Second Edition

Proving the Value of HR

How and Why to Measure ROI

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Chapter 11. Case Study:
Measuring ROI for a Work-at-Home Program Family Mutual Health and Life Insurance Company (FMI)

Authors' note: The following case study has been prepared in a teaching format. The case is presented as it developed and unfolded. We suggest that you read through the case study and try to respond to the questions at the end of each part before proceeding to the next part. This method is helpful to see how clearly the concepts are understood in a practical example. The next section provides the information about what actually occurred.

This case was prepared to serve as a basis for discussion rather than to illustrate either effective or ineffective administrative and management practices. Names, dates, places, and organizations have been disguised at the request of the organization.

FMI: Part A

Abstract
This case study shows the power of a work-at-home project designed to ease the environmental problems of traffic and congestion caused by the long daily work commute of more than 300 employees. This commute caused much stress, anxiety, and frustration for employees. From the company perspective, the project improved productivity, job engagement, job satisfaction, and image, while reducing office expenses and lowering turnover. From an environmental perspective, the study shows how an HR project can have significant impact on the environ-

ment by lowering carbon emissions. It represents a win-win project for participants, their initially reluctant managers, and the organization. Perhaps the greatest winner is the environment. Although this type of project may not be suitable for every organization, this case study is an excellent example of how an ROI project can be completed for many businesses and concerns.

Background

Family Mutual Health and Life Insurance Company (FMI) has enjoyed a rich history of serving families throughout North America for almost 80 years. The company's focus has been on health and life insurance products, and it is regarded as a very innovative and low-cost health insurance provider. The executives are proud of their cost-control efforts and of the low prices they can offer. Company advertisements regularly highlight their low-cost approach, quality of service, and ethical practices.

FMI has grown substantially in recent years because of increased health care concerns in North America, particularly in the United States. Rising health care costs have forced the company to raise premiums several times in recent years, while still maintaining a cost advantage over other suppliers.

The Challenge

Lars Rienhold, CEO, is very proud of the accomplishments of FMI and is perhaps its biggest fan. A man of considerable and contagious personality, he is continually trying to offer affordable health and life insurance policies, to provide excellent customer service, and to be a responsible citizen. As part of this effort, Lars wanted to ensure that FMI was doing all it could to help the environment. While FMI's carbon footprint is relatively low compared to manufacturing companies, its headquarters was located in a very congested area. Lars became concerned about helping the environment in as many ways as possible. During a recent trip to Calgary, Canada, he saw a television report about a local company that had implemented a work-at-home program. The report presented the actual amount of carbon emissions that this project had prevented. Lars

thought that FMI should be able to implement a similar program, including the possibility of employees working from home. He brought this idea to Melissa Lufkin, Executive Vice President of Human Resources. The message was short. "I want us to make a difference. I think this is the way to do it." Although her team had already examined the issue, Melissa agreed to explore the possibility in a more formal way.

Exploring the Situation

Melissa began her investigation by discussing the issue with the operations chief. Although cautious, John Speegle, Executive Vice President of Operations, was interested in exploring the idea. John was concerned about the lack of productivity increase in the last three years within the largest segment of employees: the claims processors and the claims examiners. A total of 950 employees were involved in processing or examining claims submitted by customers or health care providers. Claims examiners reviewed claims that were disputed or that sparked an audit review. The number of claims processors and examiners had grown to the point where the office space they occupied in building two was overflowing; consequently, new building space or perhaps a new facility was needed to manage the growth.

John concluded, "I'm interested in the possibility of employees working from home if it can be controlled properly. Let's explore the arrangement if all parties are in agreement to pursue it." In summary, John was interested in lowering the real estate cost of new office space, which averaged about $17,000 per person per year, and in improving productivity, which was at a rate of 33.2 claims processed and 20.7 claims examined per day.

Melissa discussed the issue with Linda Green, the Vice President of Claims, to probe her concerns about processors and examiners working at home. Although this issue had been discussed in previous meetings, and many people had said that these jobs could be easily managed remotely, Melissa had never received direct communication on the topic. Linda was supportive but raised several concerns: "Some of our managers want to keep tabs on what is going on, and they feel like they have to be there to resolve issues and problems — and they

want to see that everyone is working and busy. I am afraid it is a matter of control, which they may have a hard time giving up if people work remotely." Melissa realized that this initiative would take some extra effort with these managers, who would have to view it as necessary and feasible in their world to accept it. Linda added, "I realize that the right approach might make their jobs easier, but right now they may not be at that point."

Melissa next met with the IT department and discussed how it could equip work stations at home with the latest technology. She found a very supportive audience in Tim Holleman, Senior Vice President and Chief Information Officer, who thought that employees could be set up with adequate security and technology to work at home in the same manner as they were working onsite. Tim added, "They can have full access to all databases, and they could be using high-speed processes. It would cost FMI a substantial amount the first year but would not represent a very significant cost in the long run."

Next, Melissa discussed potential issues with the legal department. Margaret Metcalf, Chief Legal Officer, was cautious, as expected, and said several legal issues would have to be addressed from a liability perspective. She asked about other companies pursuing this route, and Melissa agreed to furnish examples and to make contacts with them to discover what problems they had encountered.

Melissa then contacted Anne Burson, Executive Vice President of Sales and Marketing, to uncover any customer service issues that may arise. Anne was in favor of the move as long as customer service would not suffer. She added, "The claims examiners are very much in contact with the customers, and I want to make sure that acceptable customer service is maintained. Also, many of the processors have to make routine direct contact with health care suppliers as well as [with] patients, and we want to maintain these contacts at an acceptable level. I can see that this would probably help morale and might even improve our service. Let's give it a try."

Finally, Melissa met with her Chief Financial Officer, Rodrick Harper, to discuss the project and the plan to measure its success. Melissa had held previous conversations with Rod about measuring success, and he had expressed some desire to show the value of major human resources

initiatives. Melissa was eager to show the value of HR programs and had challenged her staff to measure success, even using ROI. Rod volunteered a member of his team to work with Melissa on these types of projects. When Melissa discussed the work-at-home idea with him, including the measurement plans and a financial ROI, Rod's interest really piqued. He said, "Let's make sure this is very credible analysis and that it is very conservative. Frankly, I think we want to be involved when you discuss ROI. I think it's proper that we use a standard approach to analysis, and we would like to be involved in this every step of the way, if you don't mind." Melissa was pleased with the support, but somewhat anxious about working with the finance and accounting team to evaluate a program that she would ultimately own. However, she felt the project was necessary and would be advanced by the very good relationship she and her team had with the finance and accounting group.

Melissa and her staff explored the attitudes of employees to determine how they would perceive a work-at-home program. She was not sure how many would take advantage of the opportunity, but she thought most would certainly be interested. The staff conservatively estimated that at least a third would opt to participate in the program. For many in this group, working at home would be a huge motivator and would probably make a difference in retaining them at FMI. From that perspective, the staff suggested that it be explored. Melissa cautioned, "They may have issues at home that they want to address, but we must be able to get eight hours of work out of them. They cannot discontinue daycare, trying to manage child care and work as well. If they have an elderly or disabled person at home, this cannot be a way for them to deal with both situations. We must have full productivity, and that is essential."

With this positive reaction (and a few concerns), Melissa and her team decided to undertake this substantial project. After much discussion, the group decided to engage a consulting group, Workforce Solutions (WSI), to manage the project. WSI had considerable experience in implementing alternative work systems, particularly work-at-home programs. The company knew what questions to ask and what situations were going to occur, and more important, it was able to anticipate the problems that could derail the project.

The Analysis and Initial Alignment

After some discussion, the group asked WSI for a proposal. Included in the request for proposal (RFP) to WSI was a forecasting component for the project. Essentially, WSI was asked to bid on analyzing the need for the project to determine its feasibility, forecast its value, design the appropriate program, and implement and monitor the success of the program. Success would be measured at the ROI level. Armed with this information, WSI was prepared to begin work on the proposal.

The Consultants

Deborah Rousseau was selected by Workforce Solutions as the lead consultant for this project. Deborah had previous experience with flexible work systems, had managed many successful projects, and was an outstanding consultant. Deborah believed in showing the value of her company's work and guided the proposal process toward an agreement to deliver the four components:

1. Clarifying that the solution is needed and connecting it to the appropriate business measures
2. Forecasting the impact and ROI of the project
3. Implementing the program with claims processors and examiners
4. Showing the value of the project using the ROI Methodology

With this focus on results, Deborah knew that she must skillfully present the best proposal and the most focused implementation possible. There was no room for error, and WSI was obligated to deliver the value desired by the clients.

To make the proposal meaningful, Deborah asked the client if WSI could forecast ROI after its consultants verified the solution, and FMI agreed. In essence, the proposal was developed in two parts. The first proposal validated the solution and provided a forecast ROI. The forecast would be developed and approved by the client before the program would be implemented. The second proposal focused on implementation and an impact study with ROI. This plan seemed reasonable because the analysis required to develop the forecast was part of the analysis that would verify the proper solution to drive the business measures. WSI proposed $31,000 for the first proposal ($21,000

for the initial analysis and assessment, and $10,000 for the forecasting ROI), which included a briefing to senior executives.

The Analysis

When the first contract was awarded, Deborah began meeting with appropriate individuals at FMI and the HR team, including employee relations, learning and development, recruiting, compensation, and HR planning. She examined records, facilitated employee focus groups, and conducted a survey of a small, select group of employees to understand their desire, need, and intentions to work at home if the option were available. In this survey, employees were asked about benefits from this type of arrangement. The focus groups and the survey revealed that this solution should drive business measures.

Part of this analysis involved the examination of other case studies of work-at-home projects to understand the payoffs of those projects and the barriers to success. This analysis focused on potential improvements in productivity and on reductions in absenteeism, health care costs, and real estate costs. The potential effect on health care costs was weak, so it was removed as a possible impact measure that could be influenced by this new arrangement. By using the employee feedback, analysis of other studies, and examination of internal records, Deborah and the HR team agreed that this solution could drive important business measures.

Alignment

Deborah's next task was to identify specific business measures. Her key input for this task was provided by the executive vice president (EVP) of operations, who thought that this program could reduce the real estate and productivity costs. The real estate costs could be improved, unless the cost of maintaining an at-home office proved to be excessive or if the same office space for each participant continued to be maintained at FMI. Deborah worked with the EVP to set clear objectives for office space and productivity. After some discussion, the EVP suggested that processors and examiners could both process an average of at least one more claim than they had been producing and that the office expense could be dramatically reduced by about 20 percent for the first year. When discussing

the actual ROI of the study, the EVP was reluctant to set an objective. However, when Deborah suggested that the ROI should be more than an investment in a building, for example, the EVP agreed to set a goal. Given that FMI would average about15 percent for capital expenditure investments, Deborah suggested that an ROI of about 25 percent would be appropriate, and the EVP agreed.

The vice president of claims confirmed the objectives regarding productivity and real estate costs with Deborah and then focused on turnover reduction. The annual turnover rate at the time was 22.3 percent, and both the VPC and Deborah felt that an improvement rate of at least a 5 percent — to 17.3 percent — should be achievable if the project was successful. They also reviewed the absenteeism rate and thought it could drastically improve from a current level of 7.3 percent to a new level of 4.0 percent. Deborah addressed the critical issues regarding implementation during this discussion.

Deborah met with Ginger Terry, Environmental Coordinator in the procurement function, to collect data about carbon emissions from automobiles and to set a goal to show the actual reduction in carbon emissions that could be realized by eliminating the office commute. Ginger had compiled data about the commute time of employees for these two groups, and the average time was estimated to be one hour and 44 minutes each day. In a work-at-home arrangement, this time could be reduced to about 15 minutes, assuming a visit to the office every seven days. Deborah realized that the benefit to the environment would not add to the ROI in monetary terms but would be a substantial intangible for the citizens of this city and of the country as a whole.

Finally, Deborah met with the chief financial officer, chief legal counsel, chief information officer, and the HR team. The principal focus of the meeting with this group was to review the tentative objectives for additional refinement and concurrence.

Deborah's meeting with the HR team generated some insights, in terms of what employees and managers must learn to make the process effective and successful. Several questions surfaced about working without distractions, such as child care issues, other people in the residence, elder parent care, and more. Also, associates would have to adjust their work-

ing habits from an office to the home environment. They would need to adopt the discipline and structure necessary to be effective, by following consistent rules, regulations, and working hours. The team also noted that managers must be able to effectively provide coaching and counseling along the way and to be there for associates to address particular issues.

Deborah also explored the issues of perception and desired reaction with the executives. The executives expressed their belief that the process was needed and that it would ultimately be motivational and rewarding for participants. With this data, Deborah began to develop the objectives that would lead to the ROI forecast.

Questions for Discussion

1. Critique the way in which the analysis has been conducted.

- Are there additional questions or issues you would explore? If so, what are they?
- Write the objectives for all five levels.
- Complete the V-model showing the connection between the upfront assessment, objectives, and evaluation at five levels.

FMI: Part B

Objectives and Alignment

From the discussions, subsequent analyses, and potential solutions, Deborah, Melissa, and the HR team could develop all the objectives from the needs at different levels.

Objectives

Table 11.1 shows the objectives for the project by different levels, ranging from reaction to ROI. Deborah secured agreement on the objectives from those stakeholders involved. '

Alignment Model

The alignment model depicted in Figure 11.1 shows the connection between the upfront needs assessment, the objectives, and the evaluation. Deborah found constructing this model helpful in clearly determining if any pieces were missing. She worked through the analysis in order, beginning with level 5, and the project's value became obvious early in discussions. She then explored the business needs with different stakeholders. Job performance needs were revealed in concerns voiced by the senior vice president of claims. The learning needs evolved from that conversation, and the reaction needs were consequently developed from these discussions. Previous studies in which Deborah and her firm had been involved dictated some of the learning and reaction needs; that is, projects sometimes fail because people do not fully understand the rules or the work process or have an incorrect perception of the process. The objectives came directly from the needs assessment and were specifically developed based on each need. At this point, evaluation was tentative in terms of how the data would be collected. More detail on the evaluation side would be provided as the project unfolded, but the V-model provides the alignment necessary at the different levels of needs assessment, objectives, and evaluation.

Table 11.1 Detailed Objectives

After implementing this project:
Reaction • Employees should see the work-at-home project as satisfying, important, rewarding, and motivational. • Managers must see this project as necessary, appropriate, and important to FMI. **Learning** • Employees must know the realities of working at home, the conditions, roles, and regulations. • Employees must have the discipline and tenacity to work at home. • Managers must be able to explain company policy and regulations for working at home. • Managers must be able manage remotely. **Application** • Managers should conduct a meeting with direct deports to discuss policy, expected behavior, and next steps. • At least 30 percent of eligible employees should volunteer for at-home assignments within one month. • At-home offices are built and properly equipped. • Work-at-home employees should work effectively at home. • The at-home workplace should be free from distractions and conflicting demands. • Managers will properly administer the company's policy. • Managers should manage the remote employees effectively. **Impact** For those involved in the program: • Commute time should be reduced to an average of 15 minutes per day. • Office expense per person should reduce by 20 percent in six months. • Productivity should increase by 5 percent in six months. • Employee turnover should reduce to 12 percent in six months. • Unplanned absenteeism should be reduced. • Stress should be reduced. • Carbon emissions should be reduced. • The company's image as a green company should be enhanced. • Employee engagement should improve. **ROI** • Achieve a 25 percent return on investment.

Figure 11.1 Project Alignment

	Needs Assessment		Program Objectives		Evaluation	
5	Having employees travel long distances is causing serious costs to the company and damage to the environment	→	ROI of 25%	→	Calculate the ROI	5
4	• Average commuting time for staff is 1 hour and 44 minutes • Office expenses are high and increasing. Cost per office space is very high, average $17,000 per employee • Turnover is high, averaging 22.3%; benchmark data suggest that it should be about 12 % • Productivity needs to improve; the current level has been unchanged in two years. • Absenteeism is excessive at 7%; benchmark data is at 4% • Stress is high	→	• Commuting time is reduced to an average of 15 minutes a day • Office expense is reduced by 20% • Turnover is reduced to 12% • Productivity is improved by 5% • Absenteeism should be reduced • Stress should be reduced • Carbon emissions should be reduced • The company's image as a green company is enhanced • Employee engagement should improve	→	• Commute time, office expense, productivity, turnover and absenteeism are monitored in six months. • Questionnaires are administered.	4
3	• Employees will attend briefing session and volunteer to work at home • Employees must be productive in the home environment, making it free from distractions • Managers must manage effectively from remote location • Work-at-home policies will be administered properly	→	• Managers should conduct a meeting • At least 30% of employees in the claims processing area will work at home • Procedures and policies are implemented • Offices at home are built and equipped to work at home • Managers will follow the procedure to make sure the process works • Managers should manage the remote employees effectively	→	• Follow-up questionnaire to employees and managers three months	3

2	• Employees need to understand the reality of working at home, the conditions, roles, and regulations • Employees must have the discipline and the tenacity to work at hom • Mangers must understand how this can work • Managers must know how to manage remotely	• Employees must have the discipline and tenacity to work at home • Employees will know the realities of working at home, the conditions, roles, and regulations • Managers must know how to explain the policies and regulations for working at home • Managers must know how to manage remotely	• Checklist • Questionnaire	2
1	• Participants must see this offer as satisfying to their jobs, important to their own success and needs, rewarding, and motivational • Managers must see this as a necessary, appropriate, and important to their own organization's objectives	• Employees will find satisfaction with, and see the importance of, working at home • This work arrangement will be rewarding and motivational • Managers will view this new work arrangement as important and appropriate • Managers will see the need for the new work arrangement	• Reaction questionnaire at the end of the meeting to announce the program on the follow-up questionnaire	1

Questions for Discussion

1. What is the value of having objectives at all five levels? Please discuss.
2. Is developing a V-model on a program that is destined for implementation helpful or necessary? Please explain.

FMI: Part C

ROI Forecast Process

With a clear understanding of the solution and the connection to the business impacts, a forecast was now possible. Although Deborah could have forecast reaction, learning, and application, she limited her forecast to impact and ROI. This forecast was essentially what was requested in the RFP, with most of the emphasis on the ROI number itself. Deborah developed the forecast, following the assumptions from the various involved stakeholders.

Impact Forecast

The first significant input to the forecast was the expected number of employees who would participate. This program was voluntary, and both the advantages and disadvantages were clearly laid out for employees, along with conditions and regulations. Not everyone would be willing to work from home. As stated earlier, Deborah and the HR team thought that about one-third of employees would sign up for this program. One-third of 950 is 317, so the forecast was based on 317 participating employees. Based on the percentage makeup of the two groups, this number translated into 237 and 80, respectively, for processors and examiners.

What follows next in Figure 11.2 is the development of the monetary forecast, following the impact improvements. The estimated impacts were obtained directly from the chief of operations and the vice president of claims. Deborah also obtained from these stakeholders the estimated monetary value of a claim: $10 for processing a claim and $12 for reviewing a claim. The office expenses were estimated to be $17,000, and the cost of a turnover taken directly from a similar study (where the cost of turnover was pegged as a percent of annual pay) was provided at $24,500. With these values in mind, the calculations are presented in Figure 11.2.

Figure 11.2 Forecast of Monetary Benefits

Anticipated Participation

- Target Group: 950
- Predicted Enrollment: 1/3
- 950 x 33 1/3% = 317
- Allocation: 237 processors
  80 examiners

Estimated Impact

- Productivity: 1 additional claim processed
  1 additional claim examined
- Office expenses: 20% reduction
  $17,000 x 20% = $3,400
- Turnover reduction: 22.3% to 12% = 10.3% improvement

Converting Productivity to Money

- Value of one claim = $10.00
- Value of one disputed claim = $12.00
- Daily improvement = 1 claim per day
- Daily improvement = 1 disputed claim per day
- Annual value = 237 x 220 work days x 1 x 10.00 = $521,400
- Annual value = 80 x 220 days x 1 x 12.00 = $211,200

Office Expense Reduction

- Office expenses in company office: per person $17,000 annually
- Office expenses at home office: per person $13,600 first year
- Net improvement: $3,400, first year
- Total annual value = 317 x 3400 = 1,077,800

Converting Turnover Reduction to Money

- Value of one turnover statistic = $25,400
- Annual improvement related to program
- Turnover prevention: 317 x 10.3% = 33 turnovers prevented
- Annual value = $25,400 x 33 = $838,200

Estimated Costs and Forecast of the Project

The costs of the project were estimated to be about $1,000,000. This rounded-off estimate is the total cost, including both the cost of the initial analysis to determine the legitimacy of the solution and the development of the solution. The majority of the charges were in the IT support and maintenance, administrative, and coordination categories. When the monetary benefits were combined with the cost, the ROI forecast was developed, as shown in Figure 11.3.

Figure 11.3 Forecasted ROI

Total Forecasted Monetary Benefits	
Benefits =	$521,400 Processor Productivity
	211,200 Examiner Productivity
	1,077,800 Office Costs
	838,200 Turnover Reduction
	$2,648,600
Costs =	$1,000,000
BCR =	$\frac{\$2,648,600}{1,000,000} = 2.65$
ROI =	$\frac{\$2,648,600 - 1,000,000}{1,000,000} \times 100 = 165\%$

Presentation of Results

Although this number was quite impressive, Deborah cautioned the team not to make the decision solely on the ROI calculation. In her presentation to the senior executives, Deborah stressed that significant intangibles were present, first and foremost being the contribution to the environment, which is not included in this calculation. Other factors such as job satisfaction, job engagement, stress reduction, and image were huge intangibles that should also be considered. However, because these projects need to be founded on good business decisions, the ROI forecast was credible and conservative and based on only one year of value. Much more value will be realized after the first year because most of the office set-up expenses will occur in the first year.

Deborah also cautioned that for these results to materialize, the program would have to be implemented with a focus on results and the objectives set for the program. One by one, she presented each of the objectives and stressed that they would be communicated to all the stakeholders, including the employees. This process would ensure that all stakeholders would clearly grasp their responsibilities to make the program successful. While the program should deliver a significant ROI, most of the emphasis should be placed on the intangibles.

Questions for Discussion

1. What value does a forecast add to the situation? Is it needed in today's climate?
2. How helpful would including reaction, learning, application, and intangibles in the forecast be?
3. What prevents credible forecasts from being an option pursued by consultants and clients?

FMI: Part D

The Solution

The details of the solution were developed with proper input for this program to be successful. The design had to be acceptable and the execution flawless.

Design

The design of the program followed the traditional work-at-home model, in which employees work a full 40-hour week in a home office designated for this work. The office was equipped with the appropriate interconnectivity to the company, databases, and functions, much like an office in one of FMI's buildings. The pertinent ground rules for this arrangement included the following:

1. The office had to be free of distractions. For example, not locating a television in the room was recommended.
2. Employees had to work on a set schedule if they were required to have direct contact with customers, which most did. Employees had to log on at the time they began their work and log off when they had completed work for the day.
3. The workflow system contained mechanisms for monitoring the work being accomplished. Each activity could be easily tracked to provide a user performance profile. In essence, the system determined if a person was working and recorded the results.
4. The home office had to be designed for efficiency, good health, and safety.
5. Employees were urged to take short breaks, reenergize as necessary, and always take a lunch break. The total amount of expected actual work time was 40 hours per week.
6. Employees were required to negotiate expectations and agreements with the family and significant others.
7. When employees took time off for personal errands, visits to the doctor, or other breaks, this time was subtracted from their time worked. The employees were required to make up that time during the week.

8. Employees had to stay in touch with the office and to periodically make contact with the immediate manager.
9. Employees had to sign a work-at-home pledge and attend a session on "working at home."
10. Because there was an initial investment in equipment, computers, and connects, employees were required to sign a two-year commitment to continue to work for FMI, with certain conditions. If they were to leave the company before the end of two years, they would be required to pay back the set-up charges, estimated to be about $5,000.

The principal stakeholders agreed on the design. It was reviewed by a group of employees in focus groups and then modified to produce the final set of regulations.

Execution

With the design finalized, the program was launched via communications to the target group of 950 employees. Employees received memos explaining the program and were asked to attend briefing sessions during formal working hours to discuss the work-at-home arrangement. In all, 21 employee meetings were held for the 950 employees, and managers held meetings with their respective teams to discuss the advantages and disadvantages of the process. Employees were given three weeks to make a decision and to enroll in the program within that period of time.

Questions for Discussion

1. Critique the design of the work-at-home arrangement.
2. Discuss the implementation and execution.
3. What precautions must be taken in an experiment involving only one segment of the company?

FMI: Part E

ROI Planning

The next logical phase of the process was to plan for the ROI study. This step involved completing the data collection plan and the ROI analysis plan. This phase emerged from the objectives and the input that went into the V-model.

Data Collection Plan

The starting point for the data collection plan, shown as Figure 11.4, is the objectives listed in Table 11.1. The measures are further defined with those objectives. Methods of collection are identified, sources of data are pinpointed, and the timing for data collection is determined. The plan concludes with the responsibilities for collecting the data. The data collection is comprehensive and primarily focused on interviews, questionnaires, and monitoring the data in the system.

ROI Analysis Plan

Figure 11.5 shows the ROI analysis plan, which details the analysis for the impact study. This document begins with the impact measures planned for analysis. The first column of Figure 11.5 lists each of the data items, followed by the method of isolating the effects of the program on the data and the method of converting data to money. The intangibles anticipated from the project are listed after the particular cost categories. The individuals or groups targeted for the results are then identified, along with any influences that might make a difference in this evaluation.

When completed, the data collection plan and the ROI analysis plan provide a road map to conduct the study. These documents were approved by the various stakeholders, and the work began.

Data Collection and Integration

Data collection followed the data collection plan using interviews and questionnaires. The interviews were very few in number but did provide an opportunity to explore the issues that were included on detailed

Figure 11.4 Data Collection Plan

Data Collection Plan

Evaluation Purpose: Measure Success of Program

Program: FMI Work-at-Home Project

Level	Broad Program Objectives(s)	
1	*Reaction* • Employees should see the work-at-home project as satisfying, important, rewarding, and motivational • Managers must see this project as necessary, appropriate, and important to FMI.	
2	*Learning* • Employees must know the realities of working at home, the conditions, roles, and regulations • Employees must have the discipline and tenacity to work at home • Managers must be able to explain company policy and regulations for working at home • Managers must be able to manage remotely	
3	*Application* • Managers should conduct a meeting with direct reports to discuss policy, expected behavior, and next steps • At least 30 percent of eligible employees should volunteer for at-home assignments within one month • At-home offices are built and properly equipped • The home workplace should be free from distractions and conflicting demands • Managers will properly administer the company's policy • Managers should effectively manage the remote employees	
4	*Impact* • Commute time should be reduced to an average of 15 minutes per day • Office expense per person should reduce by 20 percent in six months • Productivity should increase by 5 percent in six months • Employee turnover should reduce to 12 percent in six months • Unplanned absences • Stress should be reduced • Carbon emissions should be reduced • The company's image as a green company should be enhanced • Employee engagement should improve	
5	*ROI* • Achieve a 25 percent return on investment	

Responsibility: HR/Consultants **Date:** March 30

	Measures	Data Collection Method/ Instruments	Data Sources	Timing
	• Rating scale (4 out of 5)	• Questionnaires • Interviews	• Participants • Managers	• 30 days • 30 days
	• Rating scale (4 out of 5)	• Questionnaires • Interviews	• Employees • Managers	• 30 days • 30 days
	• Checklist • Sign Up • Rating Scale (4 out of 5)	• Data Monitoring • Data Monitoring • Questionnaires	• Company Records • Company Records • Participants • Managers	• 30 days • 30 days • 90 days • 90 days
	• Direct Costs • Claims per day • Voluntary turnover • Rating scale (4 out of 5) • Rating scale (4 out of 5)	• Business Performance Monitoring • Survey	• Company Records • Participants • Managers	• 6 months • 6 months • 6 months • 90 days • 90 days
	• Baseline Data:			

Figure 11.5 ROI Analysis Plan

Program:	FMI Work-at-Home Project	Responsibility: HR/Consultants				Date:
Data Items (Usually Level 4)	Methods for Isolating the Effects of the Program/Process	Methods of Converting Data to Monetary Values	Cost Categories	Intangible Benefits	Communication Targets for Final Report	Other Influential Issues during Application
• Office expenses • Productivity • Turnover	• Control group • Expert estimates • Control Group • Participant estimates • Control Group • Participant Estimatesx	• Standard value based on costs • Standard values • External studies	• Initial analysis and assessment • Forecasting Impact and ROI • Solution development • IT support and maintenance • Administration and coordination • Materials • Facilities and refreshments • Salaries plus benefits for employee and manager meetings • Evaluation and reporting	• Reduced commuting time • Reduced carbon emissions • Reduced fuel consumption • Reduced sick leave • Reduced absenteeism • Improved job engagement • Improved community image • Improved image as environmental friendly company • Enhanced corporate social responsibility • Improved job satisfaction • Reduced stress • Improved recruiting image	• Participants • Managers • HR team • Executive group • Consultants • External groups	• Must observe marketing and economic forces • Search for barriers/ obstacles for progress

follow-up questionnaires. All participating employees and their managers received the questionnaires. In total, 342 questionnaires were distributed to employees and 45 of their managers. Figure 11.6 shows the data integration plan and how the data were collected and integrated to the results.

Figure 11.6 Data Collection Methods and Integration

Method	Level 1 Reaction	Level 2 Learning	Level 3 Application	Barriers/ Enablers	Level 4 Impact	Costs
Initial Participant Questionnaire	X	X	X		X	
Initial Manager Questionnaire	X	X	X		X	
Participant Interviews	X	X	X		X	
Follow-up Questionnaire: Participants	X		X	X	X	
Follow-up Questionnaire: Managers	X		X	X		
Company Records			X		X	X

Questions for Discussion

1. Critique the date collection plan.
2. Critique the ROI analysis plan.
3. How helpful is the data integration figure?
4. What improvements would you recommend for data collection and analysis?

FMI: Part F

Results: Reaction and Learning

The data were collected following the data collection plan. The results are presented by the levels of data, beginning with reaction and learning categories.

Reaction Data

Reaction data were collected early in the program and focused on reactions from both the employees involved in the project and their managers. Although open verbal and informal positive reactions were detected early in the process, four particular measures on the questionnaire were collected directly from the employees:

- the satisfaction with the new work arrangement
- the importance of this approach to their success
- the rewarding effect of this opportunity for them
- the motivation effect of this arrangement (the company anticipated this new work arrangement would result in more motivated employees who would produce more)

These four measures scored high numbers, and Table 11.2 shows the results. The reaction from the employee perspective averaged 4.4 on a 5.0-point scale.

Table 11.2 Reaction Data

From Participating Employees
• Rating of 4.6 out of 5 on satisfaction with new work arrangement • Rating of 4.7 out of 5 on importance of new work arrangement to their success • Rating of 4.2 out of 5 on the rewarding effect of the new work arrangement • Rating of 4.1 out of 5 on motivational effect of new work arrangement
From Managers
• Rating of 4.2 out of 5 on importance of the work alternative • Rating of 4.1 out of 5 on appropriateness of the work alternative • Rating of 4.3 out of 5 on the need for the work alternative

From the managers' perspective, understanding how managers perceived this new work arrangement was important. Although this issue had many aspects, the objectives focused on three issues: how managers perceived this program to be necessary, appropriate, and critical to the company. Managers had to see the necessity of this program in today's work climate when considering the effect of commuting on the environment and the desire for the flexibility of working from home. Table 11.2 shows the managers' reactions, which exceeded expectations. The ratings averaged 4.2 out of 5.0 on the three items. In summary, the reaction exceeded the expectations of the implementation team.

Learning Data

Although this project is not a classic learning solution, in which a significant amount of skills and knowledge must be developed for the program to be successful, a learning component is still present. Employees must understand their roles and responsibilities, and managers must understand the policies of working at home. They must also have the ability to explain the policies and to successfully address any performance issues that can develop in the unique environment of a remote workforce. The managers and employees provided self-assessment input on their questionnaires, which typically showed the learning from the two groups. The managers were given an opportunity during meetings to practice the performance discussions so they would be able to address the issues effectively. The facilitator of the meeting was required to confirm that each manager involved in the program could successfully explain the policy and demonstrate four types of performance discussions. As Table 11.3 shows, the self-assessment ratings exceeded the expectations on five measures from employees, averaging 4.3 out of 5.0. Managers averaged 4.1 out of 5.0 on two measures. The confidence to explain the policy was 3.9 out of 5.0, just short of the goal of 4.0. Still, there was confidence that learning had occurred so that the program could be properly implemented. Also, each manager successfully demonstrated, through role playing, four types of performance discussions.

Table 11.3 Learning Data

From Employees
Rating of 4.0 of 5 on the discipline and tenacity to work Rating of 4.1 of 5 on the tenacity to work at home Rating of 4.3 of 5 on roles and responsibilities Rating of 4.3 of 5 on conditions and regulations Rating of 4.2 of 5 on the realities of working at home
From Managers
• Rating of 4.2 of 5 on key elements of the policy for working at home • Rating of 3.9 of 5 on the confidence to explain policy • Successful skill practice demonstration on performance discussions – all checked

Results: Application

Application Data

These types of programs can easily go astray if employees are not following the policies properly and the managers are not managing the process appropriately. Consequently, application and tracking the implementation of the process became a significant data set. Table 11.4 shows the key items monitored that are directly connected to objectives. In all, 93 percent of managers conducted meetings with employees to discuss the work-at-home arrangement. Although 100 percent would usually be expected, a few managers had either no direct employees or no employees who were interested in working at home. The possibility remained that some managers did not conduct the meetings when they

Table 11.4 Application Data

- Ninety-three percent of managers conducted meetings with employees to discuss working at home
- Thirty-six percent of eligible employees volunteered for at-home work assignments (342 participants)
- In total, 340 home offices were built and equipped properly (two employees changed their minds before establishing an office).
- Work-at-home employees rated 4.3 out of 5 on working effectively at home
- Ninety-five percent of employees reported that workplace was free of distractions and conflicting demands
- Managers rated 4.1 of 5 on administering policy properly
- Managers rated 3.8 of 5 on managing remote employees effectively

should have. Therefore, a complete briefing involving all employees covered most of the issues that the managers had explored in the meetings with staff. The meeting with the managers represented reinforcement and showed their connection to the project.

After all the briefings and information-sharing, 36 percent of the eligible employees volunteered for work-at-home assignments, representing 342 participants. This participation was better than expected and left the project team pleased. In the follow-up data, the participants rated 4.3 out of 5.0 on working effectively at home; in addition, 95 percent of the employees reported that the workplace was free of distractions and conflict. The managers rated themselves 4.1 out of 5.0 on properly administering policy. However, some managers rated themselves lower in the area of managing employees remotely, resulting in a rate of 3.8 out of 5.0.

Barriers and Enablers

With the recognition that many issues could derail the success of this program, the barriers and enablers were captured. Table 11.5 shows the barriers and enablers to success, and as expected some classic barriers to success were found; however, the barriers did not prove to be highly significant. The greatest barrier was lack of manager support, with 18 percent of participants indicating this as a concern. Following closely behind was lack of necessary support from staff who would normally support them in their office work. Additionally, 15 percent indicated communication breakdown, while 11 percent thought that this program would limit their career progression. A few felt that they would be left out of decision-making and that IT support would be inadequate, while some indicated that they were concerned about the loss of social interaction.

Regarding the enablers, the number one enabler on this list is the personal cost savings. Many employees signed up for this arrangement as a way to save costs by avoiding the commute. Followed closely behind was the flexibility of having some adjustments in their work schedule and of taking time for personal activities to be made up later. Next were the convenience of working in the home setting and improved work/life balance. Most employees said they had all the tools to make the

Table 11.5 Barriers and Enablers to Success

Barriers	Percent Indicated
Managers support is lacking	18%
Lack of support staff	16%
Communication breakdowns	13%
Career progression is limited	11%
Left out of decisions	9%
IT support is lacking	7%
Lack of social interactions	5%
Enablers	**Percent Indicated**
Personal cost savings	89%
Flexibility to schedule	71%
Convenience of work	71%
Work life balance	64%
I have all the tools	54%
Support of manager	31%
Support of staff	14%

change work. Only 31 percent said the support of the managers helped to make it more successful. Finally, 14 percent said staff support helped them. These barriers and enablers provided an opportunity for process improvement.

Results: Impact

Isolating the Effects of the Program

As the impact data were collected, the key question was how much of this improvement was actually connected to this specific project. While several methods were considered, a classic method was used. The work-at-home group was considered an experimental group and compared to a matched group that would serve as a control group. This match group,

labeled the comparison group, was matched with the experimental group on job category, length of service with the company, and gender, age, marital, and family status. With so many variables, getting a perfect match was difficult, but the team felt that the two groups compared favorably. As a backup, expert estimates were used.

Impact

The impact data were monitored and included three measures: productivity, office expense, and turnover. The team decided not to value this program on absenteeism and instead left it as an intangible. Although absenteeism is probably connected to the program, the HR team thought not including absenteeism as a measurable objective would be best. If the organization focused too much on this measure, some employees may decide to work while sick. Table 11.6 shows the impact data of both the experimental group and comparison group six months after the project began. The differences are significant, representing distinct improvements in the three measures and exceeding the objectives of the project. After identifying the amount of data and isolating it to the project, the HR team moved to the next step, converting data to money.

Table 11.6 Impact Data

Business Performance	Work-at-Home Group	Comparison Group	Change	Number of Participants
Daily Claims Processed	35.4	33.2	2.2	234
Daily Claims Examined	22.6	20.7	1.9	77
Office Expense Per Person	$12,500	$17,000	$4,500	311
Annualized Turnover (Processors and Examiners)	9.1%	22.3%	13.2%	311

Converting Data to Money

Table 11.7 shows how each of the data sets was converted to monetary value. As the table explains, the method for converting the productivity improvement to value used standard values. The value was previously developed by a group of experts and analysts in finance

and accounting. The number was rounded to $10 for claim processing and $12 for claim examination. The calculation shows the annual cost savings.

Office expenses were rounded numbers taken directly from the procurement function. The first-year value of $12,500 was used with the at-home employees. This amount was compared to the annual cost to maintain the office for all employees, $17,000 per person. The first-year value included cost of a computer, desk, and other items that would certainly be present as long as that person works at home. The second-year value shows a very significant reduction. To be conservative, only the first-year value was used in the comparison.

For turnover reduction, several turnover cost studies were performed on jobs in the insurance industry, using the ERIC database. The cost ranged from 90 percent to 110 percent, which seemed consistent and credible to the project team. The 90 percent figure was used, and when multiplied by the average salary, yielded $25,400. In all, 41 turnovers were prevented in the first year based on six months' experience. The annual value is shown in the calculation, and the total is $3,959,692.

Table 11.7 Converting Data to Money

Productivity Improvement
• Cost (value) of processing one claim = $10.00 • Cost (value) of examining one disputed claim = $12.00 • Daily improvement = 2.2 claims per day • Daily improvement = 1.9 disputed claims per day • Annual value = 234 x 220 work days x 2.2 x 10.00 = $1,132,560 • Annual value = 77 x 220 days x 1.9 x 12.00 = $386,232
Office Expense Reduction
• Office expenses in company office: per person $17,000 annually • Office expenses at home office: per person $12,500 first year; $3,600 second year • Net improvement: $4,500, first year • Total annual value = 311 x 4,500 = $1,399,500
Turnover Reduction
• Value of one turnover statistic = $25,400 • Annual improvement related to program = 41 turnovers (prevented), first year • Annual value = $25,400 x 41 = $1,041,400

Costs

The costs of the entire project as developed and monitored were estimated and are shown in Table 11.8. These costs include the initial analysis to determine the suitability of the solution, the ROI forecast, and the actual development of the solution. Most of the charges are for IT support and maintenance, administration, and coordination categories.

Table 11.8 Project Costs

Initial Analysis and Assessment	$21,000
Forecasting Impact and ROI	$10,000
Solution Development	$35,800
IT Support and Maintenance	$238,000
Administration and Coordination	$213,000
Materials (400 @ $50)	$20,000
Facilities and Refreshments – 21 meetings	$12,600
Salaries Plus Benefits for Employee and Manager Meetings	$418,280
Evaluation, Monitoring, and Reporting	$23,000
Total First Year Costs	**$991,680**

Questions for Discussion

1. Calculate the benefit cost ratio and ROI for this project.
2. Interpret these two calculations and what they mean.
3. Are the results of this study credible? Explain.

FMI: Part G

Results: ROI and Intangibles

ROI Calculations

The ROI is calculated when the costs are totaled, and the monetary benefits are tallied. Table 11.9 shows the calculation of the benefit cost ratio and the ROI. The ROI calculation at 299 percent greatly exceeded the initial objective of 25 percent. However, important results were not included in the calculation. The intangibles were very critical to this study.

Table 11.9 ROI Calculations

$BCR = \frac{\text{Consulting Monetary Benefits}}{\text{Consulting Costs}} = \frac{\$3{,}959{,}692}{\$991{,}680} = 3.99$
$ROI = \frac{\text{Net Consulting Benefits}}{\text{Consulting Costs}} = \frac{\$3{,}959{,}692 - \$991{,}680}{\$991{,}680} \times 299\%$

Intangible Benefits

Table 11.10 shows a list of the intangible benefits connected to the project. To compile this list, an individual had to indicate a 3, 4, or 5 on a 5-point scale where 3 is moderate influence, 4 is significant influence, and 5 is very significant influence. A list of expected intangibles was included on the participants' and managers' questionnaires. In addition, at least 10 percent had to check 3, 4, or 5 to make the table. These were impactful intangibles, including those connected to the environment. Participants and managers could clearly see the environmental connection. Executives in particular may have viewed this data set as exceptional, because the intangible image of helping the environment often drives these types of projects. When these data sets were combined with the very high ROI, seeing the program's payoff was easy.

Table 11.10 Intangible Benefits

- Reduced commuting time
- Reduced carbon emissions
- Reduced fuel consumption
- Reduced sick leave
- Reduced absenteeism
- Improved job engagement
- Improved community image
- Improved image as an environmental-friendly company
- Enhanced corporate social responsibility
- Improved job satisfaction
- Reduced stress
- Improved recruiting image

Fuel Savings

Because the individuals involved in this program eliminated their commute time (with the exception of an occasional required visit to the office), the fuel savings were significant. The average daily commute time reduced from 104 minutes to 15 minutes. When considering the average speed (30 mph), the average miles per gallon of gasoline (20 mpg), and the cost of fuel ($3.00 per gallon), a savings of $1,470 per year was realized in fuel costs alone.

Carbon Emissions

From the perspective of the top executive, the principal motivating factor of this program was to reduce carbon emissions. With reduced fuel consumption, carbon emissions were consequently reduced. A total of 490 gallons of fuel per person was saved, for a total of 152,390 gallons each year. This value translates into 1,478 tons of carbon emissions.

What Makes the Results Credible

Understanding what makes this data credible is necessary. The numbers are impressive, but some specific attributes make the data especially credible.

- The impact data improvements were taken directly from the records and were not estimated.

- The effects of the program were isolated from other factors using a comparison group.
- Several impact measures were not converted to money, although they had significant value.
- All the costs were included, including the very heavy start-up cost.
- Only the first-year values were used in the analysis. This program will have a lasting effect as long as each individual is employed with FMI.
- When estimates were used, they were taken from the most credible sources.
- All the data sets and methods had buy-in from the appropriate operating executives and key managers.
- There is no reason to dispute the results presented in this process.

Questions for Discussion

1. Which audiences should receive the results of this study?
2. What specific methods should be used to communicate results?
3. What specific improvements could be made to this program going forward?