

**Important Progress Has Been Made in Using  
Research to Improve Programs for Large  
Businesses, but Challenges Remain**

**August 2004**

**Reference Number: 2004-30-130**

**This report has cleared the Treasury Inspector General For Tax Administration disclosure review process and information determined to be restricted from public release has been redacted from this document.**



DEPARTMENT OF THE TREASURY  
WASHINGTON, D.C. 20220

INSPECTOR GENERAL  
for TAX  
ADMINISTRATION

August 12, 2004

MEMORANDUM FOR COMMISSIONER, LARGE AND MID-SIZE BUSINESS  
DIVISION

*Gordon C. Milbourn III*

FROM: Gordon C. Milbourn III  
Acting Deputy Inspector General for Audit

SUBJECT: Final Audit Report - Important Progress Has Been Made in Using  
Research to Improve Programs for Large Businesses, but  
Challenges Remain (Audit # 200330015)

This report presents the results of our review of the Large and Mid-Size Business (LMSB) Division Research Unit. The overall objective of this review was to assess the progress the LMSB Division<sup>1</sup> is making in (1) addressing the concerns raised in past studies of the Internal Revenue Service's (IRS) research operations, (2) integrating its research operation into key business decision-making processes, (3) using research for improving performance on strategic initiatives, and (4) aligning its research processes with best practices adopted by other research programs.

In summary, studies of the IRS between 1995 and 2001 identified concerns about whether its research programs<sup>2</sup> were generating research that was both relevant and effective. Four of the five studies<sup>3</sup> we reviewed, for example, discussed the need to increase customer involvement in the research process so that the areas of greatest interest and need were being addressed, and to establish measures for evaluating the effectiveness of research results. Four of the five studies also surfaced concerns about whether the research staff had the appropriate mix of skills and whether the processes used for managing the research were adequate.

---

<sup>1</sup> The LMSB Division serves corporations, sub-chapter S corporations, and partnerships with assets greater than \$10 million.

<sup>2</sup> In this report, we collectively refer to the IRS research programs as consisting of the research units in the operating divisions, the National Headquarters Office of Research, and the research unit for the Criminal Investigation function.

<sup>3</sup> See Appendix I for the specific studies we reviewed.

In conjunction with the agency's overall reorganization effort, the IRS developed a blueprint in March 2000 to guide how its research programs would be modernized by establishing research units in each of its operating divisions.<sup>4</sup> We determined that the LMSB Division Research Unit is providing the organizational structure and customer focus to address areas with the greatest interest and necessity, while implementing the IRS' vision for research as outlined in the blueprint. To date, LMSB Division executives have focused considerable effort and made important progress to integrate the Research Unit's results into key decision-making processes and to improve the effectiveness of strategic initiatives for large businesses. As reflected in its strategic planning documents, the LMSB Division expects the Research Unit to provide, and relies on it for, decision support to improve its programs, particularly those that enforce and encourage voluntary compliance, as well as to help answer questions about how best to spend its over \$700 million annual budget. For example, the Research Unit provides analysis for the LMSB Division's strategic assessments that identifies trends, issues, and problems along with proposed operating priorities. Further, it is developing up-to-date information for understanding large businesses' compliance with the tax laws and is using this information to build and refine automated, risk-based scoring systems for identifying and prioritizing potentially noncompliant large businesses for examination of their tax returns.

In regard to its Research Unit employees, the LMSB Division, like many areas within the Federal Government, faces the challenge of acquiring needed skills and competencies to improve program effectiveness. To meet this challenge, a Training and Organizational Assessment Project was completed in Calendar Year (CY) 2002 that identified potential gaps in training and skills for the LMSB Division's research staff. Additionally, business cases were made early in CY 2004 for hiring a statistician, an economist, and other individuals with expertise in research disciplines to maintain and develop tools for working with an integrated network of compliance databases that are being created.

While important progress has been made to use research for improving programs devoted to large businesses, challenges remain concerning internal operational processes and procedures in three areas. First, the LMSB Division processes for managing research do not always follow best practices, particularly in the area of enhancing the credibility of research results. Office of Management and Budget guidelines, for instance, indicate that having the capability of replicating research can enhance the credibility of results, increase opportunities for improvement, and avoid perceptions of bias. However, we determined that key source documents needed to independently confirm the validity of the LMSB Division research results were not consistently maintained in project files.

Second, the LMSB Division could improve the process for evaluating the effectiveness of research efforts. Although the LMSB Division can show benefits from some of its

---

<sup>4</sup> The four operating divisions are the Wage and Investment, Small Business/Self-Employed, Large and Mid-Size Business, and Tax Exempt and Government Entities Divisions.

research projects, it does not have a systemic process to measure research outcomes against intended results. As a result, the LMSB Division cannot readily determine whether specific projects are achieving their objectives or answer important questions such as “What impact is the research having?” Finally, research projects could be better managed by using project management techniques. These techniques are designed to develop plans and control systems to ensure research is completed on time and within budget so that needed information is available for executive decision-making purposes.

Given the expectations of the LMSB Division Research Unit and the significant level of resources that are depending on its work, we made three recommendations to enhance the processes for managing the research. The Director, Strategy, Research, and Program Planning, LMSB Division, should develop, define, and adopt (1) procedures that will ensure all research support information is consistently maintained in project files, (2) a systematic process for measuring research efforts, and (3) guidelines for determining whether individual projects and the related activities are on time and within budget.

Management’s Response: IRS management agreed with our findings, and their corrective actions are responsive to our recommendations. The Commissioner, LMSB Division, responded that research processes and procedures will be improved by developing and issuing guidelines for maintaining project documentation, measuring research project results, and implementing a Time Reporting System. Management’s complete response to the draft report is included as Appendix VI.

Copies of this report are also being sent to the IRS managers affected by the report recommendations. Please contact me at (202) 622-6510 if you have questions or Philip Shropshire, Acting Assistant Inspector General for Audit (Small Business and Corporate Programs), at (215) 516-2341.

**Important Progress Has Been Made in Using Research to Improve  
Programs for Large Businesses, but Challenges Remain**

---

**Table of Contents**

Background .....	Page 1
The Large and Mid-Size Business Division Is Implementing the New Research Vision As Planned.....	Page 2
The Large and Mid-Size Business Division’s Processes for Managing Research Do Not Always Follow Best Practices.....	Page 6
<u>Recommendations 1 and 2:</u> .....	Page 11
<u>Recommendation 3:</u> .....	Page 12
Appendix I – Detailed Objective, Scope, and Methodology .....	Page 13
Appendix II – Major Contributors to This Report.....	Page 15
Appendix III – Report Distribution List .....	Page 16
Appendix IV – Organizational Chart of the Internal Revenue Service’s Research Operation.....	Page 17
Appendix V – The Internal Revenue Service’s Quality Standards for Research Projects .....	Page 18
Appendix VI – Management’s Response to the Draft Report .....	Page 21

## Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain

---

### Background

---

Studies of the Internal Revenue Service (IRS) between 1995 and 2001 identified concerns about whether its research programs<sup>1</sup> were generating research that was both relevant and effective. Four of the five studies<sup>2</sup> we reviewed, for example, discussed the need to increase customer involvement in the research process so that the areas of greatest interest and need were being addressed, and to establish measures for evaluating the effectiveness of research results. Four of the five studies also surfaced concerns about whether the research staff had the appropriate mix of skills and whether the processes used to manage the research were adequate.

In conjunction with the agency's overall reorganization effort, the IRS developed a blueprint in March 2000 to guide how its research programs would be modernized by establishing research units in each of its operating divisions.<sup>3</sup> The units are intended to provide the organizational structure and customer focus for dealing with past concerns over whether research was addressing areas with the greatest interest and necessity.

As planned, the IRS organized its research operation in a decentralized manner with a research unit in each of its four operating divisions and the National Headquarters (NHQ) Office. A director who is also part of a high-level leadership group called the Servicewide Research Council (SRC) heads each research unit. In the Large and Mid-Size Business (LMSB) Division, the research director is an executive-level manager who has responsibility for a staff of researchers located in various offices across the country. Appendix IV shows the IRS' decentralized research operation structure. It also shows that the Director, NHQ Office of Research, does not have line authority over the research teams in the operating divisions. Rather, the

---

<sup>1</sup> In this report, we collectively refer to the IRS research programs as consisting of the research units in the operating divisions, the National Headquarters Office of Research, and the research unit for the Criminal Investigation function.

<sup>2</sup> See Appendix I for the specific studies we reviewed.

<sup>3</sup> The four operating divisions are the Wage and Investment, Small Business/Self-Employed, Large and Mid-Size Business, and Tax Exempt and Government Entities Divisions.

## Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain

---

Commissioners and Directors of Research in each operating division control budget and resources needed for their respective research teams.

The research staff in the NHQ Office of Research works through the SRC to develop and maintain national research databases and conducts long-term research projects of agency-wide interest. In the operating divisions, researchers concentrate on their specific groups of taxpayers in projects that have relatively short time periods, such as a year. With a geographically dispersed research staff, the SRC's role is to support, guide, and coordinate research activities across organizational boundaries.

Specific activities of the SRC may include identifying and meeting training and data needs, as well as promoting and marketing research products to internal and external stakeholders. The SRC, through its Quality Assurance Council (QAC), also monitors and provides feedback to researchers on the quality of completed projects. To define research quality, the QAC uses 11 standards for research planning and 8 standards for research reporting. Each standard also has several key elements that elaborate on the overall standard. Appendix V has more details on the QAC standards and their associated elements.

This review was performed at the LMSB Division Headquarters in Washington, D.C., and offices in Pittsburgh, Pennsylvania; Buffalo, New York; and Oakland, California, during the period September 2003 through February 2004. The audit was conducted in accordance with *Government Auditing Standards*. Detailed information on our audit objective, scope, and methodology is presented in Appendix I. Major contributors to the report are listed in Appendix II.

---

### The Large and Mid-Size Business Division Is Implementing the New Research Vision As Planned

---

The LMSB Division Research Unit is providing the organizational structure and customer focus to address areas with the greatest interest and necessity, while implementing the IRS' vision for research as outlined in the blueprint. To date, the LMSB Division Commissioner and executives have provided the general direction for the Research Unit, while focusing considerable effort and making important progress in integrating research results into key

## Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain

---

decision-making processes and improving the effectiveness of strategic initiatives<sup>4</sup> for large businesses. For example, the Research Unit:

- Provides analysis for the LMSB Division's strategic assessments that identifies trends, issues, and problems along with proposed operating priorities.
- Identifies potential issues and risk information involving multinational entities to improve international tax administration.
- Evaluates how best to identify and address compliance risks involving complex organizational structures that cross tax periods and entity types.
- Is developing up-to-date information for understanding large businesses' compliance with the tax laws and using this information to build and refine automated, risk-based scoring systems for identifying and prioritizing potentially noncompliant large businesses for examination of tax returns. These automated systems will allow the LMSB Division to replace the practice of simply relying on the experience and judgment of examiners to manually screen large business tax returns for noncompliance.

Overall, the Research Unit is implementing the vision, under the direction of LMSB Commissioner and other executives, given to it in conjunction with the IRS' overall reorganization effort.

---

<sup>4</sup> The LMSB Division's strategic initiatives are to (1) develop/enhance methodologies to identify LMSB Division compliance risks and use productivity improvements to ensure the most efficient and balanced use of LMSB Division reporting compliance resources in addressing these risks; (2) build a tax administration to deal effectively with globalization; (3) develop and institutionalize a comprehensive issue management strategy; (4) recruit, develop, and retain a highly qualified and skilled workforce; and (5) combat abusive tax avoidance transactions (ATAT) by providing early-investing guidance, addressing shelters at the promoter level, and increasing the strength of ATAT issue development.



## Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain

---

As reflected in its strategic planning documents, the LMSB Division expects and relies on its Research Unit's results for decision support to improve its programs, particularly those that enforce and encourage voluntary compliance, as well as to help answer questions about how best to spend its over \$700 million annual budget. Strategic planning documents state:

*[The] LMSB [Division] relies upon the work of our Research component for systems to identify areas of compliance risk, emerging issues, the size and scope of compliance issues, and patterns of non-compliant behavior within our customer base using internal and external information. Our strategic assessment identified the critical need for a system to deliver a predictive model identifying: 1) taxpayers who have the potential to be influenced by pre-filing products, 2) returns with unreported income, 3) returns likely to include participation in abusive corporate tax shelters, and 4) other factors which are indicators of compliance risk. Research is working to develop a prototype to respond to this need. Prototype accomplishments could be used immediately and final prototype results will fit within current Modernization blueprints. In [Fiscal Year] FY 2004 Research will continue work on improving the Form 1065<sup>5</sup> scoring model and programs to improve our ability to estimate voluntary compliance levels.*

At the time of our review, the LMSB Division had also begun to address concerns regarding the skills and competencies of the research staff. The Research Unit has an annual budget of approximately \$7 million<sup>6</sup> and 54 full-time equivalents (FTE)<sup>7</sup> on staff. Our analysis of the distribution of skills across the staff showed a mix of specialized skills in economics, statistics, computer

---

<sup>5</sup> U.S. Return of Partnership Income.

<sup>6</sup> This is according to the LMSB Division FY 2003 Research Operating Budget.

<sup>7</sup> A measure of labor hours in which 1 FTE is equal to 8 hours multiplied by the number of compensable days in a particular fiscal year. For FY 2004, 1 FTE is equal to 2,096 staff hours.

## **Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain**

---

research, and program analysis. Researchers have extensive institutional knowledge considering that, on average, they have worked in IRS operations for approximately 20 years.

In regard to its Research Unit employees, the LMSB Division, like many other areas within the Federal Government, faces the challenge of acquiring needed skills and competencies to improve program effectiveness. To meet this challenge, a Training and Organizational Assessment Project was completed in Calendar Year (CY) 2002 that identified potential gaps in training and skills for the LMSB Division's research staff. Additionally, business cases were made early in CY 2004 for hiring a statistician, an economist, and other individuals with expertise in research disciplines to maintain and develop tools for working with an integrated network of compliance databases that are being created.

While important progress has been made to use research for improving programs devoted to large businesses, challenges remain concerning internal operational processes and procedures in three areas. First, the LMSB Division processes for managing research do not always follow best practices, particularly in the areas of enhancing the credibility of research results. Second, the LMSB Division could improve the process for evaluating the effectiveness of research efforts. Finally, research projects could be better managed by using project management techniques.

Our discussions with LMSB Division officials indicate that the weaknesses we identified in the processes for managing research were due to focusing on other priorities brought on by the transition from the old IRS structure to the new one. During the transition, for example, officials were focused on simultaneously managing ongoing research projects while assigning staff to the new operating divisions and laying the groundwork for the long-term modernization of the IRS research program. Consequently, the research staff has been relying on old work processes that were not as effective as they should be, according to prior studies.

## Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain

---

---

### **The Large and Mid-Size Business Division's Processes for Managing Research Do Not Always Follow Best Practices**

---

Among the well-established best practices in the research community is that research should have the capability of being reproduced. Office of Management and Budget (OMB) guidelines, for example, indicate that having the capability of replicating research can enhance the credibility of results, increase opportunities for improvement, and avoid perceptions of bias. Similarly, the IRS provides through its Records Management Program<sup>8</sup> that, because of the unique nature of research records, most are required to be maintained for several years, while many should be kept permanently.

#### **The credibility of research results can be enhanced by ensuring source information used in research is consistently maintained in project files**

We used the IRS' SRC quality standards and criteria developed by the OMB to evaluate the design, data collection and analysis techniques, and reports from a judgmental sample of six research projects. Our results showed that, overall, many aspects of the research processes were documented and that the SRC quality standards were followed. For example, the:

- Questions to be answered and the basis for the research were stated clearly in the design of the projects.
- Methods and sources for collecting the data needed for the projects were described and appeared appropriate.
- Procedures for forming and processing automated data were outlined.

---

<sup>8</sup> The major goals of the Records Management Program are to furnish accurate and complete information when required to manage and operate the organization and to provide information and records storage at the lowest possible cost. These goals are accomplished by creating only necessary records; organizing and maintaining records efficiently; and ensuring the protection, preservation, and efficient disposition of all records according to law.

## Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain

---

- Methodological strengths and limitations were identified, and the costs and benefits for resolving the projects' questions were analyzed and presented.

However, in reviewing the research project files, we determined that key source documents needed to independently confirm the validity of the LMSB Division research results were not consistently maintained in the project files. As a result, questions can be raised about whether the research is as credible as it could be and free of any bias.

For example, the project files supporting the report entitled *Partnership Selection System for LMSB - A Data Mining<sup>9</sup> Proof-of-Concept* did not contain the source data collection checksheets. The checksheets were an integral part of the project because they documented the decision-making process (judgments) used by experienced examiners in reviewing 2,086 returns and deciding to select (or not select) the returns for examination. The examiner judgments, as reflected on the checksheets, were ultimately programmed into an automated data mining process that is currently identifying the LMSB Division partnership returns for examination.

Additionally, the project files for the report on *High Range Corporation Return Workload Selection System Development* did not have the source Audit Information Management System (AIMS) database used in the project. The AIMS database was a critical component of the project because it contained results from prior examinations of large corporate returns. The mathematical formulas, which relied extensively on the AIMS database, were developed for deciding which large corporate returns should be examined. According to documentation in the file, the researchers had

---

<sup>9</sup> According to the report, data mining is a “methodology used to autonomously interrogate a database for patterns and clusters. Data mining is based in part on statistics and a field of artificial intelligence designed to emulate human perception known as machine learning. Unlike traditional data analysis programs, data mining tools perform the analysis automatically and formulate their solutions in graphical decision trees or set [sic] of rules.”

## Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain

---

to overcome problems with the source AIMS database obtained for the project.

To overcome the problems, the researchers eliminated over 15,000 records they determined would not be needed for the formulas and used the remaining 16,415 records in developing the formulas. Although the reasons for removing the records were documented, the absence of the source AIMS database makes it difficult, if not impossible, to validate that all the data intended to be used in developing the formulas were, in fact, used.

### **The effectiveness of research efforts needs to be measured**

Although the LMSB Division can show benefits from some of its research projects, the effectiveness of the overall research program needs to be measured. For example, the projects developing the automated systems that are replacing the practice of using examiners to identify tax returns for examination are saving the time and resources that examiners would spend manually screening tax returns. While this and other research projects can demonstrate the effectiveness of research efforts, the LMSB Division does not have a systemic process to measure research outcomes against intended results. As a result, the LMSB Division cannot readily determine whether specific projects are achieving their objectives or answer important questions such as “What overall impact is the research having?”

Both the Government Accountability Office (GAO)<sup>10</sup> and the Treasury Inspector General for Tax Administration (TIGTA) have previously reported that establishing performance measures is critical to the success of any significant project<sup>11</sup> and is a requirement under the Government Performance and Results Act of 1993

---

<sup>10</sup> Formerly the General Accounting Office.

<sup>11</sup> Examples include the GAO report entitled *IRS Customer Service: Management Strategy Shows Promise But Could Be Improved* (GGD-99-88, dated May 1999) and the TIGTA report entitled *The Strategy for Curbing Abusive Corporate Tax Shelter Growth Shows Promise but Could Be Enhanced by Performance Measures* (Reference Number 2001-30-159, dated September 2001).

## Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain

---

(GPRA).<sup>12</sup> Successful projects rely heavily upon performance measures to achieve objectives, quantify problems, evaluate alternatives, allocate resources, track progress, and learn from mistakes.

The Committee on Science, Engineering, and Public Policy<sup>13</sup> reported in 1999 on the difficulties the research community in the Federal Government was having in developing meaningful ways to measure the effectiveness of research programs. Despite the difficulties, the Committee concluded that, regardless of their nature, all research programs could be evaluated on a regular basis and in accordance with the GPRA. Further, the Committee recommended choosing methods of evaluating research efforts that best match the character of the research.

Results of applied research can be evaluated, according to the Committee, in terms of progress being made toward achieving specific outcomes. For example, if the LMSB Division had an objective of finding less expensive ways to identify noncompliance on tax returns, it could measure the results of research aimed at decreasing the cost of screening returns for examination. Where there are ongoing efforts aimed at increasing knowledge through basic research, the Committee found that a peer review<sup>14</sup> process is widely used as a best practice to evaluate three aspects of the GPRA: (1) the quality of the research, (2) the relevance of the research to an agency's mission, and (3) if the research is at the forefront of work being done in the field.

The LMSB Division has numerous research projects seeking to further understand the compliance risks with large business for which a peer review could be used to evaluate its efforts. For example, the LMSB Division has

---

<sup>12</sup> Pub. L. No. 103-62, 107 Stat. 285 (codified as amended in scattered sections of 5 U.S.C., 31 U.S.C., and 39 U.S.C.).

<sup>13</sup> The Committee on Science, Engineering, and Public Policy is a joint committee of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

<sup>14</sup> The peer review process generally involves an independent assessment of the technical, scientific merit of research by peers who have the knowledge and expertise equal to that of the researchers whose work they review.

## Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain

---

projects on assigning global indexes<sup>15</sup> to tax returns to assess the operating environment and to reveal the state of the multinational operations of its customers, evaluating the effects of foreign tax credits over time, and studying how some large businesses maintain low tax rates despite high published earnings. We recognize that a peer review process will involve additional expenditures for the LMSB Division, particularly if outside experts are involved. However, these costs could be relatively low if, instead of hiring outside experts, the IRS operating divisions coordinated in conducting peer reviews of each other's research units.

### **Project management guidelines can be strengthened**

As outlined in the *Standards for Internal Control in the Federal Government*,<sup>16</sup> managers need access to reliable and timely operational data to meet their responsibility of ensuring the effective use of resources. To help research managers in the IRS operating divisions fulfill this responsibility, the SRC has established standards for planning and reporting on individual research projects. Among other things, the standards recommend tracking time frames for completing activities, producing deliverables, and achieving milestones given the estimated resources that will be applied. Tracking such information directly relates to the effective stewardship of resources by helping to answer questions such as “How long are the different steps in the research process taking?” and “Are the time frames that have been set for the process being met?” These techniques are designed to develop plans and control systems to ensure research is completed on time and within budget so needed information is available for executive decision-making purposes.

To monitor the progress of research projects in the LMSB Division, procedures require project team leaders to periodically submit status reports to their managers that

---

<sup>15</sup> Global indexes measure the corporate and international complexity based on the number of foreign subsidiaries, foreign sales revenues, and foreign asset increases.

<sup>16</sup> GAO/AIMD-00-21.3.1, dated November 1999.

## Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain

---

describe the progress being made, problems being encountered, and expected completion dates. In addition, the Research Unit maintains a project management information system that could be used to determine whether projects and specific activities (planning, execution, and reporting) are being completed within budget and on time. However, guidelines needed to determine whether projects and their activities are on time and within budget have yet to be developed. Although some of this information can be found in status reports, these documents are submitted only periodically. Consequently, an important project management tool that managers could use to enhance the monitoring of multiple projects is not available.

### Recommendations

Given the expectations of the LMSB Division Research Unit and the significant level of resources that are depending on its work, we are making recommendations to enhance the processes for managing research. The Director, Strategy, Research, and Program Planning, LMSB Division, should develop, define, and adopt:

1. Procedures for the research staff that will ensure support information needed to replicate the research process is consistently maintained in project files and in accordance with the IRS Records Management Program.

Management's Response: The Commissioner, LMSB Division, responded that guidelines will be developed and issued on research documentation to ensure research staff members understand what documentation should be consistently maintained in project files.

2. A framework for systemically measuring completed and ongoing research against intended results.

Management's Response: The Commissioner, LMSB Division, responded that guidelines will be issued for measuring research against intended results. The guidelines will reemphasize the need for a final report on each completed research project and require that each report



## **Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain**

---

contain a section outlining the original project objective(s) and the results of the project as compared to the objective(s).

3. Guidelines for determining whether individual projects and their related activities (planning, execution, and reporting) are on time and within budget.

Management's Response: The Commissioner, LMSB Division, responded that a Time Reporting System using Microsoft Project will be implemented to allow for monitoring the planning, execution, and labor costs of all research projects.

## Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain

---

### Appendix I

#### Detailed Objective, Scope, and Methodology

Our objective was to assess the progress the Large and Mid-Size Business (LMSB) Division<sup>1</sup> is making in (1) addressing the concerns raised in past studies of the Internal Revenue Service's (IRS) research operations, (2) integrating its research operation into key business decision-making processes, (3) using research for improving performance on strategic initiatives, and (4) aligning its research processes with best practices adopted by other research programs. To meet our objective, we relied on the IRS' internal management reports and databases. We did not establish the reliability of these data because extensive data validation tests were outside the scope of this audit and would have required a significant amount of time. To accomplish our objective, we:

- I. Reviewed five studies of the IRS to identify past concerns with its research operations and obtained information from LMSB Division officials on actions taken to address the concerns. The studies included the Government Accountability Office<sup>2</sup> reports entitled *IRS Has Made Progress but Major Challenges Remain* (GAO/GGD-96-109, dated June 1996) and *Internal Revenue Service – Status of the Modernized Research Operation* (GAO-01-565R, dated April 2001); the IRS Inspection (now the Treasury Inspector General for Tax Administration [TIGTA]) report entitled *Review of the National Office Research Analysis/District Office Research Analysis and Compliance Research Information System Implementation* (Reference Number 056406, dated September 1995); the IRS discussion document entitled *Research*, dated March 2000; and the TIGTA report entitled *The Internal Revenue Service Needs to Improve Control of Its Compliance Research Program* (Reference Number 2000-40-068, dated May 2000).
- II. Obtained information from IRS officials, including representatives of the LMSB Division's Research Unit, on how the IRS' research program is organized and on the LMSB Division's processes for planning, conducting, monitoring, and evaluating research projects.
- III. Analyzed the Treasury Integrated Management Information System (TIMIS)<sup>3</sup> and the IRS Administrative Corporate Education System (ACES)<sup>4</sup> to assess skill and experience levels of the LMSB Division research staff.

---

<sup>1</sup> The LMSB Division serves corporations, sub-chapter S corporations, and partnerships with assets greater than \$10 million.

<sup>2</sup> Formerly the General Accounting Office.

<sup>3</sup> The TIMIS is an information system that supports payroll and personal processing and reporting requirements for the IRS.

<sup>4</sup> The ACES is an information system used by the IRS to track training and course information for its employees.

**Important Progress Has Been Made in Using Research to Improve  
Programs for Large Businesses, but Challenges Remain**

---

- IV. Reviewed various publications on best practices and standards in the research community from the Committee on Science, Engineering, and Public Policy; Office of Management and Budget (OMB); and IRS Office of Research, Analysis, and Statistics.
- V. Used standards developed by the OMB and IRS Quality Assurance Council to evaluate the design, data collection and analysis techniques, and reports from a judgmental sample of 6 out of 64 research projects that were underway as of June 30, 2003. Judgmental sampling was used to minimize time and travel costs.

**Important Progress Has Been Made in Using Research to Improve  
Programs for Large Businesses, but Challenges Remain**

---

**Appendix II**

**Major Contributors to This Report**

Philip Shropshire, Acting Assistant Inspector General for Audit (Small Business and Corporate Programs)

Frank Dunleavy, Audit Manager

William Tran, Lead Auditor

Denise Gladson, Auditor

Ali Vaezazizi, Auditor

**Important Progress Has Been Made in Using Research to Improve  
Programs for Large Businesses, but Challenges Remain**

---

**Appendix III**

**Report Distribution List**

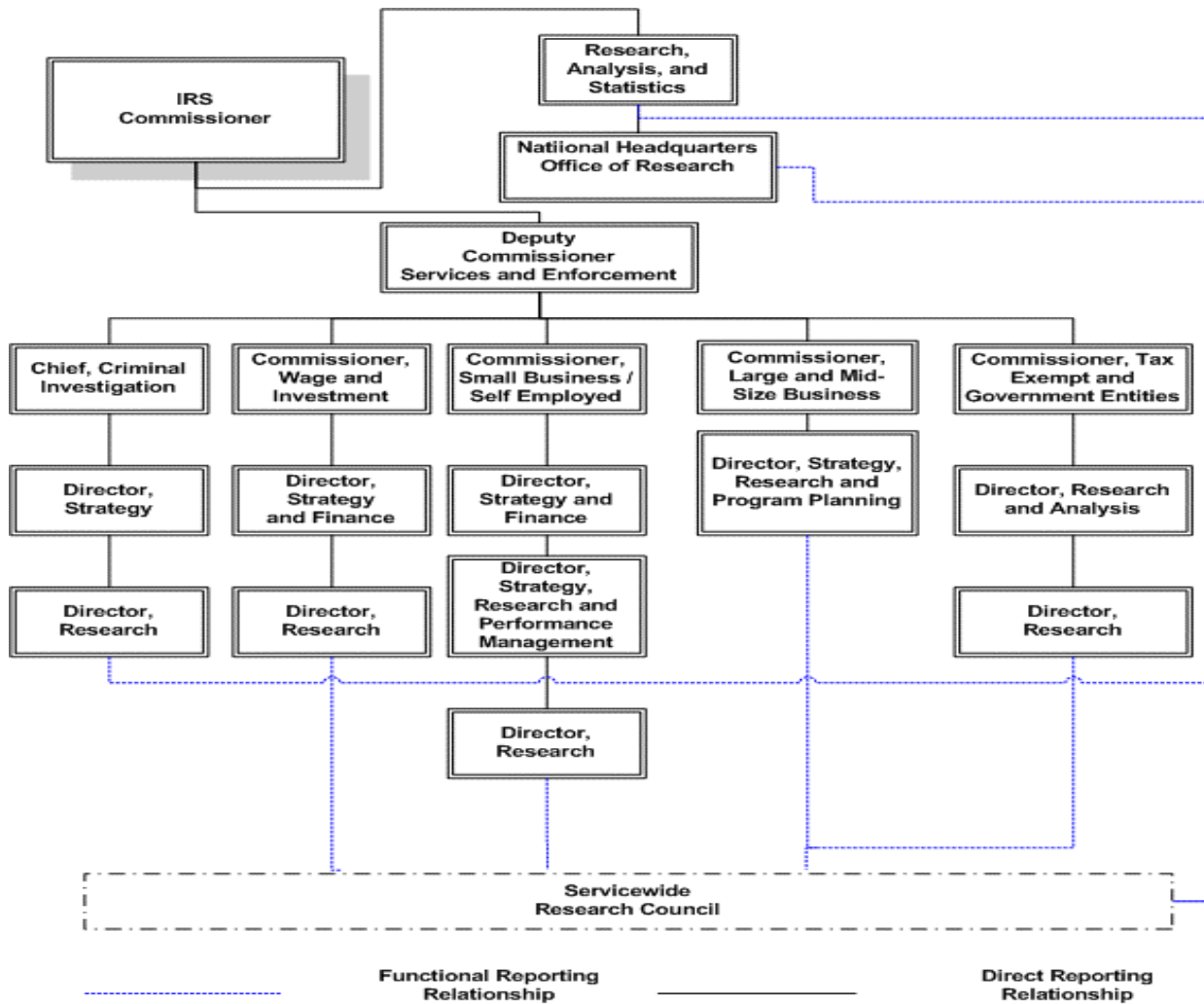
Commissioner C  
Office of the Commissioner – Attn: Chief of Staff C  
Deputy Commissioner for Services and Enforcement SE  
Deputy Commissioner, Large and Mid-Size Business Division SE:LM  
Director, Strategy, Research, and Program Planning SE:LM:SR  
Chief Counsel CC  
National Taxpayer Advocate TA  
Director, Office of Legislative Affairs CL:LA  
Director, Office of Program Evaluation and Risk Analysis RAS:O  
Office of Management Controls OS:CFO:AR:M  
Audit Liaison: Commissioner, Large and Mid-Size Business Division SE:LM

**Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain**

**Appendix IV**

**Organizational Chart of the Internal Revenue Service’s Research Operation**

The diagram below shows the structure of the research operation. It shows that the Director, National Headquarters Office of Research, does not have line authority over the research teams in the operating divisions. Rather, the Commissioners and Directors of Research in each operating division control budget and resources needed for their respective research teams.



Source: Treasury Inspector General for Tax Administration Analysis

**Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain**

**Appendix V**

**The Internal Revenue Service’s Quality Standards for Research Projects**

The Servicewide Research Council, through its Quality Assurance Council (QAC), monitors and provides feedback to researchers on the quality of their projects. To define research quality, the QAC uses 11 standards for research planning and 8 standards for research reporting. Each standard also has several key elements that elaborate on the overall standard. Table 1 provides a summary of the quality standards and related elements for research planning. Table 2 summarizes the quality standards and related elements for research reporting.

**Table 1: Summary of the Quality Standards for Research Planning  
(as of November 2003)**

No.	Standard	Key Elements	Overview
1	Front Matter	<ul style="list-style-type: none"> <li>• Cover and Title Page</li> <li>• Table of Contents</li> <li>• List of Illustrations</li> <li>• Executive Summary</li> </ul>	Front matter should include administrative planning items and an executive summary that discusses the research problem, objectives, methodology, and costs.
2	Background	<ul style="list-style-type: none"> <li>• Research Problem or Questions</li> <li>• Related Research</li> <li>• Importance of Research</li> <li>• Market Segment</li> </ul>	Appropriate background information describes the research problem, including how the problem was identified, related research findings and outcomes, and the importance of the research to tax administration.
3	Objectives	<ul style="list-style-type: none"> <li>• Itemized Project Objectives</li> <li>• Tied to Research Problems and Issues</li> <li>• Clear Project Objectives</li> </ul>	Research objectives need to be stated in terms of precisely what the researchers expect to accomplish when the research is completed.
4	Market Segment	<ul style="list-style-type: none"> <li>• Definition of the Market Segment</li> <li>• Description of Market Segment</li> <li>• Definition of Comparison Market Segment</li> </ul>	The market segment identifies and discusses the characteristics of the taxpayer group(s) affected by the research, including their relative size and unique attributes.
5	Methodology	<ul style="list-style-type: none"> <li>• Description of Methodology</li> <li>• Statement of Hypotheses</li> <li>• Data Collection Instrument(s)</li> <li>• Sample Design</li> <li>• Data Analysis Plan</li> <li>• Measurement of Results</li> <li>• Action Standards</li> </ul>	The steps or methodology researchers intend to take in accomplishing their research objectives need to be discussed in detail. These steps could describe sampling plans, data collection techniques, and how research outcomes will be measured.
6	Data Needs	<ul style="list-style-type: none"> <li>• Description of Data</li> <li>• Description of Variables</li> <li>• Data Sources and Procedures to Obtain Data</li> <li>• Servicewide Research Data Standards</li> </ul>	This section needs to describe what data fields are predictor and predicted, source of data and how data were obtained, limitation of data, data validation, and completion of the Servicewide Research Data Standards Certification form.

## Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain

7	Milestones/Action Schedule	<ul style="list-style-type: none"> <li>• Detailed Schedule</li> <li>• Time Frames</li> </ul>	A schedule of research activities is described here to show major steps needed to accomplish the research objectives, including research tasks, responsible parties, estimated starting and ending dates, and interim deliverables and final deliverables.
8	Costs and Benefits	<ul style="list-style-type: none"> <li>• Research and Non-Research Staff Time and Costs</li> <li>• Other Costs</li> <li>• Cost Summary</li> <li>• Benefits</li> </ul>	The standard evaluates whether the costs and benefits such as research and nonresearch costs and benefits (actual costs, opportunity costs, changes in perception, etc.) are fully discussed. The research costs and benefits are shown by fiscal year and the total project costs should be stated.
9	Privacy and Security	<ul style="list-style-type: none"> <li>• Privacy and Security (Servicewide Research Data Standards)</li> <li>• Using Other Agency Data</li> </ul>	Describes actions taken to safeguard taxpayer data in accordance with established internal procedures and requirements of law for both privacy and security.
10	Signature Page	<ul style="list-style-type: none"> <li>• All Necessary Signature Lines Are Shown</li> <li>• Chief's Signature Is Affixed</li> <li>• Date of Chief's Signature Is Appropriate</li> </ul>	The Research Chief's signature appears with the date that closely corresponds to the revision date of the plan.
11	Appendices	<ul style="list-style-type: none"> <li>• Signed Data Standards Certification Form Is Included</li> <li>• Official Use Only Certification Is Included When Appropriate</li> <li>• Other Appropriate Appendices Are Included</li> </ul>	Appendices should include complex or technical information not included in the body of the report, which supports the body of the plan. Appendices usually include Signed Data Standards Certification form, Official Use Only Certification form, if appropriate, and others such as Glossary, Checksheets, Sample Plan, and References.

*Source: The Internal Revenue Service (IRS) Servicewide Research Council.*



**Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain**

**Table 2: Summary of the Quality Standards for Research Reporting  
(as of November 2003)**

No.	Standard	Key Elements	Overview
1	Front Matter	<ul style="list-style-type: none"> <li>• Cover and Title Page</li> <li>• Table of Contents</li> <li>• List of Illustrations</li> <li>• Executive Summary</li> </ul>	Front matter should include administrative reporting and an executive summary that discusses the research problem, objectives, and results.
2	Introduction	<ul style="list-style-type: none"> <li>• Research Problem and Its Importance</li> <li>• Background and Objectives</li> <li>• Purpose and Structure of the Report</li> </ul>	This section should clearly identify the research problem and why it is important to the Internal Revenue Service. It should provide an outline of the report contents for the reader.
3	Research Methods	<ul style="list-style-type: none"> <li>• Research Methodology</li> <li>• Limitation or Plan</li> <li>• Deviations</li> </ul>	The description of research methods used should contain sufficient information in a nontechnical presentation so readers can decide whether the research process followed was sound.
4	Research Findings	<ul style="list-style-type: none"> <li>• Findings</li> <li>• Objectivity</li> <li>• Readability</li> <li>• Documentation</li> </ul>	This standard evaluates the objective presentation of the findings and the relationship between the findings and the conclusion. The findings should be written in a clear and concise manner.
5	Conclusion	<ul style="list-style-type: none"> <li>• Supported by the Findings</li> <li>• Explain the Results</li> <li>• Objectives Met</li> </ul>	This section should be an interpretation of the findings and should be aligned with research objectives and logically based on the facts of the findings. It should show how the author reached the conclusions and state how the objectives were achieved.
6	Recommendations	<ul style="list-style-type: none"> <li>• Supported by the Findings and Conclusions</li> <li>• Operationally Feasible</li> <li>• Describes the Expected Benefits</li> </ul>	The recommendations section is evaluated for its clarity and whether it is supported by and logically follows the findings and conclusions. It is also reviewed for discussions of the benefits such as revenue generation, compliance increase, etc. that the customer can expect to receive if the recommendations were implemented.
7	Signature Page	<ul style="list-style-type: none"> <li>• All Necessary Signature Lines Are Shown</li> <li>• Chief's Signature Is Affixed</li> <li>• Date of Chief's Signature Is Appropriate</li> </ul>	The Research Chief's signature appears with the date that closely corresponds to the revision date of the report.
8	Appendices	<ul style="list-style-type: none"> <li>• Signed Data Standards Certification Form Is Included</li> <li>• Official Use Only Certification Is Included When Appropriate</li> <li>• Other Appropriate Appendices Are Included</li> </ul>	Required appendices include an abstract and signed Official Use Only Certification form. Other appendices that may be included are glossary, survey instruments, tables and charts, and references.

Source: *The IRS Servicewide Research Council.*

**Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain**

Appendix VI

**Management's Response to the Draft Report**



DEPARTMENT OF THE TREASURY  
INTERNAL REVENUE SERVICE  
WASHINGTON, D.C. 20224

RECEIVED  
AUG 03 2004

July 28, 2004

MEMORANDUM FOR TREASURY INSPECTOR GENERAL FOR  
TAX ADMINISTRATION

FROM: *FdL* Deborah M. Nolan *DSZ*  
Commissioner, Large and Mid-Size Business Division

SUBJECT: Draft Audit Report – Important Progress Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain (Audit # 2003-30-015)

The Large and Mid-Size Business (LMSB) Division depends largely on the work of its Research operation to improve programs and make better decisions in the areas of compliance risk, corporate behavior patterns, emerging industry issues, and customer service. The Research operation performs cross-industry research for all LMSB industry segments and works with academic entities to identify emerging trends. Research studies provide accurate and reliable data that assist LMSB managers in the development, implementation, and improvement of critical top-level strategies, program planning, forecasting, resource allocation, performance measurements, and operational processes. For example, the first version of the International Discriminant Analysis System (IDAS) scoring model, when fully implemented, is expected to improve the selection of corporate returns for examination.

I agree with your finding that the Research operation has made significant progress to integrate its research results into key decision-making processes and improve the effectiveness of strategic initiatives for LMSB. I also agree with your assessment that challenges remain with respect to acquiring the needed research competencies and improving research processes and procedures. Our hiring and training initiatives are helping to increase our staff and improve their competencies.

The attached plan provides the specific actions the LMSB Division will take to implement your audit recommendations. If you have any questions, please contact Richard Teed, Director, Strategy, Research, and Program Planning, at (202) 283-8335.

Attachment

## **Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain**

---

Attachment

### **RECOMMENDATION 1:**

The Director, Strategy, Research, and Program Planning (LMSB Division) should develop, define, and adopt procedures for the research staff that will ensure support information needed to replicate the research process is consistently maintained in project files and in accordance with the IRS' Records Management Program.

### **CORRECTIVE ACTION(S):**

The Director, Strategy, Research, and Program Planning will develop and issue guidelines on research documentation to supplement the IRS' Records Management Program guidelines; so that LMSB research staff members understand what documents should be consistently maintained in project files.

### **IMPLEMENTATION DATE:**

We will issue Research documentation guidelines by November 15, 2004.

### **RESPONSIBLE OFFICIAL(S):**

Director, Strategy, Research, and Program Planning (LMSB Division)

### **CORRECTIVE ACTION(S) MONITORING PLAN:**

Research managers will conduct on-going reviews to ensure compliance with new guidelines.

### **RECOMMENDATION 2:**

The Director, Strategy, Research, and Program Planning (LMSB Division) should develop, define, and adopt a framework for systemically measuring completed and ongoing research against intended results.

### **CORRECTIVE ACTION(S):**

The Director, Strategy, Research, and Program Planning will issue guidelines to reemphasize the need for a final report on each completed project and require that each report contain a report section specifically outlining: 1) the objective(s) of the project from the original prospectus and 2) the results of the project as compared to the objectives. The guidelines will provide examples of how to measure results.

### **IMPLEMENTATION DATE:**

We will issue Research guidelines by November 15, 2004.

## Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain

---

2

**RESPONSIBLE OFFICIAL(S):**

Director, Strategy, Research, and Program Planning (LMSB Division)

**CORRECTIVE ACTION(S) MONITORING PLAN:**

Research managers will ensure that their staffs submit final project reports that meet the requirement for assessing the stated objectives.

**RECOMMENDATION 3:**

The Director, Strategy, Research, and Program Planning (LMSB Division) should develop, define, and adopt guidelines for determining whether individual projects and their related activities (planning, execution, and reporting) are on time and within budget.

**CORRECTIVE ACTION(S):**

Research plans using Microsoft (MS) Project software are required for every project and should be used for monitoring project planning and execution. The Director, Strategy Research, and Program Planning reviewed current project plans with Research managers to ensure that each project has an adequate Project Plan and managers are updating and timely completing the projects as planned.

The Research operation is implementing a Time Reporting System that will allow for the monitoring of labor costs associated with each project. The implementation is dependent upon completion of the Pilot Program and negotiations with the National Treasury Employees Union (NTEU).

**IMPLEMENTATION DATE:**

We have completed the review of the project plans using MS Project software. We will correct any deficiencies noted during review by September 15, 2004.

We expect to implement the Time Reporting System by December 15, 2004.

**RESPONSIBLE OFFICIAL(S):**

Director, Strategy, Research, and Program Planning (LMSB Division)

**CORRECTIVE ACTION(S) MONITORING PLAN:**

The Director, Strategy, Research, and Program Planning will review project plans again during October 2004 to ensure that deficiencies noted in earlier reviews have been corrected.

## **Important Progress Has Been Made in Using Research to Improve Programs for Large Businesses, but Challenges Remain**

---

3

We will complete the Pilot Program for the Time Reporting System by September 15, 2004, and resolve any implementation issues with the NTEU by October 15, 2004. All necessary hardware and software issues will be resolved by the end of November 2004, so that implementation can occur by the first quarter of Fiscal Year 2005.