



2001 - 720 Final Report

**Systems Under Development Audit,
Translation Bureau's Integrated
Information System (IIS)**

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Executive Summary

Authority for the Project

Further to the request of the Integrated Information System (IIS) Project Director, this audit was approved by the Audit and Review Committee of Public Works and Government Services Canada (PWGSC).

Objectives

The objective of this audit was to evaluate the effectiveness of the management control framework (MCF) for the Integrated Information System being developed by the Translation Bureau (the Bureau) and the existing processes designed to meet stated requirements, manage change, manage risks and provide for adequate controls.

Scope

The audit primarily involved the Bureau, Government Telecommunications and Informatics Services (GTIS) and the departmental organizations interfacing with the project. Also included was all information received and collected in May and June 2001. Subsequent to the examination phase, additional information was supplied to the audit team concerning measures taken or planned by the Bureau to correct the shortcomings identified. The audit team took this information into account when preparing this report.

Background

Since 1995, the 50 service points have been using decentralized systems to input data concerning linguistic services requests. Every month, data are extracted from each system and sent to the Informatics Services central system where they are combined and processed to generate the bills for services, track texts for translation and update charts used by management for forecasting.

The lack of electronic links between the different systems means that data have to be input twice, and this reduces the effectiveness of the processes. Frequently, data capture is postponed, complicating the day-to-day decision-making process. It is also difficult to obtain an overall picture of the services provided and workload allocation and, therefore, to determine whether the Bureau makes or loses money in serving clients.

The Bureau identified the need for a tool to improve information management with a view to better allocation of human, material, technical and financial resources. In 1997, the recommendation to redesign the system, set out in the report on *The Future Is Ours*, was

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implemented. In the fall of 1999, the Bureau's Technology Steering Committee assigned the Director, Information Technology Strategies, the task of preparing a business case to examine the option relating to development of the IIS. The business case was approved on March 14, 2000, by the Bureau's Technology Steering Committee.

Since last fall, the project has been managed by a new director, who revitalized the project and gave it a fresh impetus. The system is currently under development, and implementation of Version 1 of the IIS is scheduled for August 2001.

Key Findings

The shortcomings identified and the corrective measures planned are as follows

- **Communications.** While most of the management team members seem satisfied with the information received, some feel that they have not been adequately informed about the development of the project. This in turn limits the information passed on to the users. The establishment of the Steering Committee should help keep the management team members informed of developments and risks and consequently improve communication with users. In addition, a Web site bringing together the project documentation will be launched very soon, thereby making it easy to access all the material
- **Project objectives and goals.** The project objectives and goals seem to be well understood by all project stakeholders. The project charter is expected to be approved shortly, i.e. in September. A formal change management process was established recently for the project in order to manage the changes in functionalities and to keep the project within budget.
- **Organizational structure.** The involvement of various key stakeholders such as Operations and Human Resources in the Business Acceptance Team (BAT) should be reviewed in order to maximize the quality of information obtained through the requirements collection process. This shortcoming should be submitted to the Steering Committee for consideration.

The problem of communication within the project team owing to the lack of office space is a concern recognized by the team, which has to deal with the constraint on a daily basis. A request for additional space was recently submitted, and options will be presented in August.

- **Planning and risk assessment.** The risk assessment process used for the project is highly structured. While the risk management mechanism does not include any action plans for risks considered to be high or very high, it seems to be working satisfactorily. The development of action plans for high and very high risks would provide better control over these risks and potentially reduce them. Nevertheless, the most recent version of the Risk Management Report submitted in July shows that, despite the absence of action plans, specific measures have been taken to reduce the high and very high risks, including the development of the E-purchasing system interface

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- **Capacity/continuous learning.** The system development methodology used (from Rational Software Corporation) required much more effort than expected and had an impact on the productivity of some project team members. However, the use of a methodology as set out in Treasury Board's *Enhanced Framework for the Management of Information Technology Projects* should have a positive impact in subsequent stages. Recent information provided in July 2001 indicates that additional training on the Rational product is planned for the new team members. This measure will also help reduce the amount of mentoring provided for new developers.

At the time of the audit, there was no formal process for identifying and using lessons learned. During the interviews, the project team members expressed their intention to establish such a process. The latest version of the rollout plan received just recently (July 2001) indicates that an evaluation of Version 1 of the IIS will be conducted after rollout and that people have already been assigned this task

- **Direct control mechanisms and activities.** The users seem concerned about the implementation of Version 1 of the project planned for the summer. While this point was considered by the project team, it merits particular attention by the Steering Committee. The rollout of a system can jeopardize its very success.
- **Indicators/control measures.** The processes for measuring results and evaluating project objectives have not been defined although the management team members intend to do so. Users' expectations are very high. The project team members are aware of this and are preparing plans (rollout plan, acceptance plan, internal and external communications plans) that will ensure this requirement is met effectively. Additional information received in July indicates that a new version of the rollout plan and an initial version of the acceptance plan have been prepared. Furthermore, a new plan entitled Business Success Criteria is being drawn up, indicating that progress is being made in this area.

Conclusions

Analysis of the various components of the management control framework leads to the conclusion that the major risks of the project have been properly addressed, and there is nothing to suggest that the users' needs will not be met with the design and development of the IIS. Project management is effective and the controls are adequate. The positive attitude of the project stakeholders contributes to effective implementation of the project. The establishment of a steering committee in the governance structure is an appropriate means of strengthening the

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management control framework and should ensure better communications with the various stakeholders.

Recommendations

In the light of the above-mentioned findings and their low degree of risk, no recommendations have been made regarding management of the Bureau's system under development, the IIS.

1 Introduction

1.1 Authority for the Project

Further to the request of the Integrated Information System (IIS) Project Director, this audit was approved by the Audit and Review Committee of Public Works and Government Services Canada (PWGSC).

1.2 Objectives

The objective of this audit was to evaluate the effectiveness of the management control framework (MCF) for the Integrated Information System being developed by the Bureau and the existing processes designed to meet stated requirements, manage change, manage risks and provide for adequate controls.

1.3 Scope

The audit primarily involved the Bureau, Government Telecommunications and Informatics Services (GTIS) and the departmental organizations interfacing with the project. Also included was all information received and collected in May and June 2001. The documents examined were provided in May, and the interviews were conducted in May and June 2001. Subsequent to the examination phase, additional information was supplied to the audit team concerning measures taken or planned by the Bureau to correct the shortcomings identified. This information was taken into consideration in the preparation of this report.

1.4 Background

Since 1995, the 50 service points have been using decentralized systems to input data concerning linguistic services requests. Every month, data are extracted from each system and sent to the Informatics Services central system where they are combined and processed to generate the bills for services, track texts for translation and update charts used by management for forecasting

The lack of electronic links between the different systems means that data have to be input twice, and this reduces the effectiveness of the processes. Frequently, data capture is postponed, complicating the day-to-day decision-making process. It is also difficult to obtain an overall picture of the services provided and workload allocation and, therefore, to determine whether the Bureau makes or loses money in serving aclient.

The Bureau identified the need for a tool to improve information management with a view to better allocation of human, material, technical and financial resources. In 1997, the recommendation to redesign the system, set out in the report on The Future Is Ours, was implemented. In the fall of 1999, the Bureau's Technology Steering Committee assigned the Director, Information Technology Strategies, the task of preparing a business case to examine the

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option relating to development of the IIS. The business case was approved on March 14, 2000, by the Bureau's Technology Steering Committee

Since last fall, the project has been managed by a new director, who revitalized the project and gave it a fresh impetus. The system is currently under development, and implementation of Version 1 of the IIS is scheduled for August 2001.

2 Issues Examined

The following issues were examined during this audit

- Definition and communication of requirements, objectives and goals
- Organizational structures, including the level of resourcing
- Planning and risk assessment, including estimation of the workload and costs
- Capacity/continuous learning including training and operating instructions
- Direct control mechanisms and activities
- Indicators/control measures
- Overall project management

3 Key Findings

3.1 Definition and Communication of Requirements and Objectives

The project's governance structure is in the midst of change.

At the beginning of the audit, the governance structure did not include an official steering committee. The Bureau's Management Committee served as the steering committee. The management team was aware of the lack of a management level and approved the establishment of a steering committee at a recent meeting. Committee membership is still to be determined.

The departure of two important members of the Bureau's Management Committee generated movement within the management team. However, continuity on the Management Committee was ensured by the Vice-President, Operations, the project's main client

While the project objectives have been clearly set out and communicated, some management team members would like more information about the project's development.

The objectives have been clearly set out in the project charter and business case. All of those directly involved in the project seem to be well aware of and have a good understanding of these objectives. The project charter is expected to be approved shortly, i.e. in September. A formal change management process was established recently for the project in order to manage the changes in functionalities and keep the project within budget.

Objectives were communicated by means of presentations to management. Activity reports are submitted every two months to the management team to inform the members of system developments. While most of the management team members seem satisfied with the information received, some feel that they have not been adequately informed about the development of the project. This in turn limits the information passed on to the users. The establishment of the Steering Committee should help keep the management team members informed of developments and risks and consequently improve communication with users.

The project scope has not changed since the start of the project.

The project scope has not been changed for Project A since the start of the project. The functionalities identified will be developed as part of each project. Business process re-engineering involving the users was done prior to the introduction of the new system.

The existing documentation was considered sufficient and satisfactory although most of it is still in draft form.

The project charter for Project A has not yet been approved and signed by the various stakeholders and project authorities. The benefits set out in the business case are rather intangible; the expected savings are not really quantified.

A Web site where project documentation will be accessible is currently being developed. The centralization of documentation will make it easier for all stakeholders to consult project documents and keep better informed.

The requirements collection process was managed effectively.

The process of collecting requirements was carried out in an organized manner and was managed effectively by the chair of the Business Acceptance Team. The time needed for this stage was underestimated; nevertheless, the outcome was that the use cases necessary for the project were developed. It was sometimes difficult to involve users and players in this process because of the demands of other daily tasks, but in the end the results were satisfactory.

An official change management procedure was defined for the project.

The initial configuration plan examined at the start of the audit indicated that the change management procedure was at the planning stage. The configuration plan was updated during the audit, showing that an official change management procedure was defined and implemented in June. ClearQuest (a tool from Rational) was used to capture and record the information concerning change requests. A Change Control Board evaluates the impact of change requests and makes appropriate decisions. Minor changes can be incorporated into the requirements, and major changes are submitted to the Steering Committee through the Project Director for resolution. The presence of a formal change management process will lead to more effective project budget control.

3.2 Organizational Structures

The project structure is adequate and does not present any major problems.

The make-up of the project team is mixed, with members from GTIS, the Bureau and outside (consultants). As new functions are added to the project, so are new resources. The high-level estimates by the first project manager led to a tighter schedule than expected, but it will undoubtedly be respected for the rollout of the first version.

Accountability seems to be clear for the project stakeholders. The representation of certain groups of users and communication with management, which were considered

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insufficient, should improve with the establishment of the new steering committee and the naming of a champion for the project.

Communication with management by the members of the Business Acceptance Team is a difficult process, hampering the top-down communications process subsequently used to inform all the other employees. The establishment of the Steering Committee will keep Committee members better informed; in turn, information will be circulated throughout the organization more effectively. In addition, the recent naming of a champion for the project from the Operations Sector (Director, Business Development) will be beneficial in terms of project promotion and better information for stakeholders.

Operations Sector representation on the BAT is considered insufficient (2 representatives for 1,000 employees) compared with Client Services (1 representative for 26 employees). The recent inclusion of a champion in the project governance structure, primarily Operations-based, increases the number of representatives (3 for 1,000), a slight improvement at least. Participation by Human Resources (HR) in the BAT is limited to analysis of that sector's requirements however it should also have included factors relating to the nature of the task and the union, which may affect the eventual acceptance of the system. The project team were planning taken measures to correct this gap. Clients are not represented on the BAT, but they will be consulted at different times during the project. The question of representation could be re-evaluated by the Steering Committee.

Communications and the project development methodology have affected project organization.

Communications among the project team members seems to be somewhat difficult because they are located on several floors owing to the lack of space. The problem is a concern recognized by the team, which has to deal with the constraint on a daily basis. A request for additional space was recently submitted, and options will be presented in August.

Use of the Rational methodology, new to most of the stakeholders and project team members, required much more effort than expected and had an impact on the productivity of some project team members. Use of a methodology is prescribed, however, by Treasury Board for systems development (*Enhanced Framework for the Management of Information Technology Projects*).

The business processes and technology used are considered to be of average complexity. The flexibility offered by the system architecture means that an elaborate equipment procurement processes not required. A single interface with an SII external system has to be developed during Version 1 of the project; this does not present a major development problem. While some resources assigned to the project are not totally dedicated to IIS development, it seems the most important resources are assigned full time to the project

3.3 Planning and Risk Assessment

While the risk management mechanism does not include any action plans for risks considered to be high or very high, it seems to be working satisfactorily.

The risk management process is highly structured. Those directly involved in the project and the management team seem aware of the risks relating to the project. A risk management strategy was developed to monitor risks each week. Thirteen risks were identified as being very high, but only one has a formal action plan. The twelve other risks do not have a specific plan of action. The actions taken or to be taken have been documented for each risk. To date, the mechanism in place for risk control seems to be operating satisfactorily. The absence of a formal action plan for high and very high risks, considered unnecessary at this stage, may have an impact on the effort to reduce risk. Nevertheless, the most recent version of the Risk Management Report submitted in July shows that, despite the absence of action plans, specific measures have been taken to reduce the high and very high risks

The interface with the E-purchasing project to be developed in connection with Project A represented a high risk for the project because of the revision of the scope of E-purchasing. Meetings were recently held with the project authorities, and more specific details were obtained. From now on, the project team will be involved in the E-purchasing working group. This will facilitate the convergence of the two projects in development and will reduce the risk associated with development of the interface.

3.4 Capacity or Continuous Learning

The productivity of some project team members seems to be affected.

Despite the staff turnover on the project team, the competencies of the team members were considered satisfactory by all those directly involved in the project, including the management team. Some team members received the necessary training on the Rational tool. However, the lack of familiarity with the methodology and the mentoring provided for the new team members affected the team's productivity. Nevertheless, the use of a methodology should have a positive impact in subsequent stages. It should be noted that these questions were addressed recently and that additional training was planned so that the new team members could attain an appropriate level of knowledge. Accordingly, the amount of time devoted to mentoring would be reduced.

No formal training plan has been developed to date.

Little training is planned owing to the fact that the IIS is very user-friendly and on-line help will be available. The project team intends to develop a training plan, which will be part of the strategic rollout plan.

The delays caused by the hiring procedures and the fierce competition for highly qualified technical resources are two of the factors that cannot be controlled.

The turnover on the project team, while an uncontrollable risk, led to replacements and additions to the project team. The hiring procedures, stipulating that government standards be followed, are often very long. In addition, competition in the private and public sectors for highly qualified technical resources is fierce, which adds to the delay in hiring staff. To date, the team has always been able to meet its human resources requirements.

There is no formally defined process for evaluating results in order to draw lessons useful in subsequent stages.

However, it seems that the team members intend to define such a process. The managers of each team plan an evaluation at each stage of the project and then an overall evaluation of the entire project. The latest version of the rollout plan received just recently (July 2001) indicates that an evaluation of Version 1 of the IIS will be conducted after rollout and that people have already been assigned this task.

3.5 Direct Control Mechanisms and Activities

The Project Director exercises effective control over the project.

The various project teams produce activity reports on a weekly basis for the project manager, who updates the detailed project plan and reports the aggregate results to the Project Director. The Project Director submits activity reports every two months to the Management Committee.

The Project Director manages and controls the budget satisfactorily. It appears that the forecasts will be achieved for Version 1 of the project. Some project stakeholders expressed the desire to obtain more details about project costs.

The first version of the system will be rolled out one month late, and the implementation of systems during the summer is of concern to users.

Despite the fact that a number of factors combined to push back the schedule such as changes in the management team, the Q/P Management Group Inc. study, the acquisition of new resources and the learning of a new methodology, the first version will be rolled out only one month later than originally scheduled, the target being mid-August, specifically, August 13, 2001.

All the users were quite concerned about the rollout of the system during the summer. While this point was considered by the project team, it merits particular attention by the

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Steering Committee. The implementation of this first version could have a negative impact on acceptance of the system by the users because of the lack of significant resources required for rollout.

3.6 Indicators and Control Measures

The processes for measuring results and evaluating project objectives have not been defined. No work has been done to date in this area. However, management team members intend to define such processes

Users' expectations are very high. The project team members are aware of users' high expectations and are developing plans (rollout plan, acceptance plan, internal and external communications plans) that will ensure this requirement is met effectively, thereby favouring acceptance of and satisfaction with the system. Additional information received in July indicates that a new plan is being prepared (Business Success Criteria). A new version of the rollout plan and an initial version of the product acceptance plan were given to the audit team, indicating progress in this area

3.7 Overall Project Management

High level of satisfaction among project participants.

On the whole, the stakeholders and management team members have few concerns about how the project is progressing and have great confidence in the Director and the team. The inclusion of a steering committee in the project governance structure will make it possible to resolve problems such as the rollout date scheduled for the summer.

Proactive management by the Project Director.

New strategies such as the maintenance and translation strategies are currently being developed. These strategies will help in the timely rollout of the system. The maintenance strategy will ensure that knowledge is transferred from the consultants to the Bureau's support team. The translation strategy will ensure that the application is available in both official languages

User-friendly tools for generating management reports.

PWGSC's Audit and Review Branch should be able to use the tools made available to the management team in order to access information and generate the necessary reports.

4 Conclusions

Analysis of the various components of the management control framework leads to the conclusion that the major risks of the project have been properly addressed, and there is nothing to suggest that the users' needs will not be met with the design and development of the IIS. Project management is effective and the controls are adequate. The positive attitude of the project stakeholders contributes to effective implementation of the project. The establishment of a steering committee in the governance structure is an appropriate means of strengthening the management control framework and should ensure better communications with the various stakeholders.

5 Recommendations

In the light of the above-mentioned findings and their low degree of risk, no recommendations have been made regarding management of the Bureau's system under development, the IIS.