innovative services are not required.

Enable: The facility management organization supports the core business, but will also provide one-off decisions and implementation for the current demands of the core business. The facility management department collaborates with one or more of the business departments.

Ensure: The focus is on operational reliability, with the facility manager responsible for ensuring normal operation. Any down time would immediately impact the core business and therefore facility maintenance must be a core part of the strategic decision-making process.

Enhance: Facility management is indispensable and directly impacts the organization's outcome. Innovative and reliable solutions are required to enhance the end-user's satisfaction.

Jensen (2016) presented a case study on the procurement process for facility maintenance services for the Danish Broadcasting Corporation (DBC). The DBC has gone through a series of sourcing arrangements for facility maintenance services including in-house, bundled services, integrated facility management, and right-sourcing. Right-sourcing refers here to a strategic sourcing process that analyses the critical sources to determine the appropriate sourcing approach. The case study resulted in DBC changing their sourcing strategy to "insourcing the most critical building activities and changing the procurement strategy to three bundled service contracts and seven single service contracts."

Straub (2009) analyzed 22 exterior building maintenance projects that were owned and managed by 13 different housing associations. The study compared performance-based contracts to traditional competitive bid contracts. The results showed that long-term performance-based contracts resulted in project costs being reduced by 20%. This included direct and indirect savings for both the client and the

contractor. The greatest cost savings were seen in the process phase (specification, selection, contracting, and work/supervision). However, the subsequent phase was more expensive because of increased periodic performance measurement.

Brackertz and Kenley (2002) found that governments have different priorities. Through several focus groups (consisting of asset and facility managers, managers of services, and community councillors), four dimensions of interest were identified: facility physical performance, its ability to enable service delivery, its meeting of community needs, and its financial sustainability.

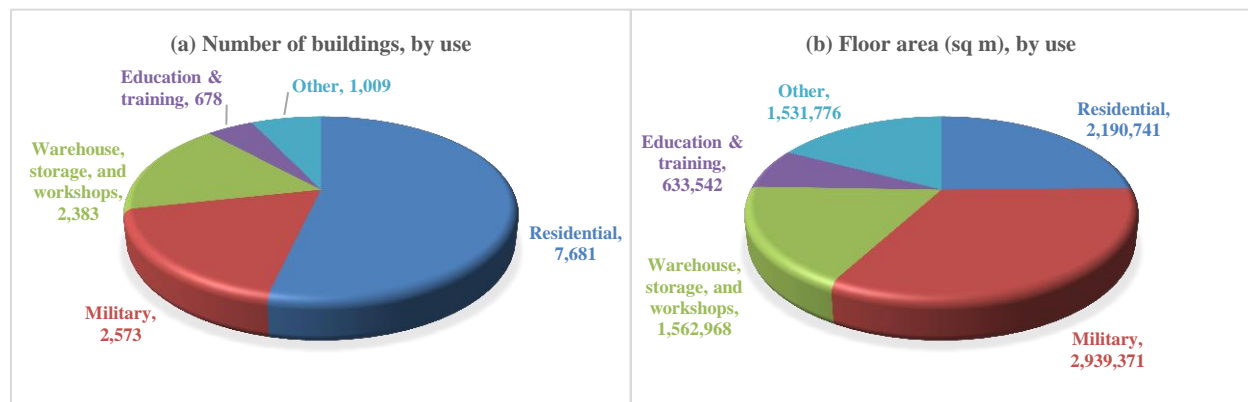
This brief literature review indicates that organizations are transiting towards strategic procurement processes. The benefits of organizations working with their facility management departments can add varying levels of value and it is important for organizations to review their needs to best source their maintenance services. The next two sections review the DCC and the PWGSC RFP which demonstrate that both organizations have determined that some services should be out-sourced. The review looks at the key components of each RFP, then identifies differences in the RFPs. It was not determined if a strategic sourcing strategy was used in the preparation of either RFP.

3 Defense Construction Canada

The Department of National Defense (DND) is the civilian support system that manages and administers the Canadian Forces (CF) infrastructure. The relationship between DND and CF is unique, as DND was established under the National Defense Act as a civilian support system that reports to the Minister of National Defense (GOC NDCAF, 2018).

Defense Construction Canada (DCC) is a Crown corporation from the Defense Production Act, with a mandate “to meet the infrastructure and environmental needs of the Department of National Defence and the Canadian Armed Forces by providing quality services.” DCC’s mission is to “deliver and maintain infrastructure and environmental projects and services, and provide full lifecycle infrastructure support, required for the defence of Canada.” (DCC, 2019). In short, CF requires infrastructure, DND supports CF and is responsible for providing infrastructure, for which they contract DCC to procure and manage that infrastructure.

DND has 14261 buildings with a total floor area of approximately 8.8 million square metres. These buildings are a combination of Crown-owned, leased, and other ownership types. Figure 1 (a) and (b) show the breakdown by use on the basis of the number of buildings and the floor area. The Other category is composed of a wide range of uses, including assembly and cultural spaces, parks and recreation, commercial retail, etc. Figure 1 (c) and (d) show the corresponding breakdown by condition, and (e) and (f) show the building age profile (GOC TBC, 2019). The operation and maintenance of the infrastructure is managed in combination with the private sector. DCC procures maintenance and support services for buildings and infrastructure through RFP solicitation. The authors obtained a RFP template from DCC and the following is our interpretation of the typical process for procurement of these services.



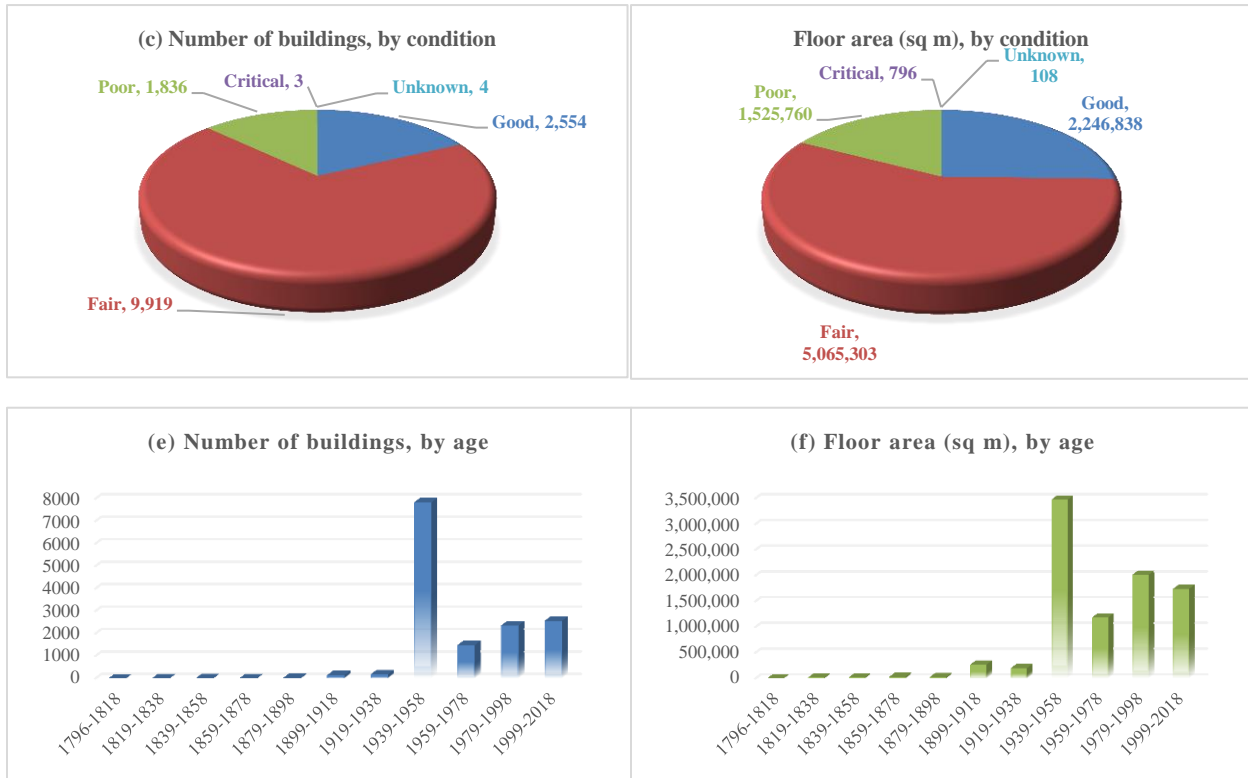


Figure 1: DND asset breakdown

The scope of the template RFP from Defense Construction Canada (GOC DCC, 2016) is intended to provide maintenance and support service for a selection of buildings within a geographical area for defined period, e.g., five years. The following identifies three categories of services within this scope.

Hard services: mechanical, electrical, building exterior and interior maintenance, fire and suppression systems, life safety systems, elevators, generators, and installed equipment.

Soft services: roads and grounds, snow and ice control, waste management, environmental compliance, pest control, cleaning and housekeeping services, energy management control, and preventive maintenance management.

Ancillary services: management, monitoring and coordination of services, emergency response, drawings management, finance and budget control, trouble call work order management, and utilities management.

The template RFP does not have stringent submission requirements and is straightforward. A proponent must provide a technical response consisting of the experience and qualifications of their company, managerial ability, and key personnel including security clearances. If the proponent is a joint venture the proposal must also include contact and legal agreement information. The cost section of the proposal is also straightforward, with the example in the template RFP being a yearly lump sum amount for the initial year and each of the remaining or optional years.

The RFP sets out mandatory security clearance requirements for the proponent as well as key personnel. The above services are typical maintenance and support services and the RFP outlines the requirement for a process of Additional Work Requests (AWR). AWR are small projects outside the initial scope of the RFP. The process requires the contractor to identify a pool of qualified subcontractors/ professional services and to indicate their fee.

The RFP is evaluated based on the technical and cost submissions. The technical requirements score is composed of the proponent (21%), key personnel (6%), and managerial ability or process (23%), with the cost accounting for the remaining 50%. There are mandatory security requirements that the contractor must meet or are disqualified. The technical requirements are rated on a scale of 1 to 3 and weighted as noted above. The cost is scored based on the bidder's total cost relative to the lowest total cost. The lowest bidder's total cost receives full (10) points with the remaining bidder's total costs scored based on their percentage difference from the lowest total cost. For example, a submission would receive 9 points if the proponent's price is between 5% and 10% higher than the lowest price.

4 Public Works and Government Services Canada (PWGSC)

Historically the Government of Canada has directly controlled its assets; however, in 1998 they began to outsource some property management and project delivery services. There have been three previous contracts, each with an increasing number of assets that span the country. The recent real property service and property management RFP includes 3,800 Crown-owned assets and leased spaces that covers approximately 8 million square meters of floor area across Canada (GOC PSPC, 2019).

A recent PWGSC RFP (GOC PWGSC, 2013) was obtained for the solicitation of property management and project delivery services for the Atlantic, Quebec, National Capital Area, Ontario, Western, and Pacific Region. Bidders could bid on one, or all six regions. The contracts covered Crown-owned assets, leased space, as well as assets of other government departments including Canadian Border Services Agency, Natural Resource Canada, and the Royal Canadian Mounted Police. In general, the scope of the RFP is to provide the services listed below.

- Management Services, including meeting general and business administration requirements, providing communications and information services, and property management services;
- Services to Establish Third-Party Leases and Agreements with commercial and other non-federal tenants in federal buildings;
- Lease Administration Services, for space leased by PWGSC to meet the needs of federal tenants;
- Project Delivery Services, including management and delivery of construction projects up to \$1M and other real property projects, and providing support to projects delivered by others;
- Optional Services, if Canada exercises its option for one or more of these, including development of an Asset Management Plan, Building Condition Report, and delivery of projects greater than \$1M.

The statement of work outlines the following requirements for the above general scope of work. A statement of work is provided in the RFP which outlines the requirements for the contractor to develop, implement, and maintain a Service Delivery Regime.

- Service Delivery Regime must meet an outlined Performance Measurement Regime;
- Contract initiation includes Operation Transition and obtaining acceptance of the service delivery regime;
- Service requirements for Management, Establishment of Third Party Leases, Lease Administration, Project Delivery, and Optional Services;
- Transition requirements to add or remove assets and to implement the optional services;
- Submission, tracking, and control of deliverables;
- Operation completion requirements at the end of the contract.

The evaluation of the RFP is set out in four sections. The technical matter (section I - Table 1 & Table 2, section II - Table 3, section III - Table 4) is given a 70% weighting and the financial (section IV - Table 5) is given the remaining 30%. Table 1 to Table 5 (adapted from the RFP) indicate the evaluation breakdown for each step, as well as the weighted average. Sections I-III set out the submission requirements and evaluation criteria along with the weight of each section.

Table 1: Section I Technical Evaluation - Mandatory technical evaluation (M)

Item	Evaluation Area	Weight (%)
M-1	Management services experience	Pass/Fail
M-2	Lease administration experience	Pass/Fail
M-3	Project delivery service experience	Pass/Fail

Table 2: Section I Technical Evaluation Mandatory - Rated technical evaluation (R)

Item	Rated Technical Evaluation Criteria	Weight (%)
R-1	Success in delivery of management services	4.2
R-2	Bidder's service delivery system capabilities	2.8
R-3	Organizational model	5.25
R-4	Cost control measures	4.9
R-5	Financial administration and control	4.2
R-6	Occupational health and safety management	5.25
R-7	Quality management and performance measurement	4.2
R-8	Service delivery regime acceptance review plans	5.25
R-9	managing operation transitions	3.15
Gate 1: R-1 to R-9. Max. points for Gate 1: 39.2%. Min. points for Gate 1: 23.52% (60% x 39.2%)		
R-10	Compliance and assurance framework	2.8
R-11	Procurement approach - openness, fairness, transparency, and accessibility	2.8
R-12	Proposed service delivery regime - Property management	5.25
R-13	Proposed service delivery regime - Lease administration services	5.25
R-14	Proposed service delivery regime - Project delivery services	5.25
Gate 2: R-10 to 14. Max. points for Gate 1: 21.35%. Min. points for Gate 1: 12.81% (60% x 21.35%)		
R-15	Computerized information system	3.15
	Subtotal	63.7

Table 3: Section II Rated Evaluation of Technical Scenarios - Technical Scenarios (TS)

Item	Evaluation Area	Weight (%)
TS-1	Services planning and delivery	3.15

TS-2	Occupational health and safety	3.15
	Subtotal	6.3

Table 4: Section III Rated evaluation of Financial Scenarios - Financial Scenarios (FS)

Item	Evaluation Area	Weight (%)
FS-1	Financial Scenario (Team Costs)	10.0

Table 5: Section IV Financial Bid Forms - Financial bid form and certification (BSF)

Item	Evaluation Area	Weight (%)
BSF1 to BSF6	<ul style="list-style-type: none"> - Direct labour overhead fees - Monthly management fee - Project deliver services (PDS) Fees - Optional project delivery related services (OPDS) Fee - project valued at \$1 M to less than \$20 M 	20.0

A consensus-based evaluation approach is used for the assessment of the bids. Bids have to receive a pass on all mandatory technical items, then pass the gate 1 threshold, followed by the gate 2 requirements. If a bid does not meet the preceding requirements, no further consideration is given to the bid. If a bid passes the gate 2 requirements, it is evaluated on R-15, technical and financial scenarios, and the financial bid form and certification. The final technical and financial scores are calculated separately for each region. The consensus evaluation team and applicable scales for the rated requirements, technical, and financial scenarios are outlined.

An information systems (IS) demonstration is required. The purpose of the IS demonstration is for a bid that made it through Gate 2 to have the bidder's written response validated. The required demonstration is broken into three parts: introduction and overview, existing systems capabilities, and demonstration of three example processes.

In summary, bids are assessed using predefined thresholds and the submission is rejected if the proposal does not meet a threshold. The evaluation of the fees is based on calculation of the Normalized Raw Score (NRS) which compares the bidder's fee against the average of all the submitted fees. A correction factor is applied to favour low bids, and the final score has a 20% correction factor applied to the NRS. The final basis of selection is based on the highest combined rating of technical merit (70%) and financial merit (30%).

5.0 Discussion

This section identifies the differences between the DCC template RFP and the PWGSC RP-1 RFP. These differences are limited to a preliminary review of the RFPs and therefore the advantages or disadvantages are not presented. The difference between the size and scope of the RFPs is described below, then the submission requirements, and finally the evaluation process. In areas where the difference in the RFPs is apparent, possible reasons are presented, but our review is not exhaustive.

The title and size of the two RFPs indicates the first difference — the scopes of the RFPs. The template RFP for DCC is titled "Facility Maintenance Support Services" and is a concise document, while the RFP title for PWGSC is an elaborate document titled "Real Property - 1 Property Management and Project Delivery Services." The DCC RFP is focused on providing the basic facility maintenance services, whereas the PWGSC RFP seeks to source overall facility operation services. The scope of the DCC RFP includes both soft and hard services and provides for repair of the key building components and systems (mechanical, electrical, elevator, etc.) as well as building operation including, snow removal, pest control,

housekeeping, etc. Furthermore, the DCC RFP requests management and budget control services. In comparison, the PWGSC RFP scope includes all items in the DCC RFP, but also includes the additional requirement of business administration services. In particular, the PWGSC RFP requires the contractor to provide lease administration services for leased spaces and tenants in Crowned-owned assets, as well as the option to provide building asset management and building condition reports.

The two RFPs have very different scopes. As described in the literature review section above, organizations make strategic decisions regarding their facility manager or facility management department needs in order to source the correct services. Therefore, the scope of facility management RFPs for two different organizations should differ based on the different needs of two organizations. The authors have not investigated how the scopes were determined.

The difference in submission requirements is highlighted by the different tendering periods. The template DCC RFP typically has a four week tendering period which is contrasted with the PWGSC tender period of 16 weeks. The DCC RFP sets out standard submission requirements indicating that bidders are to include experience and qualifications of the proponent organization, their key personnel, management experience, and the cost of their proposal. The submission requirements set out by PWGSC is comprehensive and detailed. A rubric is provided to assist bidders in the preparation of their response. Bidders must demonstrate their capacity and experience in management, lease services, project delivery services, as well as financial services, performance measurement, compliance, safety, communication and computerized systems. Furthermore, the bidders respond to hypothetical scenarios that include technical and financial components. Bidders must identify the planning and delivery processes, the occupational health and safety compliance, and the team costs. The rubric outlines the requirements and evaluation criteria. The final aspect is the completion of the bid submission and certification forms for each region. The financial bid form requires the following:

- Direct labour cost
 - Positions located in government furnished accommodations (GFA) - expressed as \$/position/year
 - Positions located outside of GFA - expressed as \$/position/year
- Management fee - expressed a \$/month
- Project delivery service fee - expressed as a %
- Optional category III project delivery services fee - expressed as %

Similar to the variation in the bid submission requirements, there is a contrast between the evaluation processes set out in the two RFPs, with one straightforward submission requirement and one comprehensive submission. The DCC evaluation process is broken into two sections, the technical evaluation consisting of ranking each criterion on a scale of 0 to 3 and the cost section, where the RFP is scored on a scale of 0 to 10 based on the percentage higher than the lowest bid. The PWGSC evaluation is more extensive, with multiple rubrics provided for each section of the submission as well as thresholds that can result in rejection, corrections factors, and normalization.

The more comprehensive submission requirements and more detailed evaluation processes in the PWGSC RFPs are expected because the PWGSC RFP has a larger scope of work. PWGSC seeks to obtain a property manager, whereas DCC seeks to obtain a facility maintenance provider. Another reason for the difference in the submission requirements and evaluation process may be due to the fact that PWGSC is the direct procurement branch of the Government of Canada, as opposed to DCC, which is an arms-length entity. PWGSC therefore must make every attempt to be open and transparent. As noted at the end of the literature review above, governments have different priorities, two of which are access and utilization of the facility, as well as the community satisfaction of the facility. These factors may have an impact on the procurement of a property manager.

In summary, the scope of the DCC RFP is limited to facility maintenance services as opposed to the PWGSC RFP that seeks to obtain facility maintenance services, but also business administration services. This increased scope of work explains some of the differences in the submission and evaluation requirements of the RFPs. The DCC RFP is a straightforward approach, where proponents primarily

describe their qualifications and experience. The PWGSC RFP is more comprehensive and detailed. Bidders must provide an expanded scope of deliverables and are provided with several rubrics, and therefore are aware of how each aspect will be scored; extensive detail is provided on the expectation of the deliverables. The differences in these scopes, submission requirements, and evaluation processes may be explained by the different characteristics and strategies of the two organizations.

6.0 Conclusion & Recommendations

The motivation for this paper came from one of the author's professional experience completing maintenance work on government facilities. The objective of the paper was to provide a brief review of the current facility management literature and to describe the facility maintenance/management RFPs for two large, government facility owners. The authors completed a preliminary review of a template DCC RFP for facility maintenance support services and of a specific PWGSC RFP for property management and project delivery services. The advantages and disadvantages of these RFPs were not presented because the analysis was preliminary; however, differences include the scope, submission requirements, and the evaluation of the RFPs. Several possible factors are identified that may have impacted the differences in the RFPs.

This paper provides a preliminary review for those interested in facility management. Further research includes interesting topics that arose during the writing of this paper (and on which we encourage future research) include:

A better understanding of how:

- The scope of services to be outsourced is determined.
- The submission requirements are determined.
- The evaluation processes are determined.

Assembly of stakeholder perspectives, including:

- Facility or property managers.
- Contractors.
- Sub-contractors.
- Consultants including engineers and architects.
- End users or tenants.

Systematic comparison of facility management in government organizations, crown corporations, and the private sector:

- The role of the facility manager in the organizational structure.
- The mapping of workflow processes to complete maintenance work (initiation to payment).
- The decision factors related to the scope of individual projects, renovations, upgrades, and repairs.

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