Renewing Our Commitment to Quality

Market Strategy International's Reporting Process

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Written for Market Strategies International

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1 Executive Summary

Market Strategies International (MSI) has a strong commitment to providing its clients with high-quality deliverables. With an increase in client demand for consulting reports as opposed to research reports, customer satisfaction of reports and graphical data representation has fallen below MSI's expectations. Given this decline in customer satisfaction and MSI's significant growth plan over the next several years, our Contextual Inquiry team, uCentric, was consulted to determine ways to improve MSI's reporting and graphics generation process.

We interviewed eight MSI employees across four of their seven diverse industry groups who were directly involved with reporting and graphics generation in addition to interviewing an MSI brand manager. From data collected through these interviews, we created several models to analyze and eventually consolidate. We then created an affinity diagram to highlight common themes and key points that were heard across the interviews, leading to three key findings. This report contains our findings and corresponding recommendations that MSI can employ to provide their clients with even higher quality reports.

Finding 1. There are differing ideas of company identity and priorities amongst MSI employees. This is a root issue that is at the bottom of many problems relating to the reporting process. A clear distinction between consulting and research reports is not widely understood and MSI employees perform similar tasks differently across projects and industry groups. Due to these reasons, there is a lack of agreed quality measures for reports delivered to clients. We recommend MSI take advantage of the online forum they plan to implement in 2008 to have open, company-wide discussions to establish MSI's brand, job roles and responsibilities, and quality checklists for reports.

Finding 2. There is currently a lack of best practices across MSI. This is primarily due to the lack of communication between project teams and industry groups. Consequently, a strong sense of what works, what does not and where training is needed to improve does not exist. We recommend that MSI use the online forum planned for 2008 to have open, company-wide discussions on best practices and training needs across MSI. We also recommend that MSI use this discussion to establish a "Library of Best Practices" (Director of Quality) that can be referenced by all MSI employees.

Finding 3. The transfer of reporting expertise is not effectively being conveyed from Study Directors to Project Managers. This is primarily due to time pressures that are an inevitable part of the reporting process in which both roles are heavily involved. Study Directors recognize the value of their report-creation experience while Project Managers seek this knowledge along with other training resources to improve the quality of their reports. We recommend that providing training should be made a high priority responsibility for Study Directors. We also recommend that Study Directors utilize the Library of Best Practices generated through forum discussion and designate a periodic time for trainings and workshops.

2 Introduction

2.1 Market Strategies International

Market Strategies International (MSI) is a full-service market research and consulting firm headquartered in Livonia, MI. In addition to its headquarters, there are several branch offices scattered across the United States and the rest of the world. Currently, MSI has approximately 170 full-time employees and 400 part-time employees. These employees are divided among seven diverse industry groups within MSI: Energy; Financial Services; Government, Foundation and Academic; Healthcare; Medical Devices and Technology; Pharmaceuticals and Biotechnology; and Telecommunications.

In addition to current personnel, MSI is in the process of fulfilling a significant growth strategy – they are planning to triple in size within the next several years. They have recently acquired another company and currently have more than 20 open positions.

A brief and simple description of MSI's reporting process as it relates to our analysis is as follows:

1. Clients request MSI carry out market research in an area specific to their organization.
2. MSI collects and analyzes the data drawing on a full range of quantitative and qualitative methodologies.
3. MSI generates a report presenting its findings to the client.

2.2 Project Scope

The uCentric team was asked by MSI to investigate how to improve their reporting and graphics creation process. Recently, customer satisfaction has been lower than MSI's expectations and feedback reveals that MSI's reports are "not compelling" and that they lack "actionable results" (Director of Quality).

After our initial interviews with MSI employees, we discovered that the reporting process is only one part of the much larger process conducted by MSI for a given project. We decided to limit our focus to only those parts that dealt directly with the creation of reports instead of information pertaining to data collection and other steps that took place prior to the actual creation of the report.

The data collected from these interviews was carefully compared and analyzed so that common issues and problems could be brought forward and addressed. Although these interviews did not encompass three of the industry groups, we are confident that our recommendations will apply to them as well.

3 Method

Our investigation began with meeting our client contact, the Director of Quality, at MSI headquarters. This meeting introduced us to the organization and we were presented with a list of possible interviewees from across four of the seven diverse industry groups. After this meeting, interviews were conducted among the following groups:

- Project Managers (4): Generally, these individuals create reports, including graphics creation, amongst a small team consisting of other Project Managers and a Study Director.
- Study Directors (4): Generally, these individuals supervise and review the process of creating reports.
- Corporate Brand Manager: Not integral to the reporting or graphics creation process, but works to maintain a consistent brand for MSI.

A total of nine interviews were conducted. We intended to interview an additional individual at MSI, but scheduling conflicts made this difficult and this individual did not play a role central to the reporting or graphics creation process.

For each interview, we prepared an interview protocol to outline important data we wanted to collect. The interview protocol was used by the interviewing pair, consisting of one note-taker and one interviewer. After each interview, the interviewing pair shared their knowledge with the other uCentric team members at interpretation sessions where affinity notes were taken and individual models of the communication, sequence, artifact, physical, and cultural aspects of the interviewees were created.

When our interviews were completed, we consolidated our findings into separate consolidated models (see Appendix B-E) based on the aforementioned individual models. In addition, we captured approximately 290 affinity notes that encapsulated design ideas, breakdowns, insights and questions that did not fit into our consolidated models. These affinity notes were organized into an Affinity Diagram (see Appendix F) where various notes were grouped and labeled according to their topic and the underlying issues they addressed. The major topics that emerged were:

Internal and External Communication	Leveraging Internal and Client Relationships
Quality of Deliverables	Dependence on Existing Work Patterns
Understaffing and Time Pressure	Need for New Skills and Reporting Standards

The main issues we uncovered during this process were:

- Lack of shared identity and priorities amongst MSI employees
- Lack of shared best practices across MSI
- Lack of proper training for MSI employees

Our main recommendations will focus on these areas.

4 Findings and Recommendations

In what follows, we have organized our recommendations to address our three key findings with short-term and long-term recommendations highlighted. Along with each finding, we have presented corresponding evidence. Directly following the section of findings and evidence are our recommendations for improvement and the benefits we expect from their implementation. Alternative and related recommendations can be found in Appendix A.

As part of developing our recommendations, we utilized the following key criteria. Our recommendations should:

- Empower MSI employees at all levels to improve reporting.
  - All MSI employees are aware that there are problems with the reporting process and have the most valuable input for improving it since they are creating the reports.
- Provide savings in time and money in the short-term.
  - All MSI employees expressed major time constraints and, though our recommendations may add to their current tasks, employees should see a savings in time quickly.
- Work across all MSI industry groups.
  - It would be ineffective for MSI to target a subset of industry groups when they can affect change across all industry groups.

Finding 1: Differing ideas of company identity and priorities

Finding 1A A clear distinction between consulting and research is not widely understood throughout MSI.

Evidence A Study Director states that, "MSI is born from researchers" (U07). MSI claims to provide consulting services, but their processes and focus have historically been on research. We find that Study Directors and Project Managers are aware consulting reports are more useful for their clients and are working towards shorter, higher-level reports with data represented in such a way that clients can easily see how the results apply to their organization. Because there is no established vision or process for what a good consulting report is, another Study Director states, "when it's crunch time, [a data-heavy research report] is what the client gets" (U05).

Finding 1B MSI employees perform similar tasks differently across projects and industry groups.

Evidence We find that varying team members fill key project roles. Our Affinity Diagram (see Appendix F) and Swimming-Lane model (see Appendix X) revealed that sometimes Vice Presidents play the role of Client Contact, and sometimes Study Directors play this role. In one case where a Vice President is the Client Contact, a Study Director states that the Vice President, "creates a rough Analysis Plan without much insight into client needs and expects Study Director to move forward" (U07). In another case where a Study Director acts as a Client Contact, she finds it necessary to, "step into the clients shoes" (U05), to create a good Analysis Plan. These are two very different standards for the same role.

Finding 1C Lack of agreed quality measures.

Evidence The Corporate Brand Manager tells us that employees sometimes deviate from standard report templates citing client needs, but are in fact deviating to experiment with something new or to better fit their personal preference. Additionally, a Study

Director delivered a 200-page report to a client only to have it returned to be reduced to a mere 37 pages.

Finding 1: Recommendations & Benefits

Recommendation 1A-C (short-term): Online forum discussions

We have been informed that MSI plans to implement an online forum in 2008. We recommend utilizing this online forum as a venue to have open, company-wide discussions regarding key issues identified by the three recommendations below. In the short-term, merely getting the discussion started is needed. For an alternative to using an online forum, see Appendix A.

Recommendation 1A (long-term): MSI's brand - "Are we a consulting firm, a research firm or something unique in-between?"

We recommend having a discussion that centers on resolving the above question. How do employees define consulting? How do employees define reporting? Which of these types of services do employees see clients demanding? Analysis of the discussion should inform MSI's branding and their relationship with their clients.

Recommendation 1B (long-term): Employee roles and responsibilities - "What are the roles and responsibilities of my position at MSI?"

We recommend having a discussion that centers on resolving the above question. What is the most important task you do? What is the least important? What is an important task you do not have time to do? These questions could also be applied with regard to project teams and industry groups. Analysis of the discussion should inform revised job descriptions, clearly defining each employee's roles and responsibilities.

Recommendation 1C (long-term): Quality checklists - "How do we define a quality report?"

We recommend having a discussion that centers on resolving the above question. How do you define a high-quality report (length, readability, clarity of graphics, etc.)? How do you define a low-quality report? Analysis of the discussion should inform the development of quality checklists that individuals working on reports should consult before starting on a report, while working on a report and before delivering the final report to the client.

Benefits

There are a number of benefits from these recommendations as this finding is at the root of many reporting issues. With decisions made about the split between researching and consulting as well as what constitutes a quality report, MSI will be able to deliver more relevant, higher quality reports to their clients. With stronger priorities coming from a deeper understanding of individual and team roles, employees will be able to make better use of their time. Having a cohesive brand and employee roles and responsibilities, integration with acquired companies and new employees will be more efficient as MSI continues to rapidly grow. Involving all MSI employees and empowering them to take responsibility for reporting improvements will allow leadership to develop at all levels of MSI as opposed to leaving that burden on upper management. With open communication, stronger relationships will develop amongst all MSI employees.

Finding 2: Lack of Best Practices across MSI

Finding 2A Industry groups across MSI are not aware of how other groups handle similar challenges.

Evidence Several users made comments about how they would like to be able to observe how other industry groups work. A Study Director stated, it would be, "helpful to see what other folks are doing" (U08), in different industry groups. Another Study Director that recently shifted from one industry group to another made reference to a valuable artifact used by her old industry group, but not her new one: "It would be useful to have something similar to the question matrix for graphics" (U07). From our consolidated cultural (see Appendix F) and communication (see Appendix C) models, we find that industry groups do indeed have very little contact with one another.

Finding 2B Needs for training are not recognized.

Evidence One Project Manager told us that she uses a, "trial-and-error" (U06), method for generating graphics on reports. Another Project Manager said, "I really enjoy the graphics aspect of the report, but I do not have much background in it" (U02). We found that there was a graphical data representation training that happened recently, but it was offered for Study Directors and not Project Managers. A Study Director told us that the training would have been better suited for Project Managers as she was presented with information she already knew and Project Managers primarily work on graphics creation.

Finding 2: Recommendations & Benefits

Recommendation 2A-B (short-term): "What are our best practices? What are our training needs?"

We recommend using the online forum (Recommendation 1A-C) to have a discussion that centers on resolving the above two questions. Given a specific situation, what has worked well? Given a specific situation, what has not worked well? Given a specific situation, what was your biggest obstacle? In the short-term, the discussion just needs to get started.

Recommendation 2A-B (long-term): Library of Best Practices

We recommend analysis of the discussion should inform the development of a company-wide electronic Library of Best Practices that all employees can access, search and contribute to.

Benefits

By involving everyone in the sharing and development of best practices, MSI will be leveraging the latent expertise of its employees for the benefit of all in a cost-effective manner. With a Library of Best Practices developed, employees share a common ground for tackling similar challenges and develop valuable relationships with other employees. As the Library of Best Practices showcases what MSI employees are good at, it also reveals areas where training is needed for MSI employees.

Finding 3: Reporting expertise is not effectively conveyed from Study Directors to Project Managers

Finding 3A Project Managers recognize that they lack sufficient graphics creation skills to create "compelling" reports

Evidence Project managers have stated that they create reports based on previous similar ones but feel caught, "like a deer in headlights," when a new project arises, which leads to regurgitation of more data than the client needs or wants. One Project Manager told us, "I don't really know a lot about graphics, but I still need to do it for my job." All Project Managers have stated that they would appreciate trainings in graphics creation to be able to create higher quality reports.

Finding 3B Study Directors recognize value of their experience in report creation

Evidence We find that Study Directors feel they are a great resource for Project Managers since they are experienced in reporting. One Study Director said, "I am well experienced to help Project Managers in their work" (U07). Another Study Director stated that, "having 14 years of experience in this area, I can provide a lot of support to Project Managers that are fresh out of college" (U05). Based on our Swimming Lane Diagram (see Appendix D), a bottleneck is evident through the repetitious feedback cycles between Project Managers and Study Directors during report creation.

Finding 3C Both Study Directors and Project Managers endure major time constraints

Evidence Study directors have expressed that they do not have enough time to train Project Managers in graphics creation; many Project Managers just learn "on-the-go", especially if they are new to the company. Project Managers want to learn better ways to represent data in their reports but there is no formal training provided for graphics creation or how information can be better visualized and represented. We find that most Project Managers are working on three to four projects on a daily basis and a Study Director told us that "Study Directors are spread thin over several projects" (U08).

Finding 3: Recommendations & Benefits

Recommendation 3A-B (short-term): Providing training for Project Managers should be a priority for Study Directors.

By re-prioritizing tasks (Recommendation 1B), Study Directors should use their expertise to prepare training sessions based on areas in which their Project Managers need support.

Recommendation 3A-B (long-term): Utilize Library of Best Practices

Materials for training sessions can be developed based on the Library of Best Practices (Recommendation 2A-B). Training materials developed outside the Library of Best Practices should be deposited into the library. Study Director trainings held within a team or industry group would then be collected and could be built upon for all MSI employees to use.

Recommendation 3A-C (short-term): Local Library of Reports

We recommend starting a Library of Reports within each industry group where Study Directors can select successful reports from each quarter to showcase. It is important for Study Directors to explain why these were successful reports. Employees should be recognized for their work if chosen and the report deposited into a local repository for all industry group employees to reference. This could be done regardless of, or in parallel to, Recommendation 2A-B.

Recommendation 3A-C (long-term): Global Library of Reports

We recommend combining industry groups' Library of Reports into a company-wide electronic Library of Reports that all employees can access, search and contribute to. This could be implemented as a division of the Library of Best Practices (Recommendation 2A-B).

Recommendation 3C (short-term): Designate Regular Training Times

We recommend designating a regular time for employees to perform improvement tasks. This could include attending workshops and training sessions as mentioned above, but may also include participation in online forum discussions, further exploration in graphics creation or other activities conducive to improving the reporting process and quality of reports. For additional related recommendations, please see Appendix A.

Benefits

Through organized communication between Study Directors and Project Managers and the implementation of a standard training program, high-quality reports will be done in less time. Not only does MSI leverage the expertise of MSI employees and build stronger relationships amongst team members, but they also save costs as far fewer external trainers will be needed. By recognizing individuals for successful reports seen by the entire company, individuals have a strong incentive to produce higher quality reports.

5 Summary

In summary, we acknowledge that MSI has a strong commitment to providing their clients with high-quality reports. We have three major recommendations that will help MSI renew their commitment to quality and provide their clients with the high-quality reports they expect from MSI.

Two of our recommendations utilize a company-wide forum to discuss and establish two key things:

- Company identity along with individual, team and company priorities. With these in place, MSI will have a solid understanding of who they are, what their clients expect from them and how to make best use of their limited time.
- Library of Best Practices. With this in place, MSI employees will have a shared resource and strong examples of how to deal with diverse client needs.

Our third recommendation is to leverage the latent expertise of Study Directors and empower them to train their Project Managers. Project Managers are "in the trenches" (Director of Quality) creating the reports and supporting them will ensure higher quality reports.

6 Appendices

Appendices Introduction

We arrived at a few alternative and related additional recommendations that we thought were important for you to consider along with those included in our main report. These recommendations are included in Appendix A.

As per your request, we have included all of the pertinent consolidated models that we have been discussing with you as well as an outline of the Affinity Diagram we walked with you. A description of each model precedes the model itself in its corresponding appendix:

- Appendix B: Consolidated Sequence Model
- Appendix C: Consolidated Communication Model
- Appendix D: Consolidated Swimming Lane Model
- Appendix E: Consolidated Cultural Model
- Appendix F: Affinity Diagram Outline

Appendix A: Alternative and Related Recommendations

Alternative Recommendation 1A-C (short-term): Company-wide Surveys

Instead of discussing key issues highlighted in Recommendations 1A, 1B, and 1C through an online forum, company-wide surveys can be used to ask similar questions and analyze data. The disadvantage of a survey is that it does not provide as great of a gain in the short-term as the online forum. With the online forum, as soon as individuals spend just a few minutes discussing and viewing others' responses, they are engaged immediately and learning from what others are contributing. With a survey, it may only take a few minutes to complete, but the individual would have to wait until analysis was complete to view any results.

Related Recommendation 3C (long-term): Report Reviews

We recommend another valuable use of designated improvement time time would be for each project team to reflect on a recently submitted report and discuss areas of the report and project process that went well along with areas that could use improvement. This could be a weekly, one-hour time slot and the results could be submitted to the Library of Best Practices.

Recommendation 3C (long-term): Global Library of Reports

We recommend having designated improvement time become a company-wide standard which may improve communication between industry groups since all employees would have this time available across the company.

Related Recommendation 3A: Evaluate Trainings

We recommend MSI establish methods and criteria to oversee training programs and workshops in order to evaluate their effectiveness. It is important to gather feedback so improvements can be made to benefit employees and aid in quality report production.

Appendix B: Consolidated Sequence Model

In this appendix we include the "Consolidated Sequence Model". The consolidated sequence is similar to traditional task analysis. This model shows the detailed work structure of the core user tasks. It collects similar sequence data across users showing a superset of the user actions: the steps performed during the task, the triggers for the tasks and steps, different strategies for achieving intent, and the breakdowns observed.

MSI Reporting Process			
Trigger: Acceptance of project proposal	**Overall Intent:** Conduct proposed research and provide actionable recommendations based on data		
Activities	**Intents**	**Abstract Steps: Strategy 1**	**Abstract Steps: Strategy 2**
Finalize Project Planning	Make sure client and MSI Team are on the same page		
		Study Director (SD) organizes kick-off meeting to assess client needs as well as develop and share project scope with MSI Team	Study Director (SD) organizes kick-off meeting to assess client needs as well as develop and share project scope with clients and MSI Team
	Define fielding protocol	Client Contact (CC) develops Questionnaire to completely define data fielding	Project Manager (PM) develops Questionnaire to completely define data fielding
		CC reviews Questionnaire with Client	
		CC modifies Questionnaire if necessary	
Finalize Analysis Plan	Facilitate the process of converting the Questionnaire into a deliverable		
		SD gets Questionnaire from CC	
		BD: Not enough insight/ detail coming in with Questionnaire	
	Convert Questionnaire into Analysis Plan	SD analyzes each question in the Questionnaire	
		SD establishes report sections in the Analysis Plan	
		SD shares Analysis Plan with Project Managers (PMs)	

Activities	Intents	Abstract Steps: Strategy 1	Abstract Steps: Strategy 2
		BD: Not enough time/ thought put into Analysis Plan	
Finalize Report Shell	Create a structure to efficiently get data into final report		
			PM analyzes each question in the Questionnaire
		PM generates Report Shell slides based on Analysis Plan sections	PM generates Report Shell slides based on Questionnaire analysis
		PM inserts placeholder graphics into Report Shell slides based on Analysis Plan definitions	PM inserts placeholder graphics into Report Shell slides based on Questionnaire analysis
	Verify quality of our drafts	SD reviews Report Shell and provides feedback to PMs	
		PM modifies Report Shell based on feedback from SD	
		SD passes Report Shell to CC for review	
		CC reviews Report Shell and provides feedback to PMs	
			CC passes Report Shell to Client for review
			Client reviews Report Shell and provides feedback to CC
			CC passes Client Report Shell feedback to PMs
		PM modifies Report Shell based on feedback from CC	
Prepare the Report *Trigger: Data returned from Research Services*	Communicate findings and recommendations based on data		
		BD: Delay in receiving data from Research Services	

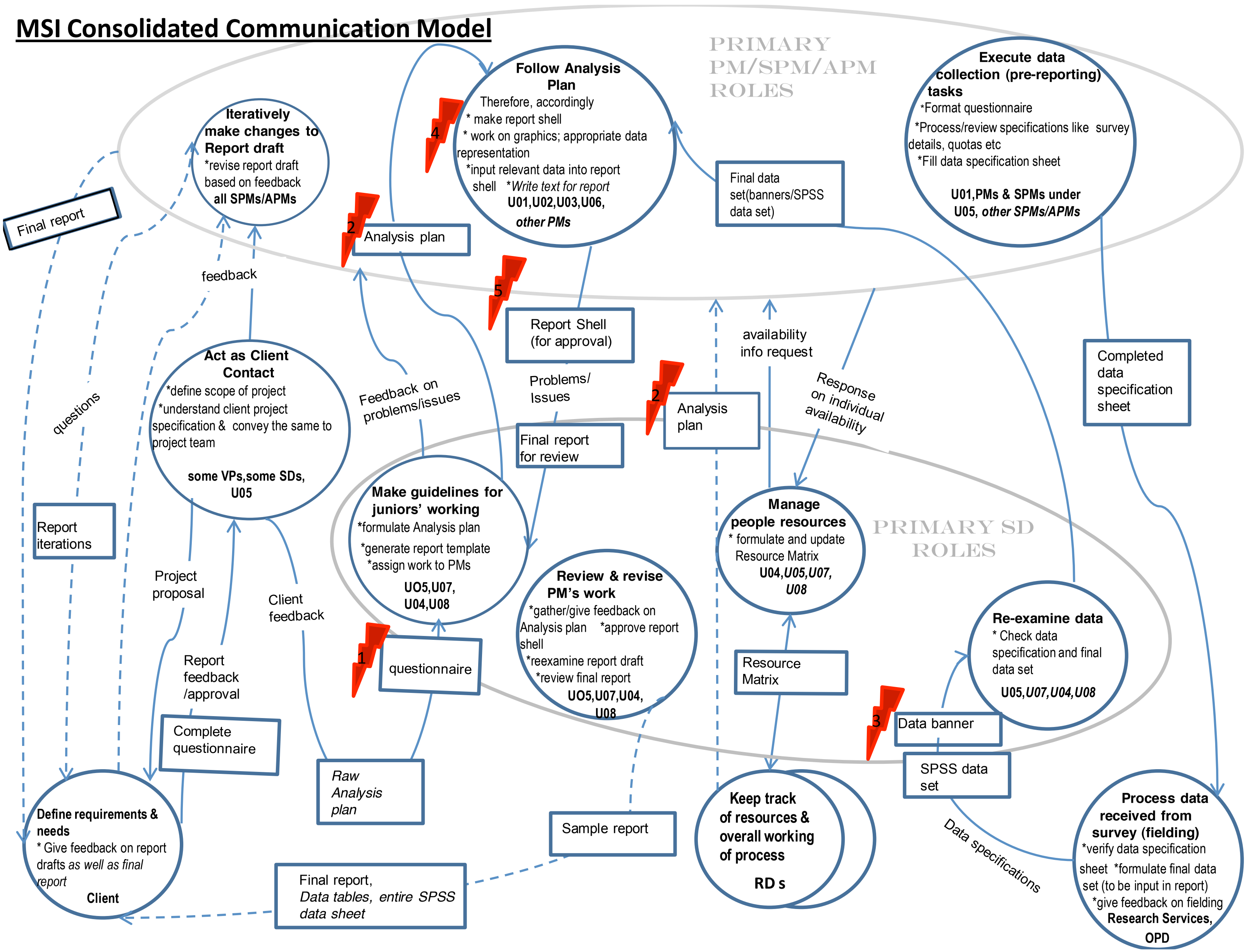
Activities	**Intents**	**Abstract Steps: Strategy 1**	**Abstract Steps: Strategy 2**
	Verify quality of our deliverables	PM verifies the data received	
		PM exports data from data banners (in Winyaps) to Excel	PM exports data from SPSS to Excel
		PM manipulates data in Excel	
	Provide client with actionable insights	PM populates Report Shell graphics based on data imported from Excel and client specifications	
		BD: Lack of graphics creation training amongst PMs	
		SD writes "Take-aways" for each slide based on graphical data representation	
Finalize Report and deliver to Client	Deliver our promised product to our client		
	Verify quality of our deliverables	PM passes Report Draft to SD/Research Director (RD) for review	
		SD/RD reviews report draft and *recommends modifications* if necessary	SD/RD reviews report draft and *makes modifications* if necessary
		SD/RD sends report draft to PMs to *make* modifications	SD/RD sends report draft to PMs to *review* modifications
			Client reviews report draft and provides feedback
		BD: Back and forth cycles can take a lot of time	
		Final Report passed to CC	
		CC delivers Final Report to Client	

The consolidated sequence model above clearly shows the report generating process in its entirety, from the initial client meetings through the delivery of the final report to the client. The Strategy 1 column describes the "main line" of the process. The Strategy 2 column describes alternative steps that happen less often in the process as well as steps that do not occur in the main line but are done by some users. We chose to span two job roles that intertwine throughout the process: Study Directors (SD, who oversee several projects at a time) and Project Managers (PM, who perform data entry and graphics creation for the report). This model reveals that the process is very collaborative and we would benefit by creating a consolidated swimming lane model to focus on the hand-offs that are occurring throughout the process. We can see that three of the five breakdowns in the model revolve around information flow between various roles. Additionally, this model demonstrates the importance of the artifacts created at the beginning of the process and how those artifacts shape the report. Although creating the Final Report is in the last half of the process after data is collected from the field, it is the Analysis Plan and Report Shell, and not the results from fielding that predominantly control the Final Report creation.

Appendix C: Consolidated Communication Model

The consolidated communication model is a graphical representation of all the interaction that takes place amongst members of the MSI, who are involved with the reporting process. It helps one to get an overall picture of the communications taking place between various people, the intermediate transfer of artifacts/feedback amongst people, and the major roles of team members involved in this process.

MSI Consolidated Communication Model



Legend for Consolidated Communication Model

1 :not enough insight/details coming in with questionnaire

2 :not enough time/thought put into Analysis Plan

3 : Delay in receiving data banner from Research Services

4 : Lack of graphic creation training amongst PMs

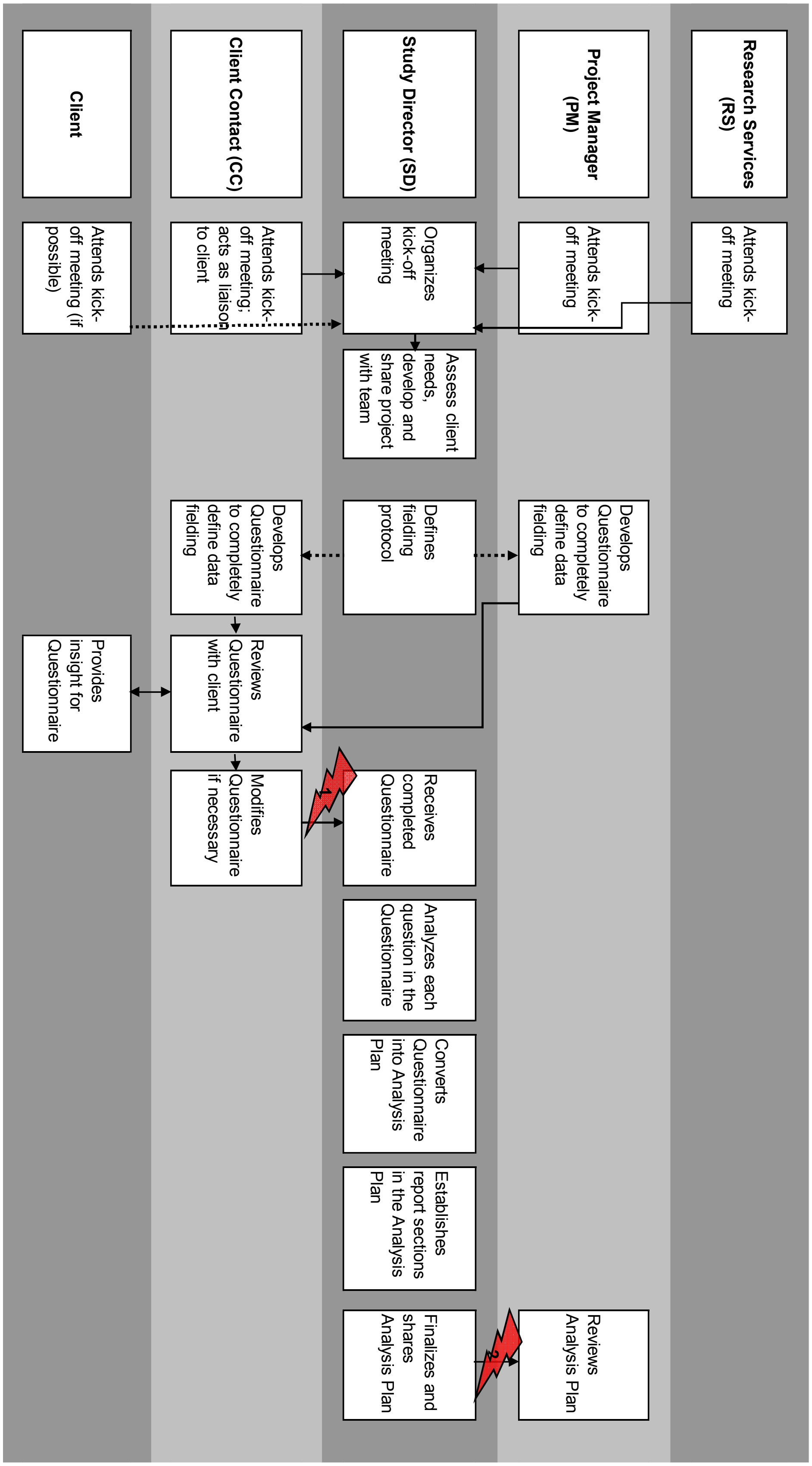
5 : Back and forth cycles in flow take a lot of time

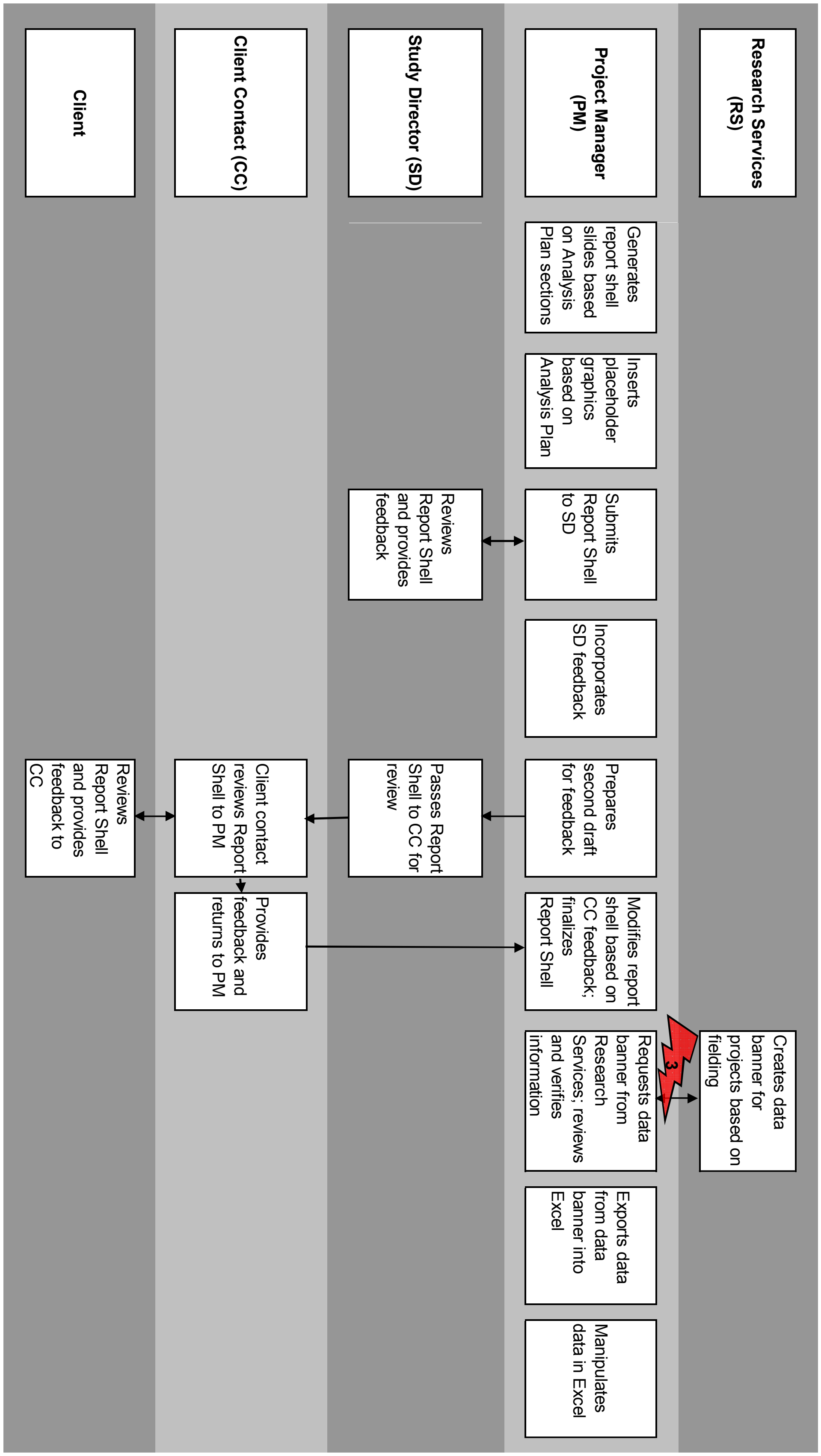
PM: Project Manager	**SPM**: Senior Project Manager	**APM**: Associate Manager
VP: Vice President	**SD**: Study Director	**RD**: Research Director
OPD: Operations Project Director		

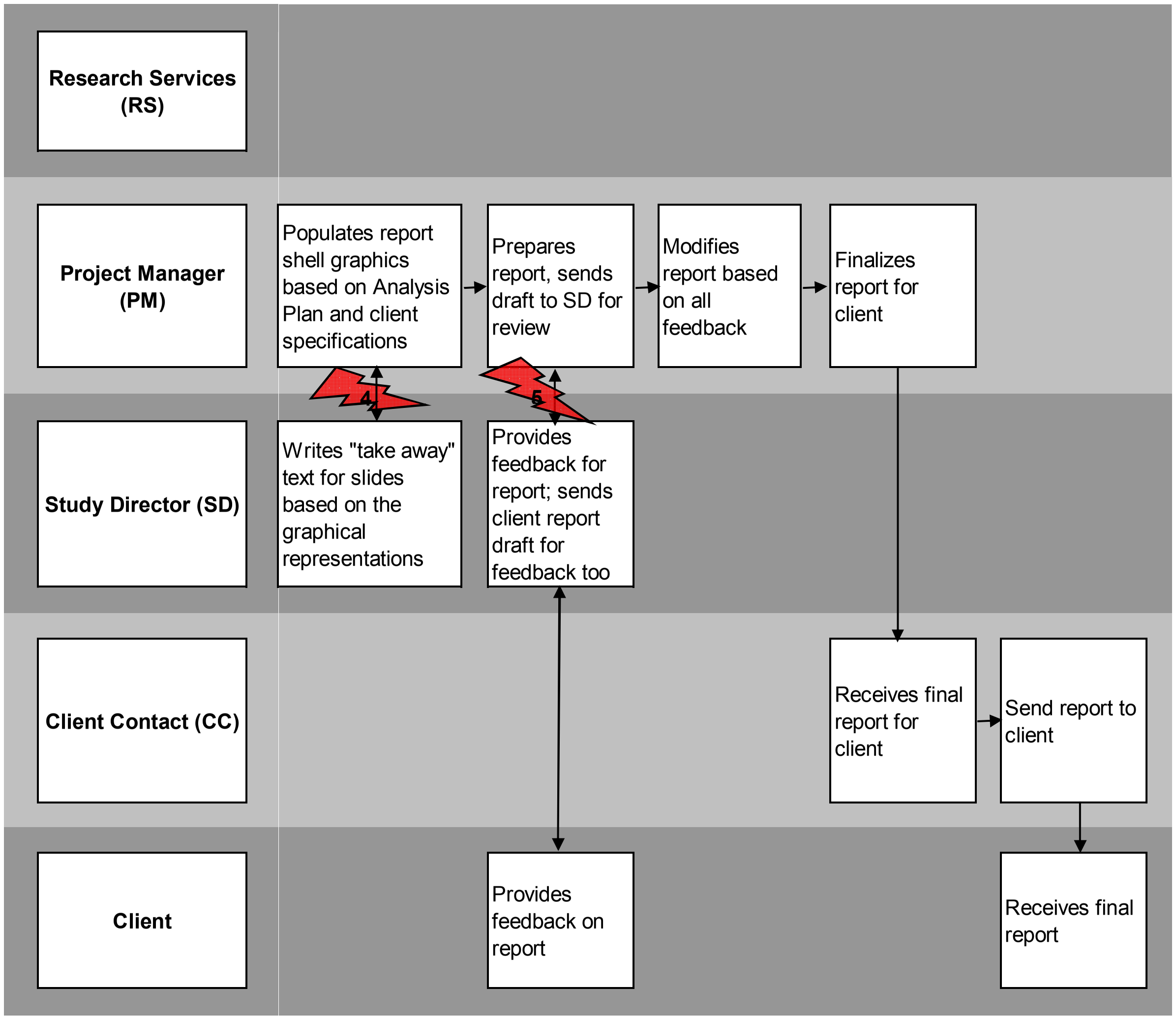
As we can see from the model, the reporting process does not apply a very rigid systematic approach. It differs at various instances, from one Industry Group (IG) to another (MSI is made up of seven IGs). Yet, this model gives us an overview of the "big picture", by unifying the somewhat diverse ways of the different IGs. There are some roles/users that have been assumed to achieve certain goals, keeping in mind the overall working of the process. These have been represented with italicized fonts. In addition, the typical functions/roles of Project Managers and Research Directors have been consolidated, each in one large oval for ease of representation and understanding. The arrows that point to the overarching oval represent communications that are common to almost all IGs. Lastly, the double arrows have been used to represent communications that take place back and forth several times.

Appendix D: Consolidated Swimming Lane Model

The swimming lane model presents the unique perspective of a sequential process and the levels of communication which are integrated into this process. The lines represent channels of communication and the exchange of information while the arrows indicate in what direction this information is being passed. In this model, the dashed lines differ from the solid lines in that they represent paths of communication to alternative steps in the process. In one example, the step is "develops questionnaire to completely define data fielding" which is either completed by a project manager or client contact. It is the client contact who typically develops the questionnaire, however, depending on the industry group working on this project, the project manager will take on this responsibility and then relay the completed questionnaire to the client contact for client feedback. There is a dashed line to both of these roles for the same step since either role is responsible for completing this step in order for the rest of the process to progress. The other instance where the dashed line occurs demonstrates another type of alternative step where the client does not always physically attend the kick-off meeting. In this instance, it is not necessary for the client to be physically present for the step to take place and be completed. The breakdowns indicated are primarily communication-based, hence the lightning bolt is represented on the arrow line.


Research Services (RS)
Project Manager (PM)
Study Director (SD)
Client Contact (CC)
Client
Attends kick-off meeting
Attends kick-off meeting
Organizes kick-off meeting
Attends kick-off meeting; acts as liaison to client
Attends kick-off meeting (if possible)
Assess client needs, develop and share project with team
Develops Questionnaire to completely define data fielding
Defines fielding protocol
Develops Questionnaire to completely define data fielding
Reviews Questionnaire with client
Provides insight for Questionnaire
Receives completed Questionnaire
Modifies Questionnaire if necessary
1
Analyzes each question in the Questionnaire
Converts Questionnaire into Analysis Plan
Establishes report sections in the Analysis Plan
Finalizes and shares Analysis Plan
Reviews Analysis Plan
2


Research Services (RS)
Project Manager (PM)
Study Director (SD)
Client Contact (CC)
Client
Generates report shell slides based on Analysis Plan sections
Inserts placeholder graphics based on Analysis Plan
Submits Report Shell to SD
Reviews Report Shell and provides feedback
Incorporates SD feedback
Prepares second draft for feedback
Passes Report Shell to CC for review
Client contact reviews Report Shell to PM
Reviews Report Shell and provides feedback to CC
Provides feedback and returns to PM
Modifies report shell based on CC feedback; finalizes Report Shell
Creates data banner for projects based on fielding
3
Requests data banner from Research Services; reviews and verifies information
Exports data from data banner into Excel
Manipulates data in Excel



Breakdowns

1 Not enough insight/detail coming in with Questionnaire

2 Not enough time/thought put into Analysis Plan

3 (PM) Delay in receiving data banner from Research Services

4 Lack of graphics creation training amongst PMs

5 Back and forth cycles can take a lot of time

Based on this model, it can clearly be seen the number of steps that each participant engages in and also, in what part of the process they are most active. The study director plays a more active role in the beginning of the process in order to lay out the basic framework for how the process should be completed while the project manager is more active in the latter part in implementing the completion of the report. There seem to be many more steps that the project manager needs to complete, suggesting that more time is dedicated by the project manager for completing a report compared with the other roles. The breakdowns in communication also suggest that time is a considerable factor in efficiently completing various steps of the process, in particular, if one role (i.e. project manager) is active for a large part of the process and responsible for putting together the client deliverable. It is also interesting to visually see the development and implementation of artifacts and the high level of feedback given by different roles for the creation of each artifact.

Appendix E: Consolidated Cultural Model

Work takes place in a culture, which defines expectations, desires, policies, values, and the whole approach people take to their work. The cultural context is like water to a fish – pervasive and inescapable, yet invisible and intangible. Cultural context is the mindset that people operate within and that influences everything they do. They are implied by recurring patterns of behavior, nonverbal communications, and attitudes. By using user data from our interviews and plotting that data along the following scales, some important cultural data can be made tangible.

Member identity: This scale shows whether people identify more with other members of their individual profession, or with the organization they are employed by.

Job ---X--- Organization

Most members of MSI identify with the organization as opposed to their job roles. In particular, people in leadership roles exhibit a strong desire to improve the organization any way they can. Also, there is a belief that no one individual or role is irreplaceable and that other individuals should be ready to pick up the slack if necessary (said best by U07).

Group emphasis: This scale show whether people are focused more on their individual work, or with the work of the groups they are a part of.

Individual------------------X---------------------- Group

Focus is split between individuals and groups at MSI. Individuals complete the tasks assigned to them with little input from others. However, communication within departments is common encouraged, and most study directors have “open-door” policies (U05 in particular).

People focus: This scale shows whether individuals are more concerned with completing assigned tasks, or with fulfilling the needs of other people (such as their customers).

Task----X-- People

The focus at MSI is more on the tasks at hand than the people. Project managers are assigned tasks and have to work constantly to keep from falling behind. Study directors are focused on managing the project managers working for them to ensure than the reports are completed on time. In particular, the fourth quarter of the year is “horrendous” and devoted just to getting the task done (U04).

Unit integration: This scale shows how integrated various departments in an organization are, from completely independent from each other to totally interdependent.

Independent --X----------------------------------- Interdependent

The departments within MSI are almost totally independent (U02). Departments do not interact with each other except in rare circumstances, and best practices and strategies are not shared. In addition, individuals within departments are usually assigned a list of specific tasks to complete, although some exchanging of tasks among individuals is known to occur.

Control: This scale shows the extent to which employees' actions are directed by their superiors from extremely loose to explicit, tight control.

Loose---X-- Tight

Overall, the control is very tight. Analysis plans are created by study directors to assist project managers, but the project managers often rely on precedent to create the actual reports. Also, study directors withhold useful personal knowledge and client satisfaction reports from their project managers, and new employees are even more tightly controlled while they learn the various processes of the company.

Risk tolerance: This scale shows the extent to which individual employees feel that risk-taking is an acceptable part of the organization, from completely unacceptable to expected and required.

Low---------------------X------------------------- High

Risk tolerance is in the middle of this graph. The reliance on precedence to create reports, the proliferation in some industry groups of "tracking" reports that need little modification over time, and the desire to create an overarching analysis plan for all industry groups are all low-risk factors. However, the encouragement to project managers to work independently and the fact that new employees are thrown into project almost immediately (U02) are high-risk factors.

Reward criteria: This scale shows the basis on which employees are rewarded, from performance-based to other, more specific criteria.

Performance----------------X--------------------- Other

The reward criteria are based partly on performance and partly on other factors. For project manager performance, the abilities to complete reports without direct supervision and to assist supervisors are key. Other factors that influence project manager rewards are seniority and experience in their particular industry group. The "gold star" for project managers is to get to write the text for a report (U06). No corresponding reward was determined for the study directors.

Conflict tolerance: This scale shows the extent to which conflicts between employees are acceptable in an organization, from completely unacceptable to explicitly tolerated.

Low---------------------------------------X------- High

Conflict tolerance is relatively high at MSI. Committees and weekly meetings allow for the airing of differences internally (U06). In addition, assigned tasks can be returned to superiors if it is felt that the request is unclear or not feasible.

Means-ends orientation: MSI This scale shows the task focus of employees, from thinking about how the job should get done to just thinking about getting the job done.

Means--X- Ends

For the most part, the staff at MSI is very much focused on the ends as opposed to the means. Since things move at "lightning speed" (U02), the project managers in particular have no time to improve the current process – they have to complete the current task and immediately move to the next one. Even the study directors tend to focus primarily on assisting their task groups complete the reports. In addition, it appears that people become more ends-focused the longer they are at MSI, as new employees need to learn the means by which projects are done.

Open-system focus: MSI This scale shows whether an organization's focus is internal to their company, or externally focused on the needs of their clients.

Internal--X- External

The company is, in essence, an open-system company. As a consulting firm, MSI's entire work process revolves around performing and analyzing surveys, requiring constant interaction with other companies. Constant contact with these outside clients is critical for completion of these reports. Finally, their end product is a report that will be used by these outside corporations to influence/improve their services.

This model illuminates several of the root problems at MSI. First, each individual is always under severe time constraints to complete their tasks. Second, these time constraints lead people to just focus on what needs to be done, instead of putting effort into improving current practices. Finally, communication between departments is almost nonexistent, and the best practices and strategies of each department are not shared.

Appendix F: Affinity Diagram Outline

The Affinity Diagram brings issues and insights across our entire analysis together into a wall-sized, hierarchical diagram. It is the fastest, best method to see all the issues across your population. The affinity shows in one place the common issues, themes and scope of the company's problems and needs. The affinity acts as the voice of the company and the issues it reveals should become the basis for user requirement.

Since we would not be able to present the actual affinity diagram in this report (due to its sheer size), we have provided an outline of the same below. As agreed upon earlier, we will deliver the actual Affinity Diagram to you in person.

Affinity note: we have included some special affinity notes in this outline, where they highlight design ideas, breakdowns, insights and questions, but were not able to include them all. Affinity notes were taken during our various interview interpretation sessions.

Blue Labels: These labels collect together a coherent set of notes representing a theme or work distinction.

Pink labels: The next level of label, these collect together a set of blue labels with a common theme. Pink labels abstract the data another level and characterize the blue label under them.

Green labels: The highest level of affinity label, these summarize the pink labels under them. Each of these labels denotes a big piece of the user story.

Internal and External Communication

We feel that face-to-face communication allows us to work together more effectively but we use email as our main method of contact, especially for project members not in the main office.[1,2]

- **We feel that face-to-face communication can be more effective than email in certain situations.**

  -U04 10. (I) U04 has her department people near the printer, so she could chat with them when she goes to the printer (pretty often). However, U04 would rather just email them.

- **We use email as our main method of contact, but because it is so prevalent, we have difficulty keeping track of them all.**

  - U02 24. (BD) There are many emails; it is difficult to keep track of them.

- **We have project managers who are not in the main office and communication with them is difficult.**

- **We tend to be more aware of the activities of the people in our cubicle-group allowing us to communicate and work together more effectively.[3]**

We use various methods, such as meetings and analysis plans, to determine client needs, develop the report format and monitor the availability of human resources.

- **The questionnaire and analysis plans can become repetitive and often do not tell junior staff what the client is looking for. [4]**
- **We use weekly team meetings to evaluate project process and monitor the availability of human resources.**
- **We achieve high levels of quality by completing a large number of data specification sheets that are given to Research Services. We have the opportunity to better understand the pressure on Research Services and further increase our quality by holding more kickoff meetings for all projects, not just new clients.[5]**

Leveraging Internal and Client Relationships

We (Study Directors) are a great resource for Project Managers as we are very experienced with reporting, but there is room for improvement in passing our knowledge to them and standardizing tasks that they need to complete regularly.[6,7]

- **We use Study Directors as managers of projects and do not always have good ways of passing their knowledge through the team.**
- **I (Study Director) am well experienced to help Project Managers in their work. It is good when Project Managers can take over some of my work when I am not around.**
- **We have Project Managers consulting Study Directors or Client Contacts for guidance on data representation but it might be better to consolidate this info for Project Managers as it is relatively standard.[8]**

- U07 28. (DI) It would be useful to have something similar to the question matrix for graphics as it would facilitate selecting graphics for particular data sets and make reports more visually compelling.

Getting client feedback on the intermediate steps of the reporting process can help us immensely in delivering what the client needs.[9]

- **We have varying procedures for passing feedback from clients to Project Managers, the people who create reports.**

  - U01 28. (Q) Why don't people working on the actual reporting process get feedback from the client?
- **Having direct contact with the client will not only help us get answers on specific graphs, tables, or client needs, but also provide us with feedback on reports.**

  - U01 18. (I) U01 thinks it might be useful for her, on occasion (and other project managers), to be able to contact the client directly to ask them questions about specific graphs, table etc. However their task-focus would prevent them from easily taking on the communication burden.
- **We do receive feedback from our clients, but it sometimes comes months later or needs to be actively sought.**

Our company-wide standards currently in place are not effective due to diversity of projects. It could be useful for each group to see how other groups perform their jobs and share that information in a non-hierarchical manner.[10]

- **We are aware that other industry groups perform their jobs differently and it would be interesting to see how.**

  - U08 29. (DI) U08 is aware that other groups use Instant Messaging for communication.

- **We have various systems that we currently use that prove useful in managing people and project progress but we look forward to using better systems.**

  - U04 15. (DI) MSI could create a central online Resource Matrix where people from all departments put in the necessary data.
  - U04 14. (BD) Since the Resource Matrix only shows what stage people are in within a given project, there is no way to sort it in terms of people, to see who is free and who is busy. "We look forward to seeing a better Resource Matrix."

- **Although we at MSI pass our reports in a non-hierarchical manner, questions and general interactions flow in a less restricted manner.[11]**

Quality of Deliverables[12]

We are very big on quality at MSI and realize that even though our clients may be used to getting lengthy reports, we need to create more consistent, manageable reports with attractive graphics.

- **Even though our clients are used to seeing things in a certain way, we would like to reduce the number of slides to better serve our audience.[13,14]**

    - U06 46. (BD) Making sure that we are comparing and showing what is really important to the client is the biggest challenge in reporting and data representation.

- **We need to make our reports more useful to the client by better managing and refining our data.**

    - U09 14. (DI) The reports need to contain more of MSI's opinion and recommendations rather than numbers/data.
    - U09 13. (I) U09 feels that reports are too long, the analysis still needs to be there but the data needs to be refined more.

- **We work on graphics to "jazz [the report]" up a little bit" to best represent the data in a compelling way but consistency in graphics across the reports is also important.**

    - U09 9. (DI) A graphic reviewer would be helpful to review each report before it goes out to the client. The graphic reviewer would check to see that the graphs were consistent throughout the report.

- **We are very big on quality at MSI and proud of the reports we produce.**

    - U01 31. (I) U01 has a sense of pride in the projects she accomplishes.

We stick close to the report template and analysis plans created by senior staff, but if not done well, our reports become both harder to create and less compelling to the client.

- **If our analysis plans and questionnaires are not done well, it makes report generation more difficult. [15,16]**

    - U05 50. (BD) Time is wasted in removing irrelevant pieces of the report or grouping disparate but related parts of the report together if not enough thought goes into the analysis plan.
    - U07 26. (BD) Many times, the report shell is not organized and the Study Directors end up reorganizing the work the Project Managers have done.

- **We are aware that our reports are not compelling to the client and "do not tell a story". To address these issues, we have a committee which is looking at standardizing the reporting process.**

    - U09 10. (BD) Based on the few reports that U09 has seen, "Our reports don't tell a story".

- **We are transitioning from a research-oriented firm to a consulting firm with "top-line" deliverable that better meet client expectations.[17]**

- **Report templates are created by either our client or the senior staff and we stick as close as we can to them to avoid getting reports returned with too many things to have to change.[18]**

    - U09 6. (BD) U09 feels that those employees who do deviate from the normal report template justify these changes by referencing it as a need of the client, when instead they may just be deviating because it is easier or they want to be creative.

We do not have the knowledge needed in Powerpoint to employ superior data representation techniques and this deficiency is compounded by compatibility issues between Powerpoint 2003 and 2007 [19,20,21]

- **Graphics are used to show our clients the data they need and we do not have much freedom in choosing that display.**
- **We have basic knowledge of Powerpoint but there is room for improvement with better means of data representation, in part due to discrepancies in software (Powerpoint) versions.**
- **The recent switch from MS Office 2003 to 2007 has introduced many techincial problems such as those of compatibility, readability, and accessability. [22]**

    - U01 16. (BD) The recent switch from Powerpoint 2003 to Powerpoint 2007 has led to some files becoming inaccessible or incompatible.

Dependence on existing work patterns. [23,24,25]

We follow an old school method of creating reports based on previous similar ones but we feel caught, "like a deer in headlights," for new projects or that we regurgitate more data than the client needs or wants.[26]

- **"We want to give our clients exactly what they want" but there is a pressure to maintain consistency in our reports.**
- **We at MSI follow an old school method of creating text-book like reports where we often regurgitate more data than the client needs or wants.**
- **For many reports, we follow what we've done on previous similar projects but this causes us to "get caught like a deer in headlights" for new projects.**

In most of our reports, we simply reuse graphics from earlier reports. When this is not possible, we have to use a trial-and-error method of graphics creation.[27,28]

- **We mostly work in "tracking" reports that use the same report format, only the data is changed from one period to the next.[29]**
- **I don't know anything about graphics so I use trial-and-error to determine what graph type suits the data best.**
    - U01 11. (BD) U01 does not really know anything about graphics, but still needs to do it for her job.
- **We often reuse the same charts, tables and graphs from previous reports to new ones even though those graphics may no longer apply to the current environment.[30]**
    - U06 47. (BD) We have a bad habit in our group of showing the same data time after time when it really no longer applies to the current environment. "Can we really compare today to five years ago… usually not. That is a tough thing to convince people of."

Understaffing and time pressure

Since our industry groups are understaffed, we put in extra hours when too much when too much work comes in at the same time. "We just need to do it," in order to avoid delays.

- **Sometimes too much work comes in at the same time and "we just need to do it" in order to get the report to the client on time.[31]**
- **We generally take three to four weeks to complete the reporting process and use Financial Information Services to compare the projected and actual durations of the process.[32,33]**
- **We put in extra hours and effort to complete our work and aim to finish it before a deadline in order to avoid delays.**
  - U02 21. (BD) U02 tries tom work several weeks ahead of deadline because if there are delays on her end, she herself becomes a bottleneck and delays others.
- **On average, we are working on seven projects each quarter and three to four reports on a daily basis. [34]**
- **Our industry groups are understaffed for the number of projects we have to complete.**
  - U04 40. (BD) Scarcity of human resource is a bottleneck because we often do not have enough people when needed to work on the projects we are working on.
  - U06 41. (BD) "Our major bottleneck is that there is not enough time: all groups are understaffed."
  - U08 13. (BD) "Study Directors are spread thin over several projects."
  - U04 16. (DI) MSI might benefit from having "general purpose" Project Managers that are able to serve various industry groups in times of need. When one industry group is very busy, another one may not be so busy.
- **We work in small groups to complete reports in a timely manner and we divide tasks based on our individual workloads.[35]**

We find it very important to pull timely data from Research Services as it is part of the deliverables to our client.

- **It is important that we receive the data from research Services on time since it is part of the deliverables we give to our client.[36]**
- **We pull data from Research Services during quarterly deadlines when Research Services is the busiest. [37]**
  - U06 39. (BD) Since Research Services receives requests for data at the same time (quarterly) they can be a bottleneck in getting the data to us in Marketing Services.
  - U04 41. (DI) Better resource (people) management is needed. It would be good if Marketing Services could better allocate the resources before critical times when many reports are due.

Need for new skills and reporting standards

We (Project Managers) want to learn interesting ways to represent data, but the Study Directors do not have time to train us and we are forced to learn "on-the-go."

- **We (junior staff) want to learn interesting ways to represent data but there is no formal training for graphics creation, information visualization and representation.[38]**
  - U04 17. DI MSI could create training in graphics creation, information visualization and representation specifically for Project Managers since they are the people doing this work.
- **We (Study Directors) do not enough time to train project managers in graphics creation; they have to learn "on-the-go."**
  - U08 23. (BD) There is no formal training in the department, everything is on an informal, "learn-on-the-go," basis.
- **The formal training that we (Study Directors) have been provided at MSI has not been very useful.**

We are interested in developing reporting standards in order to make the graphic more consistent and visually compelling and to better represent our "top-line" deliverables to our clients, but it is difficult to implement standards due to differing client and industry group needs.[39]

- **We are interested in developing and adopting reporting standards to achieve common ground among reporting teams, but standards are difficult to implement due to the varied needs of different clients and industry groups.[40]**
  - U09 21. (BD) Director of Quality is interested in getting standards developed as well as adopted, but there are some reasons why this wouldn't work. One reason is that standards often do not fit particular clients or industry groups.
- **We feel that a standard look that includes a variety of graphics would show professionalism and be visually compelling.**
  - U09 4. (DI) "A standard look to the reports would show professionalism."
- **We have special cases in which senior staff plays a larger role in the process. The variability in the process can make it challenging for new people to get up to speed on our processes.[41]**
  - U02 20. (BD) New employees have difficulty getting up to pace with the project process.

We have varying team members filling key project roles from project to project and suffer from standards not being developed and/ or adopted.

- **We have varying team members that create analysis plans so the depth and structure of these plans vary. A standard analysis plan has been created for all industry groups but is not in wide use.**
- **We have varying team members that assume the role of a Client Contact from project to project and, at times, the Client Contact is bypassed as other team members find it advantageous to contact the client directly.**
- **We save time and increase the quality of our reports by developing an analysis plan at the beginning of the project and by using automated data transfer processes but need to create analysis plans where they are not created and automate more data transfer processes to maximize efficiency.**
  - U08 10. (BD) Much of the data gathered from the questionnaire needs to be entered by hand, which is very time-consuming. Automated reports (score cards) have been used to streamline the process, but they were not successful due to the variety of projects and client needs.

[1] Size of org. will limit the type of comm. [cultural issue]. KF
[2] (DI) P. (Form?) Document. Where at in the process. Use as comm. Source. KF
[3] (DI) Consider physical structure of teams "Team set up". KF
[4] We need to say "why" we as ques/set up reports – lack of understanding. KF
[5] (Q) What's the cost of holding more kick-off meetings? GB
[6] (Q) Define "very experienced" – quality or number of years. CR
[7] Not training junior staff to take on "bigger" role.
[8] (Q) Differentiate Project Mgt. from role of PMs. CR
[9] (DI) Library of best practices. KF
[10] Need to train jr. level staff to interact w/clients. CR
[11] Staff do not know why standards not working…company or (components?) CR
[12] (DI) Formal process should follow the more informal structure. CR.
[13] Quality seems to not be defined. "We're big on quality" and "Our reports don't tell a story." What is a quality report? CR
[14] (Q) Who is that audience? TB
[15] We need to understand client's expectations before reporting. KF
[16] (Q) "She" knows everything but what about everyone else? KF
[17] (DI) It seems there is knowledge about processes for proj. planning that (works?) scattered across users – bringing these ideas together could help standardize the process or share "best practices". GB
[18] (DI) This has to be defined at a corp. level. CR
[19] This note doesn't seem to capture all the white notes under it. It revolves primarily around note U03 6 only. GB
[20] (Q) How do we effectively train everyone? Need new model for tools. KF
[21] (DI) Train on Powerpoint 2007. CR
[22] (Q) Are there specific things users would like to do with PPT '07 that they can't with PPT '03? GB
*(Q) Have these issues been elevated to IGLs or IS? CR

[23] The fate of the company is in the hands of the staff members who say they don't have the tools or skills to do the work. (CR)
[24] What kinds of things cause the dependence on "existing" work patterns – is it time shortage? "That's the way we have always done it"? (GB)
25 Crucial! We aren't challenging the status quo here. This is a potential weakness for the company. (CR)
[26] This is a barrier to client satisfaction. We are defining what the client receives vs. the client. (CR)
[27] Does this necessarily preserve innovation (new ways of presenting data)? (GB)
[28] How many IG's is this really true for? (AD)

[29] DI: Consider specialists vs. generalists. (KF)
[30] DI: Determine “best practices” & someone owns it. (KF)
[31] DI: Organizational structure/ role clarity to better manage work flow. (KF)
[32] DI: Based on FIS data, we might be able to determine which projects are being done on time and which are not. This could lead to the development of best practice. (GB)
[33] Q: What does FIS have to say about projected vs. actual time for projects? (GB)
[34] How do we manage scope change/creep? (KF)
[35] Usually who is this design checker? (AD)
[36] I: Understand what Project Management is? (KF)
[37] What is the main function of OPD? (AD)
[38] Who has ownership for training in core competencies? (KF)
[39] (I) Staff need an understanding of what standards mean. (CR)
[40] (I) Top-line issue. (CR)
[41] (Q) Does this usually result in Ds to the deliverable for that one client or overall? (CR)