



Turning Customer and Market Research into Organizational Knowledge

Effectively Deploying the Voice of the Customer Throughout the Organization

TOOLBOX

- On Road Signs & On Ramps: Where Do We Go From Here? Effective Information Use in Decision-Making
- Hazard Signs & Traffic Jams: Obstacles To The Effective Use of Market and Customer Research
- On The Road Again: Tips On Overcoming The Obstacles

You Have The Data. Now What?

In his book *Future Shock*, Alvin Toffler talks about the . . .

"disorientation and decision overload produced by high-speed change. . . [which] sometimes leads to a breakdown of our capacity for rational decision-making."

Toffler and other noted authors suggest that competitive advantage will no longer simply reside with those who have information. Rather, the essence of competitive advantage will reside increasingly in how information about the market and about the customer is used.

One effect of the increased tempo for decision-making is that the time available to gather, interpret, and integrate information has been shortened. Often the demand for action is so great that data are hastily assembled, used, and assumed adequate. Sometimes, the decision has been made by the time the data are collected, rendering the data obsolete and of little value. Thus, in recent years, there have been many changes in the general information environment. Moreover we have witnessed changes in the ways in which information is gathered and used.

Transit managers today are faced with a significant task of making more effective use of market and customer research. So important is information that Robin M. Hogarth stated in *Judgment and Choice*:

Indeed it has been said that we are now living in a second industrial revolution; but instead of steam, the new revolution is being propelled by information. And, as in the first revolution, relative success will be determined by the ability to handle the propelling force. . . There can be little doubt that the need today is for conceptual skills, that is, the ability to process information and make judgments.^{li}

Following are some conditions that now make it imperative for transit managers to understand how to use information to improve the quality of their decision-making.

- **Fewer options.** In today's environment with limited funding, increased legislation and regulation, and greater demand for limited services, there are often fewer available strategies or actions than in the past. Information can serve to weed out bad alternatives, enabling transit agencies to focus their efforts in those areas likely to have the greatest impact on ridership and the achievement of other goals.
- **Overload.** The sheer volume of data and resulting analyses is often overwhelming. Census data, farebox data, complaint cards, federal studies, ridership reports, internal market surveys are just some data that now are available to transit agencies. This volume of data can lead to a reaction against the use of any information – paralysis by analysis.
- **More frequent surprises.** Markets are changing more rapidly than in the recent past. Thus, the time for decision-making is shortening. This leads to greater amounts of uncertainty surrounding important decisions. More than a resource constraint, uncertainty is becoming the archenemy of many managers.

Simply having information available does not ensure that it will be used. Agencies can eliminate or at least reduce many barriers to the use of research information by taking better care during the research design phase. However, even the best designed and executed research may not be used. Getting research used often depends on its quality, and how well it is presented. It also depends on other factors, including the degree of trust between researchers and research users, and the organizational culture and structure.

The purpose of this chapter is to identify strategies for presenting research results and developing an organizational structure and culture that encourage the use of market and customer research.

Obstacles to the Effective Use of Research

Failure to use appropriate information or use it effectively can hinder productivity and increase the time it takes to take new products and services to the marketplace. Simply doing "good research" does not guarantee that the findings will be used. To maximize the value of market research in an organization, the researcher must understand how managers think, and work with them to remove potential bias against using the research findings.

Organizational research and research on the use of market information suggest seven serious obstacles to the effective use of market and customer research findings.^{lii}

- **Post-survey regret** is the regret following data collection that certain questions were not asked or were not asked differently. Statements such as, "If only we had asked . . ." "Why wasn't [question] included in the research?" "It's too bad we asked the question using this scale instead of . . ." are indicative of this obstacle. Some post-survey regret is unavoidable. In fact, if used as part of a debriefing process when research is completed, post-survey regret can be effective in improving the overall research efforts conducted at the agency. Moreover, post-survey regret does suggest the research is being considered thoughtfully and used. However, significant post-survey regret need only occur a few times before managers become discouraged with the potential value of the research.

- To eliminate many sources of post-survey regret, the researcher and managers should simulate the use of the information before doing the actual data collection and analysis. This prompts thinking about the actual use of information and may lead to changes in research methods and instruments that will produce more usable results.

- **Data-poor thinking** occurs when managers and researchers think about potential outcomes of the research without any data either real or contrived. To encourage effective research, researchers and managers should make the effort to think about specific empirical outcomes well in advance of actual findings. During this process, data – even hypothetical data – should be used, thus leading to more creative and comprehensive thinking. For example, one might ask what action would be taken if the results from a survey showed a specific percent of respondents answered an important question in one way. This process is important, as it helps identify important differences in perspectives among managers. Managers and researchers will then be better prepared to interpret results and to do so more quickly, perhaps shortening the decision time. Moreover, they are better prepared to translate research results into specific actions.

- **Pseudo-clairvoyance** is the impression by managers that they could have predicted the empirical outcome of a survey research project. It is exemplified by statements such as, "I could have told you that," "I already knew that," or "I don't know why we did all this research, it hasn't told us anything we didn't already know." While in many cases research is confirmatory – that is, it validates hypotheses and /or previous data – there are also many new findings.

Pseudo-clairvoyance typically occurs as the manager reviews the research findings. He or she will see a particular result that triggers thinking about what might have caused the result. With the benefit of hindsight these causal factors become more obvious. Findings that managers are able to explain in this way are generally given much greater weight than findings that are less clear. The result – they conclude if they had been asked to predict a specific outcome, they would have correctly given thought to the causal factors causing the actual outcome, and thus would have successfully predicted the result. Controlled experiments on pseudo-clairvoyance show that it often is present even when "surprising results" occur.

To address pseudo-clairvoyance, ask managers to predict important data outcomes during the research design phase. This serves to document for the individual manager the difference between what he or she predicted and the actual outcome. That then provides a better sense of the value of the research. It also provides a mechanism to calculate the value of individual questions and of the overall project to managers. The higher the discrepancy among managers' expectations and predictions for a given questionnaire item and the more important that item is, the more valuable the findings for that particular question.

- **Misunderstanding comfort zones** reflects the manager's expected and accepted ranges for research findings. Much of the research in the use of market and customer research has shown that while managers often suggest they are conducting research to discover new factors, they are in many cases uncomfortable with surprising results. In the survey of transit agencies conducted for this project, agencies who believed strongly the results of the research were "politically acceptable to the agency" were nearly four times as likely as those who did not strongly feel this way to say their most recent research project was "very successful."^{liii}

The typical response when a manager is uncomfortable with survey research results is to call the research design and implementation into question. The tendency is to find out what source of error can be used to explain the unanticipated results.

Being critical of findings that fall outside the comfort zone has both positive and negative benefits. On the positive side, it ensures that research is not accepted at face value. Where research results are unexpected, causal factors should be identified. On the negative side, however, all too often results that fall outside an agency's comfort zone are simply not used. Moreover, the less expertise and/or experience a manager has, the narrower their comfort zone. Thus, an inexperienced manager may be more likely to not use research results than a more experienced manager may.

To avoid this latter situation, it is important for researchers to understand the comfort zones of the different users of the research. Knowing managers' comfort zones helps researchers decide how to present results. For findings that fall outside a comfort zone, the research should be prepared to discuss findings in advance of any open discussion with other managers. Moreover, they must be prepared to verify the results and to discuss the technical validity of the results. Finally, researchers should take the opportunity to identify other evidence supporting the finding.

- **Failure to perform "action audits"** is one of the most common causes of post-survey regret. Here, research results may suggest a novel decision or action but do not provide sufficient data for its evaluation since it had not been anticipated. This results from managers failing to enumerate alternative actions or decisions before designing the questionnaire. The implication of this failure is often a need to conduct a follow-up study to gather the additional information required to make the final decision.

To avoid this problem, researchers and managers should enumerate alternative actions or decisions before the design of a questionnaire – that is, conduct an "action audit." The action audit should begin by identifying as many actions as possible that might be suggested by the research beyond those that have already been identified. Then the researcher should identify the questions that relate to various actions and the kinds of analyses that will be done with the final data. Finally, the action audit should consider: (a) the importance of a question, (b) the question's utility in developing an action, and (c) what else is needed in choosing or implementing a decision for a given question to be useful. An action audit will identify a wide array of possible actions and better information about those possibilities prior to carrying out the research.

- An **unequal-opportunity methodology** is one that is biased in such a way to favor "good news" answers – as opposed to allowing equal opportunity for both "good" and "bad" news answers. Selection of an unequal-opportunity methodology rarely is the result of an intentional effort to bias the research results. Rather, it is a consequence of a poorly thought out research design and/or poorly implemented research program.

The sources of bias in a research effort are many and varied. For example, an on-board sampling procedure may result in a cluster of riders being over- or under-represented, thereby giving incorrect emphasis to their thoughts and behaviors. Subsequent analyses are incorrect because of this bias, as is the interpretation and reporting of the results. Another common unequal-opportunity methodology is the use of an improperly balanced rating scale. At the positive end might be three points representing different levels of satisfaction – "extremely," "very," and "somewhat" satisfied. On the other hand, the negative side of the scale simply consists of "dissatisfied." This scale does not allow respondents who are dissatisfied with service to express the intensity of their feelings.

To overcome the problems inherent in the use of an unequal-opportunity methodology, the researcher must understand the sources of bias inherent in any poorly planned and/or executed research effort.

- **Missing information and uncertainty** occurs when there is uncertainty remaining after formal research is conducted due to missing information and lack of relevant experiences. This will occur in any research effort. There is never enough time and/or funds to gather all the information one may want. Moreover, research often is an iterative process. That is, one research study will identify information that is missing, or it may reduce uncertainty in one area while identifying new areas of uncertainty as alternatives change based on the research results.

To minimize this problem, managers and researchers should identify early in the research process the areas where uncertainty will persist even after formal research and relevant experiences are brought forth. Use decision and risk analyses to determine whether resources should be (re)allocated to reducing any of these persistent uncertainties, rather than to reducing those uncertainties already being addressed by the planned research. Also, a common understanding about what uncertainties will remain reduces certain post-survey regrets and better prepares the researcher to deal with the uncertainties when asked to do so.

Roadmap 23 contains a summary of the barriers to information use and identifies the means for overcoming them.



ROADMAP 23
STRATEGIES TO OVERCOME THE OBSTACLES TO THE EFFECTIVE USE OF
MARKET AND CUSTOMER RESEARCH

Obstacle	Strategies to Overcome
✓ Post-survey regret: The regret following data collection that certain questions were not asked or were not asked differently.	Simulate the use of information before doing fieldwork.
✓ Data-poor thinking: Thinking about potential outcomes with data either real or contrived.	Think about specific empirical outcomes well in advance of actual findings.
✓ Pseudo-clairvoyance: The impression by managers that they could have predicted the empirical outcome of a survey research project.	Ask managers to predict important data outcomes during the research design phase.
✓ Misunderstanding comfort zones: A manager's expected and accepted ranges for research findings.	Understand the comfort zones of the different users of the research. For findings that fall outside a comfort zone, be prepared to discuss findings in advance of any open discussion with other managers. Be prepared to verify the results and to discuss the technical validity of the results. Identify other evidence supporting the finding.
✓ Failure to perform "action audits": Managerial enumeration of alternative actions or decision prior to questionnaire design.	Enumerate alternative actions or decisions before the design of a questionnaire – conduct an "action audit."
✓ Unequal-opportunity methodologies: A methodology that is biased in such a way to favor "good news" answers, rather than allowing equal opportunity for both "good" and "bad" news answers.	Understand the sources of bias inherent in any poorly planned and/or executed research effort.
✓ Missing information and uncertainty: The uncertainty remaining after formal research is conducted due to missing information and lack of relevant experiences.	Identify early in the research process the areas where uncertainty will persist even after formal research and relevant experiences are brought forth. Use decision and risk analyses to determine whether resources should be (re)allocated to reduce any of these persistent uncertainties, rather than to reducing those uncertainties already being addressed by the planned research.

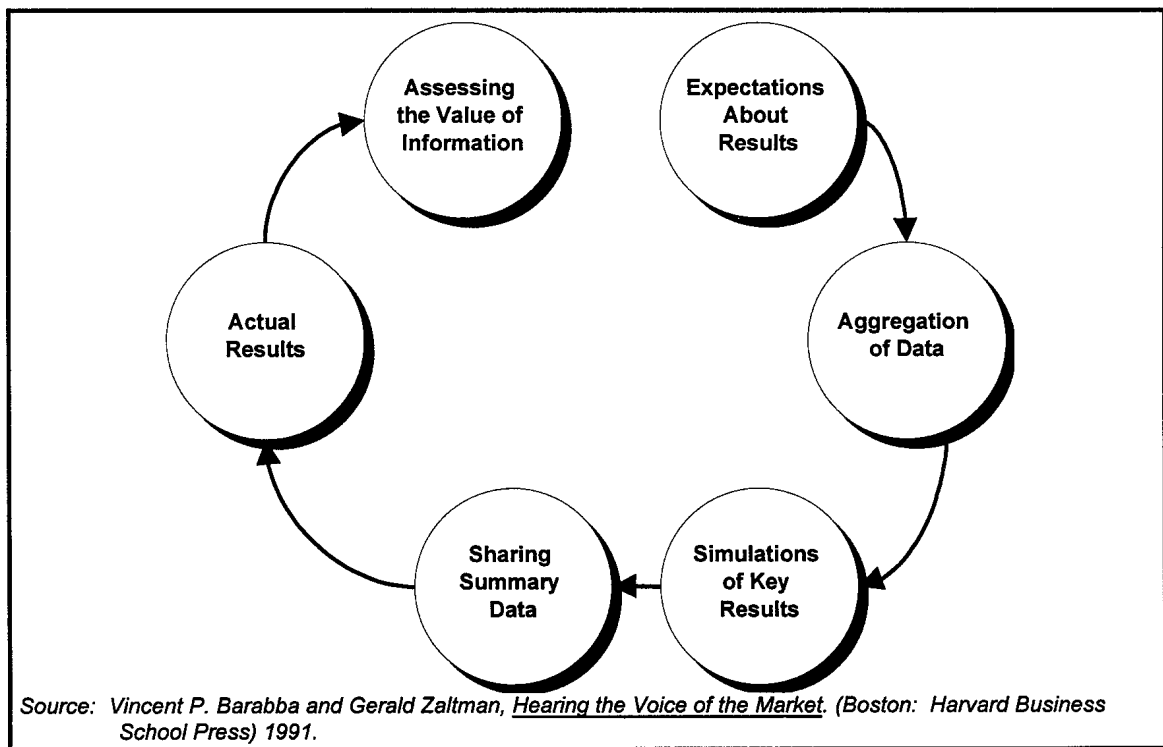
Overcoming the Obstacles

Knowledge Use[®]: Designing Effective Research to Overcome Obstacles

A carefully thought out research design can overcome most of these obstacles. To enhance the utility of the research design process, Vincent Barabba, Executive Director, Market Research and Planning at the General Motors Corporation, and Gerald Zaltman, Professor at Harvard Business School, developed a six-step process, known as KNOWLEDGE USE[®]. KNOWLEDGE USE[®] should be used at the point when the researcher develops a near-final draft of the questionnaire. The researcher selects key items or questions, and uses them as input to KNOWLEDGE USE[®]. He or she sends a short questionnaire to the managers who will be using the research results. The researcher can calculate results from the questionnaire with a calculator and spreadsheet.



FIGURE 24
KNOWLEDGE USE[®] – A SIX-STEP PROCESS TO ENHANCE THE UTILITY OF THE RESEARCH DESIGN PROCESS



An example illustrates these six steps.^{liv} The example assumes a typical survey questionnaire, developed through a series of discussions between managers and researchers.

Step 1: Expectations about Results. Each manager receives an information packet from the researcher. The packet contains instructions and the questionnaire items the researcher has selected as input to KNOWLEDGE USE[®]. The manager is asked to give the following information for each question:

- 1) **Expected result:** The average result the manager expects. For example, for a question with a rating scale, each manager would enter what the average rating would be. For a closed response question – e.g., "yes" or "no" – the percent of respondents the manager believes will say "yes."
- 2) **Comfort zone:** The range of results that the manager would not find surprising and/or difficult to believe. Here the manager would suggest the numbers above or below their prediction of the expected result that have a 10 percent chance or less of being obtained.
- 3) **Significance:** Managers then rate the importance of each question. Importance is equated to the significance of their being wrong in their expectations of results. That is, how serious would it be if, lacking a research result, managers acted based on 1) their expectation of what the results would be, and 2) they were wrong about the results?
- 4) **Comments:** Managers can record any other comments regarding the items being tested.

Exhibit 25 illustrates the KNOWLEDGE USE[®] questionnaire that would be sent to each manager. Also shown are one manager's responses to the questions.

This manager expected that the average respondent would be slightly above average – or a 3.5 on the 5-point scale (A). Moreover, this manager expected that there is an 80 percent chance that the actual average response would be between 2.5 (the lowest likely response B.1) and 4.0 (the highest likely response B.2). That is, there would only be a 10 percent chance that the average response would be less than 2.5. In addition, there would only be a 10 percent chance that the average response would be more than 4.0. This, then, is this manager's comfort zone. Finally, this manager feels that if he or she acted based on the average response he or she expected (3.5) and was, in fact, wrong, there would be serious consequences. That is, the importance of the question – or significance of being wrong – was rated 4.5 on a five-point scale (C).



EXHIBIT 25
KNOWLEDGE USE[®] – STEP 1: EXPECTATIONS ABOUT RESULTS

A. Overall, would you say the quality of public transportation service [Agency] provides is . . .	1 Poor	2 Fair	3 Good	4 Very Good	5 Excellent
B. Expected average response				3.5	
B1. Lowest-likely average response (<i>i.e., there is only a 10 percent chance the average response will be less than this number</i>)			2.5		
B2. High-likely average response (<i>i.e., there is only a 10 percent chance the average response will be higher than this number</i>)				4.0	
C. Importance of question (significance of being wrong)	1 Not at all Important	2	3	4	5 Very Important 4.5
D. Comments					

Step 2: Aggregation of Data. Next, the researcher calculates the amount of consensus – that is, the variance – among managers with respect to:

- 1) The average predicted outcome,
- 2) The expected average upper and lower boundaries (comfort zones), and
- 3) The average importance aggregated for all managers.

As suggested, the researcher can complete these calculations on any spreadsheet, or even with a hand-held calculator.

Step 3: "Good News," "Bad News," and "Surprise" Simulations of Key Results. The researcher then develops a set of analyses that simulate the analyses that are likely to be done with the data collected. To the extent possible, these are presented in the format planned for the final report. The analyses are based on the predictions provided by managers and on the nature of the comfort zones. The researcher should simulate three alternative kinds of results: "*good news*," "*bad news*," and "*surprises*."

Step 4: Sharing Summary Data. Exhibit 26 illustrates the data aggregated for five managers. It contains two basic sections:

- 1) **Expected result.** The first line shows that the average expected outcome among the five managers was 3.0. The expected outcomes for each individual manager are shown on the second line. As can be seen, there is a good deal of consensus.
- 2) **Comfort zone.** The upper and lower ranges are also provided. Here, one manager thought that an outcome below a 1.5 average had a 10 percent chance of happening while another felt that an outcome above a 4.5 had a 10 percent chance of happening. For most, the comfort zone ranged from "3" to "4." The final line shows the importance. It shows that two managers felt that this was a very important question while two felt it was of average importance.

When the data has been aggregated, the researcher meets with the management team and presents the summary form along with the simulated alternative results. A discussion of the results follows that is likely to result in a better understanding of the process and some changes in the questionnaire that otherwise might not have been made, thus reducing sources of post-survey regret. The researcher may then circulate a revised questionnaire to managers for final review.



EXHIBIT 26
KNOWLEDGE USE® – STEP 4: SHARING SUMMARY DATA

<i>Overall, would you say the quality of public transportation service [Agency] provides is poor, fair, good, very good, or excellent?</i>					
Expected Result	GA				
Group average					
Individual	i				
Other managers	III I				
	Poor	Fair	Good	Very Good	Excellent
Comfort zone	i				
	GA				
	GR				
	Poor	Fair	Good	Very Good	Excellent
Importance	GA				
Group average					
Individual	i				
Other managers	ii i i				
	1	2	3	4	5
	Not at all Important				Very Important
Key:	<i>i = individual manager</i> <i>GA = Group average</i> <i>I = other managers</i> <i>GR = Group range</i>				

Step 5: Actual Results. After the data have been collected, analyzed, and shared, each manager receives a report that shows the average of the actual survey results, the average predicted result for the group, and his or her own prediction. This helps address the issue of pseudo-clairvoyance. Managers also receive information about their own and the group's comfort level. Exhibit 27 illustrates this report. It is evident that the actual average obtained in the survey was nearly a 4.0, higher than the expected result, within the average comfort zone, but a surprise to the manager illustrated.



EXHIBIT 27
KNOWLEDGE USE® – STEP 5: ACTUAL RESULTS

<i>Overall, would you say the quality of public transportation service [Agency] provides is poor, fair, good, very good, or excellent?</i>					
Results	i G A				
	1	2	3	4	5
	Poor	Fair	Good	Very Good	Excellent
	1	2	3	4	5
	Poor	Fair	Good	Very Good	Excellent
Comfort Zone	i				
	GA				
	GR				
	1	2	3	4	5
	Poor	Fair	Good	Very Good	Excellent
Key:	<i>G = average for group</i> <i>A = actual survey result</i> <i>GA = Group average</i> <i>i = each manager's importance rating</i> <i>GR = Group range</i>				

Step 6: Assessing the Value of Information. Finally, managers receive a report (Exhibit 28) that illustrates the following points. The researcher should provide a brief interpretative narrative as well. For example,

- The greater the discrepancy between actual and expected results, the greater the likelihood that an incorrect action might have occurred. Here, there is a discrepancy of 2.0 for the individual manager. This is significant given the importance of the question to this manager.
- The greater the variation in the expected results among managers, the greater the value of information. In this case, there is a reasonable consensus among managers about the expected result, with only two managers expecting a higher or lower rating. This data can be used to resolve the differences in perspectives between these two managers and the others.
- The greater the importance of a question or finding and/or the greater the variation among managers in assigned importance ratings, the greater the value of simulating the final results and the value of auditing possible actions. Here, most managers consider the question at least somewhat important. Therefore, there is value to asking the question. Moreover, asking the question paid off. The result surprised at least one manager and caused him or her to alter their thinking and the actions they would originally have taken as a result of this research.
- Finally, the greater the uncertainty about particular results, the more informative the findings. In this case, there was a fair amount of uncertainty. Moreover, it was considered an important question. Therefore, the question has considerable value.



**EXHIBIT 28
KNOWLEDGE USE[®] – STEP 6: ASSESSING THE VALUE OF INFORMATION**

<i>Overall, would you say the quality of public transportation service [Agency] provides is poor, fair, good, very good, or excellent?</i>		
	Individual	Group
Discrepancy (between expected and actual result)	2.0	1.4
Importance (significance of being wrong)	4.5	3.5
Uncertainty (comfort zones)	2.2 – 3.5	1.5 – 4.5

Use of this tool serves several important purposes.

- It serves to reduce the most common sources of post-survey regret by causing researchers and managers to think about the use of information early in the research process. By thinking about the actual use of the information, the agency can make changes in research methods and instruments to produce more usable results.
- It allows for the surfacing and sharing of management assumptions about expected outcomes, information utilities, and comfort zones. This process is especially important when there is a lack of a consensus among managers and an unawareness of this lack. In any study, it is likely that there will be at least one and possibly several questions where different managers believe they all shares essentially the same assumptions. In reality, they have very narrow comfort zones on an important question and these comfort zones differ considerably. Having information to identify the absence of a consensus among managers is important. Once the agency understands and discusses this lack of a consensus, they can decide whether to collect additional research information to help reconcile the differences.

- Taking the time to go through this process before collecting the data will enhance the overall quality of the research effort. An important message that emerges from this process is that the quality of thinking about a decision after the data have been collected is largely determined by the quality of thinking before data are collected.

Preparing and Presenting Research Results for Maximum Use

Researchers and managers agree that the technical quality of the research is the primary determinant of research use. At the same time, however, these same individuals suggest that the technical quality of the research they receive is frequently variable.^{lv}

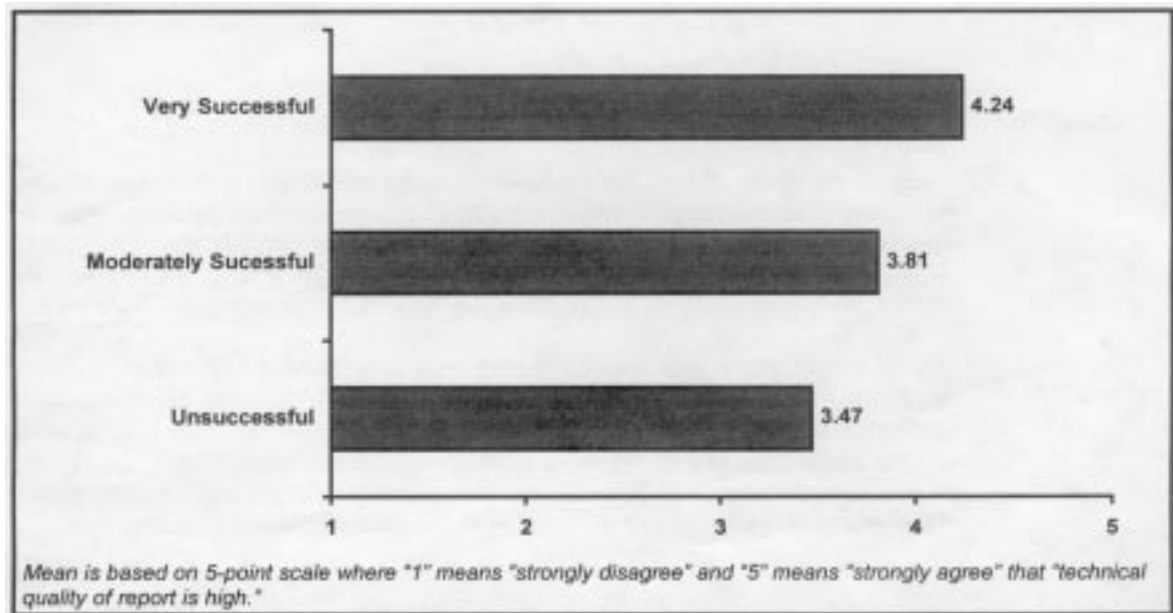
To illustrate, in a survey of transit agencies 36 percent of the responding agencies felt that their most recent research effort was "very" successful. However, half reported that the effort was only moderately successful and 14 percent felt it was not at all successful.

Concerns about the usability of the results and the quality of reports contribute greatly to managers' evaluation of the success of past research efforts. Those agencies suggesting that their most recent research effort was less than "very" successful gave lower ratings to the **usability** of the results, notably as reflected by the extent to which the recommendations made from the research were practical or actionable. Moreover, these agencies gave lower ratings to the quality of the respective reports developed as part of the research effort. They cited concerns about the following:

- Extent to which the conclusions drawn followed from the data,
- Clarity of the language used in the report,
- Amount of explanation of the findings in the report,
- Complexity of the analysis, and
- Timeliness with which they received the report or data to be useful.^{lvi}



FIGURE 25
INFLUENCE OF REPORT QUALITY ON MANAGERS' PERCEPTIONS OF OVERALL SUCCESS OF PAST RESEARCH EFFORTS



Many factors contribute to the technical quality of the research. For example, as discussed in Chapter 3, careful **planning** at the start of the project is key to the success and quality of a research endeavor. Additional factors that contribute to the technical quality of the research – research design, sampling, data collection, data analysis – are discussed in Chapter 5. No matter how appropriate the research design, how proper the statistical analysis, how representative the sample, how carefully worded the questionnaire, how stringent the quality control checks for data collection, or how well-matched the research is to the original research objectives, all is often for naught if the researcher cannot communicate with the decision-makers. The research design and process of conducting the research determine the content of the research effort. The report provides the form, and since the report is all that many managers see of the project, it often becomes the yardstick for evaluation.

Despite these somewhat obvious truisms regarding the importance of the research report, one continues to see research reports that show that the quality of these reports is a problem area. One frustrated executive went as far as to say,

"I am convinced reports are devices by which the informed ensure that the uninformed remain that way."^{lvii}

The writer of a research report must ensure that the report informs, without being misinforming.

The market research report has three primary roles to fulfill.

- ***The research report must communicate the study's specifics.*** The market research report has the critical function of containing a complete and accurate description of the relevant findings of the research project undertaken. That is, it must be detailed and communicate to the reader the following items:
 - 1) Summary of the findings, conclusions, and recommendations;
 - 2) Central background information;
 - 3) The research objectives;
 - 4) An overview of the research methods used;
 - 5) The findings displayed in tabular or visual format;
 - 6) Conclusions; and
 - 7) Recommendations.

A research report should be considered complete when it provides all the information managers need in language they understand. This means that the writer must continually ask whether they have addressed every question in the original assignment. What was the decision being made? What alternatives were examined? What was found? An incomplete report implies that annoying and action-delaying supplementary material will be forthcoming.

This is not to imply that a good report is a lengthy report. A report may be incomplete regardless of its length or brevity. It may be too brief because the researcher has omitted necessary definitions or has given short explanations. On the other hand, the report may be lengthy but not profound. There is a tendency among researchers not to waste collection information. Unfortunately, this may result in presenting information that is outside the interest of the intended readers and that may distract them from the main issues.

The readers' interests and abilities thus determine what clarification should be added and what findings should be omitted. As a rule, the amount of detail included should be proportionate to the amount of direct control the users of the research can exercise over the areas under discussion.

- **The research** report acts as a reference document. Once the research report has been duplicated and distributed to the relevant decision-makers, it begins to live a life of its own. From that point on it serves as a valuable reference document. Most studies cover several objectives and contain a significant amount of information. Normally, however, retaining this information in his or her memory for any length of time is impossible for a decision-maker.

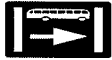
Consequently, decision-makers and others – perhaps those performing a secondary information search or another agency – will turn back to a report, rereading it to reacquaint themselves with the findings of the study. The findings may even serve as a baseline for a follow-up study. Accuracy is a critical factor that determines the usefulness of a research report as a reference document. Clarity of writing also is important and may affect the way in which the information is used. Even accurate information, if presented unclearly, will be misleading.

- **The research report must build and sustain the credibility of the study.** This third and final role cannot be overemphasized. The report must show the reader the degree of care and quality control that went into the market research project. Many readers skip over important parts of reports – descriptions of methodology, caveats, etc. – and go directly to the findings, conclusions, or recommendation. Therefore, the physical appearance of the report affects the credibility of the report itself. Items such as typographical errors, poorly documented tables or figures, inconsistent margins, heading arrangements, or even the cover and binding or choices of typefaces affect the reader's evaluation of the credibility of the study. Therefore, the researcher must pay careful attention to details and to the technical preparation of the report.

Several excellent references provide insight into how to write and present written materials, and on how to develop illustrative tables and charts. However, some common pitfalls encountered in writing research reports include:

- Using length as a surrogate for quality.
- Providing insufficient explanation for data without an attempt at interpretation or real analysis.
- Failing to relate findings to objectives and/or reality.
- Using quantitative techniques indiscriminately, sometimes as a cover-up for ill-defined objectives and methodology.
- Quoting statistics at a level of detail (e.g., two-decimal places for percents) that give an unwarranted illusion of accuracy of "false accuracy."
- Overrelying on single-number research or placing too much emphasis on a single statistic to provide an answer to a manager's decision.
- Interpreting data inaccurately due to lack of knowledge of scaling assumptions, statistical methods, and the study's limitations.
- Using graphic presentations that are misleading.

Roadmap 24 offers some guidelines for determining the quality of the research report.



ROADMAP 24 DETERMINING THE QUALITY OF A MARKET RESEARCH REPORT

- ✓ Does the report contain data from the pertinent survey exclusively, or does it also rely on other data, data from previous reports, or external data to gain more perspective and to control the validity of survey data through external data?
- ✓ Does the report rely on direct statements of respondents, taking them at face value? Or, has more knowledge been brought to light by translating them into new questions, ideas, and new tests, and by applying mathematical / statistical analysis, than would have been obtained by direct questioning of the respondents and simply tallying up their responses?
- ✓ Does the report contain surprising findings? Are these findings numerically established, crucial in providing an answer to the investigation task, and do they have an impact on the concrete conclusions that are drawn? Especially important, does the report contain results that common sense would not have expected?
- ✓ Is the linguistic quality of both reports and tables high? Are specific technical terms of the trade and your specific market used and used correctly? Conversely, how much superfluous jargon is used?
- ✓ Are your questions answered clearly and concisely in the report? Or, is the report written in a fortune-telling style; that is, the assertions of one sentence nullifying that of the other?
- ✓ Does the report contain hints toward the practical significance of the results and consequences for their application? How well has the author immersed himself or herself in the manager's problems?

Establishing and Understanding Trust to Achieve Organizational Buy-In

The trust a user places in the researcher and the process by which the research was conducted is the second factor that influences the use of customer research. Trust has been found to influence the perceived quality of user-researcher interactions, the level of researcher involvement, the level of user commitment to the relationship, and the level of market research use.^{lviii}

Trust is important to research relationships because, among other things, users must frequently rely on market research to make significant policy decisions, even though they are often unable to evaluate research quality. Consequently, being able to trust researchers to ensure quality and to interpret implications correctly for the agency is critical to the user's reliance on research in decision-making.

Trust is a condition between people that reflects the extent to which they can predict each other's behaviors, can depend on one another when it counts, and have faith that the other will act responsibly even in uncertain situations.^{lix} There are many dimensions to trust and ways of developing and maintaining it. However, in the researcher – user relationship, the following are paramount.

- **Be a team player.** Effective researchers and research users know when to be a "team player" and when to stand up for a point about which they feel strongly. A researcher who is a team player will often go along with managerial actions he or she does not feel comfortable with but are not likely to be harmful to the agency. To be a team player, researchers must:
 - **Take the responsibility to state explicitly when managers are misusing data.** However, when a particular interpretation or application is not clearly right or wrong, the researcher needs only to state that the validity of this specific use of data is not clear. To make these judgments, the researcher needs to be familiar with the agency to know when a particular use of research will or will not have serious consequences.

- **Be prepared to sacrifice some methodological or interpretative norms to meet a user's deadline or resource constraint.** A researcher who is flexible in responding to user needs can contribute greatly to building long-term trust in the researcher – user relationship. Flexibility also makes the researcher more credible in those situations in which he or she must take a stand – for example, when disputing a use of information is necessary or when they must decline a task because sufficient time or resources are not available to do it properly.
- **Know how to strike a compromise** between always demanding the right thing is done despite time and resource constraints and compromising their values, ideas, or training to meet client demands. Researchers establish trust when they take a firm stand on the important issues. Balancing these two postures is not always easy. One constructive way researchers address the issue is to tell users what they see as the potential positive and negative consequences of alternative uses of information.
- **Be a truth teller.** Honesty is a necessary ingredient in building trust. However, some researchers and users frequently withhold information from one another – a reflection of a basic lack of trust in these relationships. Managers may not share how they used research information if they have interpreted the research in a biased way. In addition, when managers do not feel they can trust researchers to support their research agendas or interpretations, they may refrain from asking for research or from using it when available. Conversely, researchers may not report research results they believe may be seen as "bad news" or that may reflect adversely on the quality of the research process itself. Two strategies can enhance the ability of researchers to be truth tellers.
 - **Convince users they are acting in the agency's best interests, even when presenting bad news.** Using the tactics outlined previously for being a team player will help to build this trust effectively.
 - **Giving the internal research department a discretionary research budget** or in other ways making the research department less dependent on a few internal clients for their funding can make an internal research department more independent in making judgments.
 - **Establish partnerships** or longer-term relationships when working with external firms. Using only a few research suppliers or in other ways making the supplier less dependent on "winning" every new job from the agency will make an external supplier more independent. Independence increases the researchers' inclination to act more in line with overall agency interests, to be more honest with clients, and to present bad news. Moreover, this independence indirectly fosters honest and trusting relationships between researchers and users.
- **Develop mutual understanding.** Researchers and users must develop a common understanding of each other's needs, abilities, and goals. This understanding helps both parties set boundaries that are more realistic in terms of what they expect of one another. This also increases the likelihood that they perceive each other as predictable and dependable.
 - **Keep researchers in physical proximity to users.** Proximity allows researchers to develop better personal rapport with users and therefore to feel a larger stake in the user's performance. Moreover, proximity increases the researchers' familiarity with and understanding of the environment in which the user is operating, which in turn creates more focused and relevant research and a more realistic basis for interpreting data. When searching further for specific expertise and/or experience is necessary, allow time during

the initial planning process for the researcher and users to familiarize themselves with each other and to develop a mutual understanding of the environment in which each is operating.

- **Develop methods that allow researchers and managers to have experience in one another's jobs.** When researchers have had operations experience and/or managers have had research experience, their ability to empathize with the other increases. Creating this situation, however, is difficult and impractical. However, efforts can be undertaken to provide a feeling for this experience. For example, one can require new researchers to spend some time in each department at an agency – service planning, operations, marketing, etc. They also can spend time personally interviewing their internal customers and some external customers to gain an understanding of the marketplace in which the agency operates.

On the other hand, one can require new managers to take a basic course or seminar on market research. Many colleges and universities offer continuing education programs on market research that they target specifically to those who will be using the research as opposed to actually doing it. Managers also can gain a better understanding of market research by spending some time at a data collection facility. Actually watching and listening to interviewers collect data over the phone – maybe even personally attempting to complete an interview that can be counted as reliable and valid – will give the research user a greater appreciation of the many details a researcher must manage.

- **Manage bad news.** The ability to present and manage bad news is central to the development of trust between researchers and users. Researchers must develop a special sense of etiquette for communicating findings that do not meet with managers' expectations, that fall outside their comfort zones, or that could be embarrassing for them. This is particularly important in the environment in which public transportation operates, where much of the research conducted becomes public information. Managers agree that if they cannot count on the researcher to be sensitive when they have discovered bad news, the researcher is considered less trustworthy. There are four ways researchers can manage bad news effectively.
 - **Present constructive ways to respond to the bad news.** They can soften the impact of bad news if they can suggest viable strategies for coping with the problem. For example, they can lessen the impact of reporting about a significant decline in customer satisfaction if they can identify reasons for the decline – problems with on-time performance or concerns about personal safety and security – that are under the control of the agency. The researcher can suggest strategies for improvement that the agency can act upon.
 - **Balance bad news with good news.** The worse the news, the greater the need for this balance. Most research projects of any scope have several findings, many of which support expectations, identify attractive decision options, and verify the appropriateness of past decisions. Researchers should take care to bring these findings forward while also clearly presenting the findings and implications of the bad news.
 - **Take precautions to develop valid explanations for the findings.** This may require the researcher to conduct additional analysis to identify underlying factors that may contribute to the overall result. The researcher may also need to work with managers in different departments to understand what, if any, changes have been made in operations, etc. that may have contributed to the result. For example, if analysis shows that a decline in overall customer satisfaction can be attributed primarily to a decline in customer satisfaction among riders living in one part of the service area, discussions with the operations

department may identify factors – construction, route changes, specific security incidences – that have occurred in that specific area. An explanation of why reported data reveal unexpected results helps managers feel they are being given greater insight, not just data.

- **Be prepared to defend the validity and reliability of the bad news.** It has long been known that people's first inclination is to reject information that does not conform to preconceived notions. Researchers must be prepared to stand behind their data. In studies where agencies anticipate bad news, taking extra care in selecting the research supplier may be appropriate. When researchers and consultants are well known for a distinctive experience, their findings are often more believable. Saving the "big guns" for this kind of strategy may be both effective and appropriate. Even when researchers have complete capabilities to "defend" the validity and reliability of the research results, managers and researchers agree on the importance of giving advance warning of bad news. When this is done, managers have an opportunity to work with researchers to present results in a truthful but potentially less dramatic way. Moreover, managers will have time to think about constructive responses. The result of any advance notice is less effort by some managers to potentially discredit the validity of bad news.
- **Absorb uncertainty.** A final factor that affects trust in an indirect but important way is the researcher's ability to absorb uncertainty. No single research study provides all of the information needed to make a totally risk-free decision. Rather, research can uncover but not completely clarify important issues affecting a decision. Moreover, every research approach has limitations, notably with respect to how the researcher can analyze and interpret the data. For these reasons, some uncertainty will remain even after all the data are collected. In fact, the more important an issue or decision, the more likely it is that important uncertainty will remain. However, good researchers can absorb uncertainty rather than pass it along to managers as qualifications and reservations. Some strategies researchers and managers can employ to absorb uncertainty include:
 - **Act with confidence** in an atmosphere of ambiguity by using other research experiences, data from other sources, and their own intuition to fill the gaps.
 - **Augment research data with other information.**
 - **Look beyond the basic analyses and observations made about the data.** This intuition that there is something more to explore often suggests that new analyses with the data should be done.
 - **Be a good team player.** This can help the manager to absorb uncertainty. Managers must frequently act as if the data are clearer than they actually are. They must depend on researchers who are willing to go beyond the data. They also need both the guidance and intellectual company of their researchers. Researcher guidance in these situations enhances the likelihood of making the right decision.

In summary, researchers and managers must work together to enhance the use of information in decision-making. This is most likely to happen in a situation where each understands, respects, and to some extent adapts to each other's frame of reference and needs. Roadmap 25 summarizes key strategies that are likely to enhance this feeling of trust between researcher and research user.



ROADMAP 25
BUILDING TRUST BETWEEN RESEARCHERS AND USERS

<i>Research providers must . . .</i>	<i>Users of information need to . . .</i>
✓ Understand the user's big picture, that is, their information needs and the underlying reasons for those needs.	✓ Make the effort to learn about the general aspects and difficulties of gathering useful and adequate information.
✓ Understand the uses and limitations of data and data analysis and be able to explain these strengths and weaknesses in terms the user can understand.	✓ Accept the fact that getting and properly using information requires hard work, up front and through every step of the process and that there are no shortcuts.
✓ Involve users early and during every step of the knowledge acquisition and utilization process.	✓ Encourage researchers to become part of the user team without delegating policy-related aspects of the information gathering and analysis.
✓ Ensure broad awareness by establishing a forum for users and potential users of information.	✓ Plan ahead for information needs. Last-minute requests usually get what they deserve – inaccurate, untimely, irrelevant, and difficult-to-use information.
✓ Learn to communicate in the language of the user and develop an understanding of the constraints under which the user operates.	✓ Provide researchers with more information about the decisions to be made on the basis of the research they produce.
✓ Adhere to high standards and maintain objectivity throughout the research process.	✓ Provide the researcher with feedback about the use / nonuse of the research. This is especially important if the agency expects to have a continuing relationship with the firm or if the research provider is an internal department.

Developing an Organizational Structure for the Effective Use of Research

Finally, the organizational culture and structure of a transit agency contribute to the effective use of market and customer research. The issue of inadequate or ineffective use of available research information because of organizational barriers is not unique to transit. Harold Wilensky, in his famous treatise on organizational intelligence, wrote, "Intelligence failures are rooted in structural problems that cannot be fully solved; they express universal dilemmas of organizational life that can, however, be resolved in various ways at varying costs. In all complex systems, hierarchy, specialization, and centralization are major sources of distortion and blockage of intelligence."^{ix} The following illustrates the inherent conflict that affects the use of information at many transit agencies.

Agency A has a long hierarchical structure. It emphasizes rank. As a result, considerable distortion occurs as information flows upward from low level to high level managers. Because of the process of selectively receiving and processing information by different individuals, new knowledge takes on different shades of meaning as it passes from one person to another. The agency further accentuates this tendency as there is a tendency among lower level managers at the agency to show themselves in the most favorable light to their supervisors.

In their well-intentioned efforts to exert more effective control, senior managers at Agency A are often provided with information that may at best reflect an overly rosy picture of the environment in which they are operating. At its worst, decisions at Agency A may be based on false and misleading information. At the other extreme, consider Agency B.

Agency B has information and marketing intelligence scattered throughout the agency. Each department within the agency is responsible for its own market research and intelligence function. The research is highly specialized and addresses a specific manager's need for information. There is no organizational structure in place to distribute the information. Moreover, much of the data are closely guarded by the manager who contracted the research to protect future budgets. At Agency B, managers often delay decisions as they warily consult each other.

These examples suggest that two dimensions of organizational culture and structure – formalization and centralization – affect the use of market research. Formalization is the degree to which rules at an organization define roles, authority relations, communications, norms and sanctions, and procedures. Centralization refers to the extent to which decision-making authority is delegated throughout an organization and the extent to which managers participate in decision-making.

Your Agency's Organizational Structure

Having managers take the following "quiz" (Exhibit 29) will help your agency gain an understanding of the extent of formalization and/or centralization that exists at your transit agency and how it influences the effective use of customer research. This quiz is based on research conducted by Rohit Deshpande on the organizational context of market research use.^{ix} Only those factors found to contribute to the use of research information are included in the quiz.

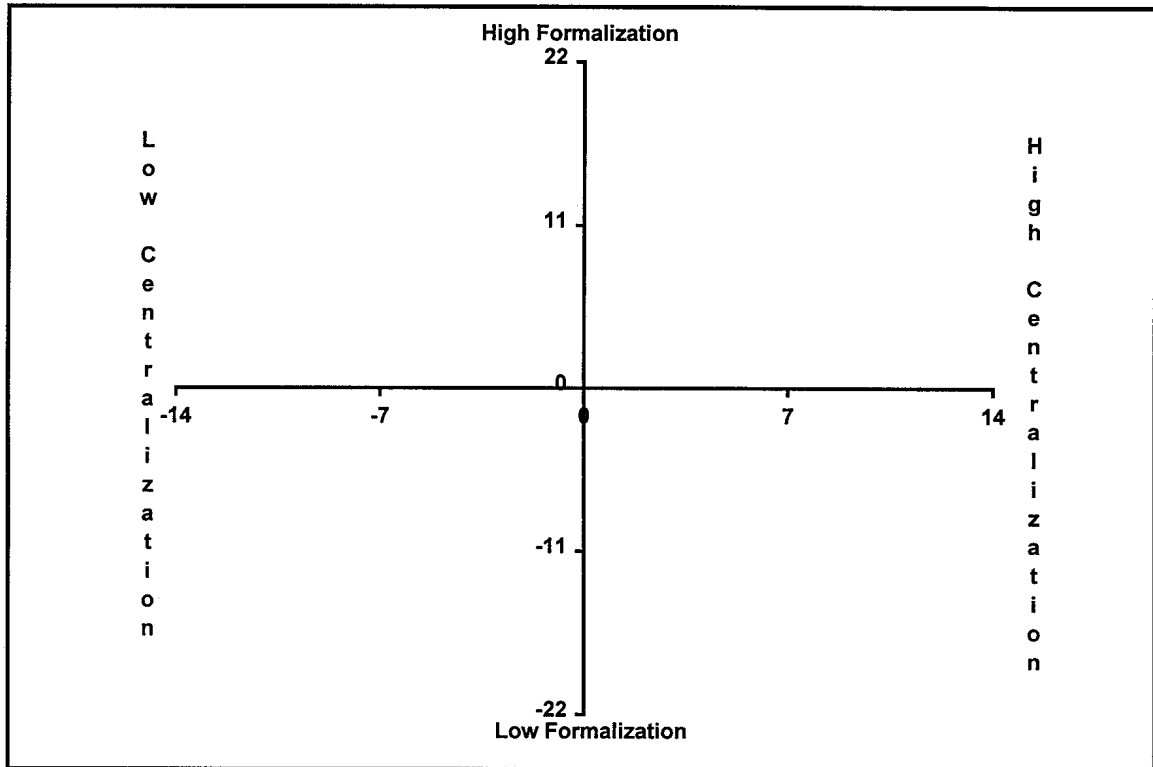


EXHIBIT 29
UNDERSTANDING YOUR ORGANIZATIONAL STRUCTURE AND CULTURE AND
ITS EFFECTS ON THE USE OF MARKET RESEARCH

<p><i>Instructions: Consider a typical customer research project conducted at your agency. In the scoring column (Column #2) indicate the extent to which this statement reflects the "truth" about your agency. Use the following response categories:</i></p> <p>-2 Definitely false 0 Neither false +1 More true than false -1 More false than true nor true +2 Definitely true</p>		
	Scoring Column	Total Score
I do <i>not</i> feel that I am my own boss in most matters related to a project.		
I can <i>not</i> make my own decisions regarding a project without checking with anybody else.		
How things are done around here is rarely left up to me.		
I am almost never allowed to do as I please.		
I rarely make up my own rules for a project.		
a. TOTAL: Total the numbers in the scoring column.		
Whatever situation arises, we have procedures to follow in dealing with it.		
Everyone at my agency has a specific job to do.		
Going through the proper channels in getting a job done is constantly stressed at my agency.		
My agency keeps a written record of everyone's performance.		
We have to follow strict operating procedures at all times.		
Whenever we have a problem we are supposed to go to the same person for an answer.		
b. TOTAL: Total the numbers in the scoring column.		
c. TOTAL FORMALIZATION SCORE: Total a + b		
If I wish to make my own decision, I would be quickly discouraged.		
Even small matters on a job have to be referred to someone higher up for a final answer.		
I have to ask my boss before I do almost anything.		
Any decision I make has to have my boss' approval.		
d. TOTAL: Total the numbers in the scoring column.		
<p><i>Instructions: In the scoring column (Column #2) indicate how often you participate in each of the following types of decisions. Use the following response categories:</i></p> <p>-2 Always 0 Sometimes +1 Rarely -1 Often +2 Never</p>		
	Scoring Column	Total Score
How often do you participate in decisions on the adoption of new products or services?		
How often do you participate in decisions on the modification of existing products or services?		
How often do you participate in decisions to delete existing products or services?		
e. TOTAL: Total the numbers in the scoring column.		
g. TOTAL CENTRALIZATION SCORE: Total d + e		
<p><i>Instructions: Plot your total "formalization" and "centralization" scores on the chart on next page.</i></p>		



FIGURE 26
FORMALIZATION / CENTRALIZATION MATRIX RELATED TO THE
ORGANIZATIONAL STRUCTURE AFFECTING THE USE OF MARKET RESEARCH



Managers and researchers who see themselves as operating in an agency that is relatively decentralized – low centralization – and has few formalized procedures for carrying out tasks – low formalization – are likely to make extensive use of market research information.

Looking at the questions that define centralization, one finds that whether or not managers are their own boss and whether or not they could make decisions on their own, or whether or not they were required to "go through channels" defines their use of market research. On the other hand, looking at the questions constituting formalization, it seems that managers tend to use research more when they feel that they, rather than their colleagues or bosses, are in control. These managers feel they have substantial latitude in defining their roles. Moreover, they feel they are working in organizations or departments where strict operating procedures do not exist or, if they do exist, do not have to be followed with great attention to specific detail.

How then does this relate to the use of market research? Moreover, what can agencies do to develop an organizational structure that maximizes the effective use of market and customer research?

This quiz and the supporting research (Deshpande, et al.) suggest that when managers feel they have greater flexibility, they may also believe they have more freedom in doing their jobs. This then may translate into a greater commitment to research activity, more involvement with the research process, and a greater likelihood of using the findings from research. Moreover, this feeling of freedom is reinforced when managers participate frequently in decisions about the adoption, modification, or deletion of products or services. With this decentralization of decision-making comes added responsibility that puts a burden on the managers' shoulders – a burden of eventual accountability for the decisions they made. Consequently, these managers will want as much corroborative and

supportive evidence as possible before making these decisions. This evidence is readily available in the form of market research.

Also relating to this issue of "evidence" is the extent of credibility regarding decisions by management. Through effective market research efforts, management at an agency can "externalize" the basis for making decisions versus relying on purely intuitive judgment and/or professional opinions. This broadening of the information base is particularly important in managers' efforts to persuade policy boards to approve particular actions. Since the policy boards provide community oversight to management, the higher the level of information obtained from the community through various research efforts the greater the credibility of management's recommendation.

This "quiz" clearly shows the impact the structure of an organization has on the use of research intelligence. Agencies should examine carefully the structure of their organization to detect any inhibitory efforts on research use. Notably, they should pay attention to those individual factors that appear to contribute most to an organization being either highly centralized or highly formalized – that is received high positive scores.

To the extent that an organization does or could use research, an alternative organization design – decentralized responsibility – which enhances research use might be considered. This is not to suggest that an agency must change its entire organizational structure simply to adapt to a research function or an occasional research project. Redesign may be temporary for a specific research project. For example, research in the organizational behavior literature suggests that certain organizational structure may simplify the initiation of new projects – for example, a decision to conduct a major research study – yet inhibit the implementation of those projects – that is, taking action based on the research – and vice versa. Thus, an organization that is highly centralized – that may simplify the decision to conduct a major research project – may have difficulty in carrying out the research. Thus, for the purposes of carrying out the research, a highly centralized agency may wish to decentralize decision-making temporarily in the marketing or planning area – at least during the implementation phase. Agencies can develop similar "switch rules" for other relevant organizational structure features.

To summarize, to enhance the efficient use of market research, agencies should allow managers to operate in reasonably flexible task environments. This flexibility would allow managers a generous amount of freedom to participate extensively in strategy decisions, coupled with accountability for demonstrated desired returns on investments. The responsibilities with which the agency entrusts the managers would include overseeing the collection and analysis of market research information on the products or services in their charge. This would permit these managers to be strongly involved in the research process, ensuring that the research information produced would be highly relevant to the decisions that need to be made. The result of this commitment to the market research activity would be a more effective use of research.



Sustaining A Market And Customer Research Function

A Roadmap for Increasing the Value of Market Research

TOOLBOX

- Beginning Your Journey: Factors Associated with Developing a Research Function
- Mapping The Way: Seventeen Propositions to Increase the Value of Market Research
- The Light at the End of the Tunnel: Integrating Marketing Research Into Transit Management

Getting From Here to There: Developing a Research Function

Developing and maintaining an effective market and customer research function are still relatively new ideas in transit management. Even transit agencies that regularly conduct market and customer research must overcome many obstacles before market and customer research is thoroughly integrated into transit decision-making at all levels of management. Because most managers in transit agencies have little experience with market and customer research, they frequently assume that launching a research project is a straightforward process – you ask questions, you get answers, and you present them to management for action.

However, as illustrated in the previous chapters, it is not that simple. Agreeing on a research purpose, identifying what matters and measuring it are difficult tasks. Further, managers frequently do not act in accord with research results, or if they do act, the actions are often not successful.

Many agencies that attempt a first effort at conducting a research project are dissatisfied with the experience. Sometimes, if they have never conducted research before or it has been many years since the last study, considerable monetary resources are committed to a single project. The research effort may be successful; yet, the agency does not conduct any other research for several more years. On the other hand, the research effort may not be completely successful. Management at the agency, faced with the allocation of scarce resources to many areas, may see little value to future research efforts.

Overall, few transit agencies interviewed as part of this project give their market research efforts high marks. Among the possible reasons for this dissatisfaction are that, for the most part, users and potential users of market and customer research:

- Do not understand what the essential purpose of market and customer research is,
- Do not understand how it relates to their needs, and
- Use research infrequently despite their having frequent, significant market information needs.

So what are the issues that create this situation? We have identified many causes throughout this handbook that affect the use of market and customer research. They are concerned with the:

- Extent of management commitment,
- Research design and focus,
- Technical quality of the research,
- Degree of trust in the research process and in those conducting the research, and
- Organizational structure and culture.

To sustain and grow a market and customer research function within an agency, transit agencies must understand these factors and the interrelationships of these factors. This chapter summarizes this handbook by presenting a "map" illustrating the relationships between the key factors. A synopsis of these relationships is presented in the form of propositions for increasing the effective use of market and customer research.

The "Map" to Success

There is a tension between the need to develop a sustained market and customer research function and the many factors that discourage effective information use and that diminish the value of market and customer research. Managing this tension is perhaps the single most important challenge facing agencies today as they seek to integrate market research into decision-making. To use market information throughout an agency, it is necessary to recognize and address the myriad of factors that influence how information is used.

The following model presents the interrelationships between the various factors that influence the effective use of market and customer research and the perceived value of market and customer research in helping the agency achieve a customer-orientation. This model has been adapted from one offered by Vincent Barabba and Gerald Zaltman in their book *Hearing the Voice of the Market: Competitive Advantage through Creative Use of Market Information*.^{lxii} By understanding these interrelationships, those wishing to develop and sustain a market and customer research function in their agency will have greater success in the long-term.

The model – Roadmap 26 (page 157)– illustrates how seventeen factors or propositions influence the effective use of market and customer research, and ultimately the perceived value of the market research function.

The Propositions: Hitting the Targets

This model leads to seventeen propositions that we suggest as potential areas that agencies should focus on to improve the value of market and customer research in their organizations. This greater value will come from more proactive thinking in decision-making and identifying new opportunities for ridership growth. In turn, greater value will lead to ongoing support and commitment from top management – the central ingredient to a sustained market and customer research function.

Proposition I: Establish an Objective and Independent Research Function

Establishing a research function that allows those responsible for planning and conducting the research to maintain their objectivity and independence is an important first step to increasing the value of market research. This is not to imply that agencies must establish a market research department. Indeed, there is a direct relationship between the establishment of a specialized, differentiated department and agency size. Rather, we are suggesting that no matter the agency size, when research is being conducted those involved in designing and managing the function are organized and charged in a way that ensures their independence and objectivity.

Several factors can contribute to loss of independence and objectivity within the research function. The more dependent the market research function is on individual departments or staff for ongoing support and budgets, the less objective research results will be perceived to be. Researchers who are dependent on internal clients for support may bias the research in support of the client's initial position. Moreover, they may be constrained in developing new methods and surfacing new issues. Finally, because each study may require a specific interest sponsor, other potential users of the research may distrust the results, particularly if they conflict with programs they wish to bring forward.

To overcome this, agencies should:

- Establish a separate market research function that has its own budget. The source of this budget should come from all departments that are likely to use any or all of the research produced. In this way, no single department will be viewed as the sole supporter of the market research function.
- Alternatively, the research function could receive its budget allocation from the agency's general fund. In this way, the function is not beholden to any departments, but to the agency as a whole.

Proposition II: Form Manager – Researcher Teams Early

The earlier researchers and managers begin working as a team on current and future issues, (1) the better the managers' understanding of the research process, and (2) the better the researchers' understanding of management issues and research needs.

Transit managers should:

- Involve researchers at the initial stages of the research effort.
- Make it clear what decisions are likely to result from the research and what alternatives are being considered.

- If an external firm is to be used, issue the research request and select a consultant before the final research design is cast in stone.
- Finally, involve all potential users of the research effort at this stage.

Proposition III: Build Staff Skills in Market Research Design and Analysis

The better trained the research staff is in market research design and analysis as well as in the basic issues of managerial decision-making and risk analysis, the more managers will be open to diverse sources of information and methodologies.

- Look for these skills when hiring research staff.
- While basic training in research methodologies is essential, higher level thinking skills, experience in leading meetings and encouraging participation and broad-based experience with a variety of techniques and methodologies are equally important.
- Ongoing training of staff should be used to enhance the development of these higher-level skills.

Proposition IV: Increase Managers' Understanding of the Research Process

The greater the managers' understanding of the research process – what it can and cannot do and when it is and is not necessary to use – the greater the level of trust between managers and researchers. In addition, lack of understanding lessens the perceived value of formal research as a learning tool for the agency.

- Give managers the opportunity to learn about the research process through continuing education programs or through internal training.
- Encourage internal research staff or external consultants to take the time to explain the research process and the specific aspects of a research project at a level of detail necessary to foster understanding.
- Ask researchers to talk in your language and develop an understanding of the constraints under which the research user operates.
- Above all, do not be afraid to ask questions and seek answers.

Proposition V: Increase Researchers' Understanding of Managerial Issues

The more knowledgeable researchers are about managers' issues and their specific tasks and decision constraints, the greater the level of trust between managers and researchers. Moreover, the greater the familiarity among researchers about the circumstances surrounding the approach of a research project, the greater the perceived value of the information made available to managers.

- Give the researcher feedback about the use / nonuse of the research. This will enhance the researcher's knowledge of the agency and will improve the quality of future research efforts. This is especially important if the agency expects to have a continuing relationship with the outside firm, or if the research provider is an internal department.

Proposition VI: Encourage Openness to Diverse Information and Methodologies

More openness by managers and researchers to diverse sources of information and methodologies leads to a greater ability to (1) reconcile diverse points of view, (2) identify critical information needs and avoid unnecessary research, and (3) develop novel syntheses of diverse information.

- Challenge the idea that a given methodology is the only one appropriate for a given task.
- Be willing to see alternative viewpoints about an issue.
- Foster an atmosphere that encourages an open assessment of the different positions when alternative viewpoints are brought forward.
- Discourage an "entirely right" or "entirely wrong" mentality with respect to different positions. This will encourage creative syntheses that add even more value to available information.

Proposition VII: Increase Trust between Researchers and Managers

The greater the level of personal trust managers have in researchers, (1) the greater the use of research, and (2) the more open managers are to new and perhaps surprising research results. Trust has been found to influence the perceived quality of user-researcher interactions, the level of researcher involvement, the level of user commitment to the relationship, and the level of market research use.

To increase the level of trust between researchers and managers:

- Researchers and managers must work together to enhance the use of information in decision-making.
- The organization must foster an atmosphere where researchers and managers understand, respect, and to some extent adapt to each other's frame of reference and needs.
- Researchers must understand the comfort zones of the users of the research and use effective communications when results fall outside the comfort zone.

Proposition VIII: Develop Novel Insights from Varied Information Sources

The greater the ability to develop novel insights from varied information sources, the greater the incidence of ideas that give an agency a unique advantage.

- Encourage the use of alternative information sources and different methods for gathering data.
- Use outside expertise as needed.
- Be willing to give greater emphasis and credence to information that is abstract and yet possibly more reliable.
- Include the researcher in the decision-making process, allowing them to provide an objective view of research results and their implications for the decision and to represent the "voice of the market" throughout all subsequent discussions.

Proposition IX: Identify Critical Information to Reduce Unnecessary Research

One of the most significant services a market research function can provide is to help managers identify and challenge their own assumptions and examine alternative perspectives on what they know. This process highlights important areas where knowledge is lacking and where market or customer research will have greater value. Moreover, it minimizes the risk of conducting unnecessary research that is not relevant and hence has little value.

Researchers can help managers identify critical information to avoid unnecessary research by:

- Clearly identifying what is essential to know, what is presently known or not known, and what is and is not already known and available elsewhere.
- Acting as a knowledge development expert who helps managers identify critical information requirements rather than acting primarily as a collector of primary data.
- Being willing to recommend **not** conducting research when it will have little value.

Proposition X: Reconcile Diverse Viewpoints

The greater the ability to reconcile diverse viewpoints, the higher the incidence (1) of successful research efforts and (2) of identifying opportunities for ridership growth.

- Involve researchers and users of the information early in the research design process.
- Encourage a process by which all alternative points of view are discussed and criteria are established for setting priorities for research information needs.

Proposition XI: Increase Managers' Openness to New and Surprising Results

While it is desirable to challenge core assumptions, few managers do, mainly because it simply doesn't occur to them. Frequently the decision time frame is too short to permit adequate exploration of alternative viewpoints. Just as often, there are too many assumptions to tackle at one time. As the level of trust between managers and researchers increases, managers will be increasingly open to new and surprising results. The research function has an opportunity to assist in this area by providing leadership in challenging thinking about assumptions and decisions.

- Managers can increase their openness to new and surprising results by:
- Seeking the obvious but doing everything in their power to challenge and even ridicule it.
- Questioning all constraints. The most limiting constraints are usually imposed not by the problem but by the mindset of the problem solver.
- Challenging as many assumptions about the problem as possible. Remember what seems self-evident may not always be evident to others.
- Questioning the scope or definition of a problem. Frequently, what is omitted from the statement of a problem is as critical as what is included.
- Questioning whether a problem is to be "solved," "resolved," or "dissolved."

- Questioning logic. Being logical and being right are not always the same. The more logical a solution to a complex problem sounds, the more it deserves to be challenged.^{lxiii}

These guidelines for managers can help researchers:

- Present a broader array of ideas and understandings for possible use by managers.
- Help reduce the likelihood of acting on an incorrect assumption or one that may simply not yield the best decision.

Proposition XII: Increase Use of Market Research throughout the Agency

Research must be used to be of value. Despite this somewhat obvious truism, much research is not used or used effectively. Effectively demonstrating the high incidence of successful past efforts will increase the level of future research use. This can be done by:

- Publicizing successes through internal memoranda.
- Discussing market and customer research findings and their implications at planning and/or staff meetings.
- Whenever possible, arranging for a presentation or briefing – either formal or informal – for senior management and the board.

Proposition XIII: Use Research to Identify Opportunities for Ridership Growth

The greater the incidence of ideas that identify opportunities for ridership growth, the greater the incidence of a thinking-to-lead – that is, proactive thinking – compared with a thinking-to-follow – that is, reactive thinking – management planning process.

- Make sure the research focuses on decisions that are to be made and /or alternatives that are being considered.
- Avoid gathering information for information's sake.

Proposition XIV: Make Decisions Based on Research

The higher the incidence of successful decisions based on research, the greater the value of future research. The failure-of-success syndrome often occurs when one tries to apply a successful previous effort to a new situation without considering changes in the situation.

- Do not rely on thinking and planning processes that worked well in the past. Recognize that past thinking and actions, although successful, may need to be altered to fit the current situation.
- Examine carefully their appropriateness to current or anticipated situations. As the agency conducts research, take time to let others in the organization know about the results of the research and how it was used.

- Constantly evaluate the effectiveness of the research function and the way in which the agency learns and uses research to aid in decision-making. Having a better understanding of the research function and its relationship to decision-making and making improvements in the organization of the research function as the function becomes more integrated with decision-making will ensure its long term success as well as increase its future value to the organization.

Proposition XV: Conduct Relevant, Timely, Accurate, and Cost-Effective Research

All decisions involve uncertainty – both in the information on which they are based and in the forecasts of the consequences. We have emphasized throughout this handbook that successful market and customer research is decision-oriented. This means, first, that to have value, market and customer research should be undertaken only when the results will reduce uncertainty and influence decisions. Indeed, there is little point to research if the decision-maker cannot alter the decision or alternatives based on the information. More specifically, to have value, market and customer research will make the greatest contribution when it is relevant to current or anticipated decisions, timely, cost-effective, and accurate.

Throughout the handbook, the emphasis has been on conducting research that is focused on decisions. Research conducted to satisfy curiosity or confirm the wisdom of previous decisions has little value. Relevance comes through the support of strategic and tactical planning activities – by anticipating the kinds of information that will be required to assist in decisions.

- Undertake market and customer research as new circumstances arise and/or decision alternatives become more specific.
- Focus constantly on decisions throughout the planning and implementation of these projects.

Decisions usually are constrained by time and must be made according to a specified schedule, using whatever information is available. While the timing of decisions often is contingent on the research results, more often than not decision dates must be achieved regardless of the availability of information at that point. While partial information at decision-making time is obviously of greater value than complete information later, this property of market and customer research has several important implications that can affect the overall value of the information.

- Design the research so that partial results are available at various times. All research is subject to Murphy's Law – whatever can go wrong, will, and at the worst possible time – which may impede the achievement of the best-intentioned schedule and delay the final results. Obtaining partial results throughout the course of the study is particularly easy with the new technology available in telephone interviewing. For on-board or mail surveys, procedures for ongoing data entry and validation will need to be established.
- Think about conducting research ahead of foreseeable decisions by thinking about the continuum of information as described in the Wheel of Research (described in Chapter 3) rather than a single research result at one point in time.

Cost-efficient research provides the maximum amount and quality of information with the minimum expenditure of time and money. In some cases, research is not justifiable although it can clearly contribute to a decision. In such cases, the costs of a minimally acceptable study exceed the foreseeable benefits of increased ridership, improved customer satisfaction, or other criterion.

- Use the criteria listed on Roadmap 2 to help estimate the cost-efficiency and hence the value of research information for each decision.

- Use research designs and research procedures that give good results with high probability, rather than approaches that are more sophisticated. These latter approaches might give excellent results if they are correct, but may be very inaccurate if some of their assumptions are not met.

Requirements for timeliness, efficiency, and relevance should not compromise the accuracy of market and customer research. Several strategies have been discussed throughout the handbook that will help ensure accuracy. However, despite careful research design it is inevitable that biases will arise due to question wording or interpretation, the sampling plan, or other elements of the research design.

- Use more than one approach to address a research problem. If several approaches with different kinds of biases yield similar conclusions, the accuracy of the research will be enhanced.
- Make the research as objective as possible. Ideally, this means the careful adherence to scientific methods. Do not slant the design of the research to achieve predetermined results.

Since researchers and their results are continually subject to the pressures of the organization, it is unrealistic to pretend that bias and distortion are not introduced – consciously or unconsciously. Awareness of the possibilities is usually the best defense.

Proposition XVI: Use Quality Thinking Before, During, and After Data Collection

Much of the focus in market and customer research has been on developing technologies for data acquisition and processing. Procedures have been developed to eliminate or at least isolate human bias by establishing "objective" guidelines for research design, sampling procedures, the construction and administration of questionnaires, reliance on formal analytical procedures, etc. This has occurred largely because of the separation of the research function from decision-makers.

In contrast, less has been done on the process of using information and the quality of thinking. However, the quality of thinking by the researcher about an issue before data collection is a major determinant of the quality of thinking after the data have been collected.

Managers can improve the quality of thinking by researchers before, during, and after data collection and by that increase the value of market research by:

- Discussing their expectations, ideas, comfort zones, etc. with the researchers and others prior to making decisions about research design, strategy, etc.
- Understanding the importance of the information that is being gathered. A wide array of possible actions and better information about those possibilities are obtained when managers explicitly consider: (a) the importance of the questions that are being asked, (b) the question's utility in developing and action, and (c) what else is needed in choosing or implementing a decision for a given question to be useful.

On the other hand, researchers can improve the quality of their thinking before, during, and after data collection by:

- Simulating the use of information before doing fieldwork. This prompts thinking about the actual use of information and leads to changes in research methods and instruments that will produce more usable results.

- Thinking about specific empirical outcomes well in advance of actual findings. Managers and research are then better prepared to interpret results and can do so more quickly, perhaps shortening the decision time.
- Enumerating alternative actions or decisions before the design of a questionnaire. The researcher should identify the questions related to various actions and the kinds of analyses that will be done with the final data. Managers can then indicate where the data may be insufficient and/or excessive for evaluating these actions.
- Identifying early in the process where uncertainty is likely to remain, and the cost of that uncertainty. Managers and researchers are then better prepared to determine the value of the proposed research as well as the value of additional research to further reduce uncertainty.

Proposition XVII: Act, Don't React

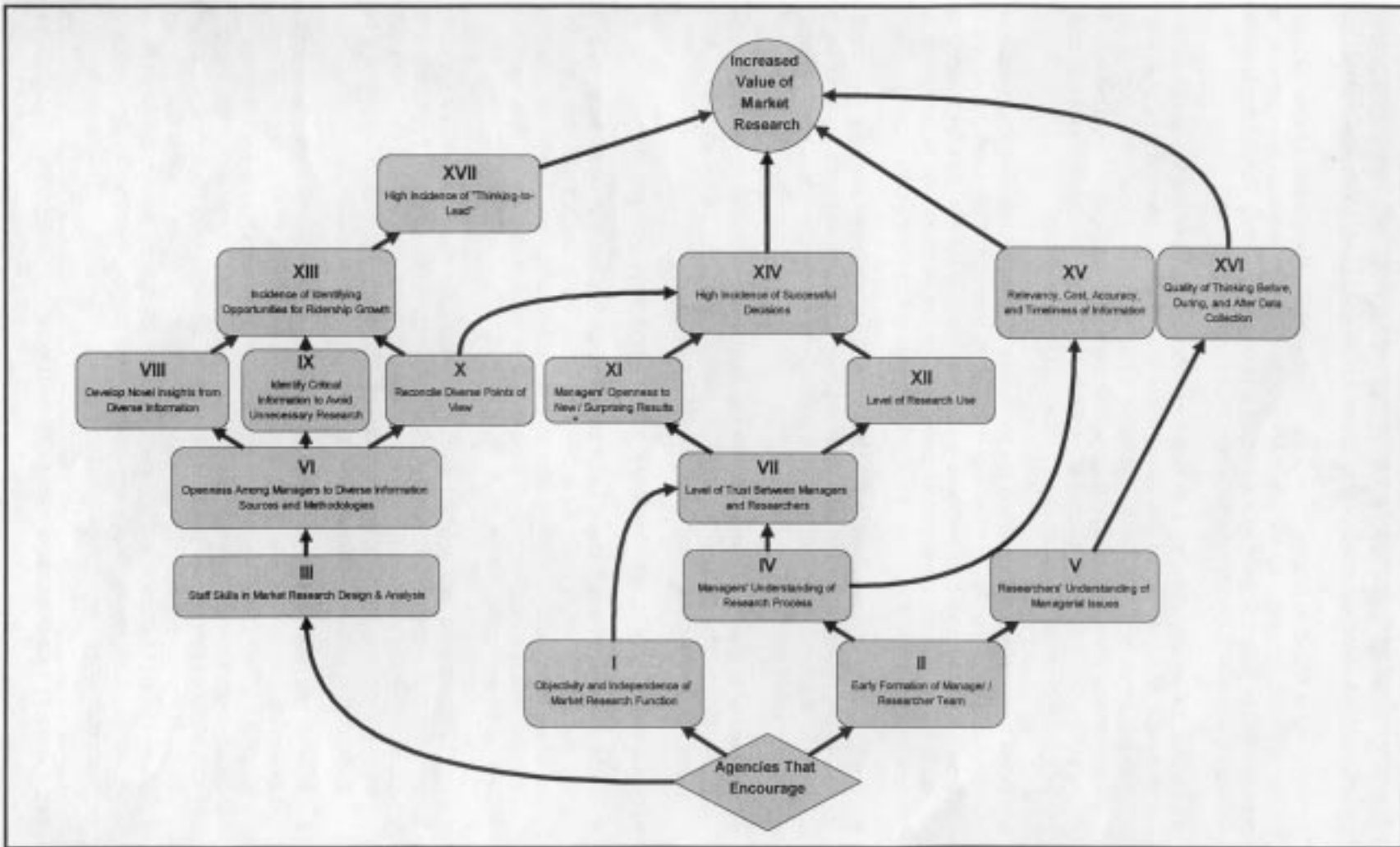
Thinking-to-lead involves sensing changes in the market or environment in their early stages and developing creative responses. Thinking-to-lead represents a proactive stance. Conversely thinking-to-follow involves learning how to respond quickly and effectively to important changes in their advanced stages. Thinking-to-follow is a more reactive stance to the marketplace. Both kinds of thinking are necessary and important. However, the thinking-to-follow posture reflects an absence of commitment to being market and customer-oriented and a lack of commitment to the use of marketing information. Moreover, as riders and potential riders become increasingly demanding of public transportation services and as more options for travel become available, a thinking-to-follow posture will lead to slow and or decreased ridership.

To develop a thinking-to-lead stance, agencies should consider:

- Investing in training on how to surface assumptions, formulate issues, and interpret stations in order to make effective use of new information systems and technologies.
- Developing values, cultural norms, and attitudes in the organization that are compatible with being proactive. Reward those who try to state their needs in terms of researchable questions and those who are forward-looking and oriented toward strategic thinking. Be open politically to new knowledge. Place greater value on internal resources to gather, disseminate, and respond to market information. Hire specialists when needed.
- Decentralizing and deformatizing agencies – at least temporarily using special teams and/or committees – to increase the speed of decision-making and the willingness to adopt new innovations. Identify the bottlenecks in translating needs into research questions.
- Taking a different view of how researchers and managers relate to each other. Expect researchers to keep managers informed at all times and to be involved in the decision-making process at particular times. Provide researchers with tools and training to take on this different role.
- Allowing adequate time for market research to be conducted that is relevant, timely, and accurate. Assess user needs on a regular basis rather than simply at the beginning of a project. Communicate changes in needs to researchers in time for them modify the research. Allow users enough time to derive action implications from the research.



ROADMAP 26 A ROADMAP TO INCREASE THE VALUE OF MARKET RESEARCH



Destination: Integrating Market Research Into Transit Management

To conclude, a research function cannot be built overnight. Agencies that have successful market research functions are the result of carefully cultivated attitudes, commitments, and management process that have accrued slowly and steadily over time. To start the process of developing a research function, the following simple steps are suggested.

- **Foster an environment that is conducive to conducting market and customer research.** This means that the agency must allow time for reflection and analysis, for thinking about strategic plans, dissecting customer needs, assessing current work systems, and developing new products and services. Top management must explicitly free up employees' time for the process of research. Training in brainstorming, problem solving, evaluating experiments and other core research skills is essential.
- **Open boundaries and stimulate the exchange of ideas.** Boundaries inhibit the flow of information and the use of market and customer research. They keep individuals and groups isolated and they reinforce preconceptions. Boundaries can be opened with conferences, meetings, and project teams that link the company and its customers, and ensure a fresh flow of ideas and the chance to consider competing perspectives.
- Before starting up a new function, **study and evaluate what you are now.** One must be fully aware of and appreciate current assumptions about management, organization, and the use of information to grasp what is presently being done well and what the agency might improve or change.
- **Create the context and identify the crucial business challenges.** Senior management must establish the broader framework to guide change as strategic directions for the agency and a "vision" of how it will operate in the future.
- **Consider cultural factors carefully** in choosing and carrying out any strategy.
- **Make changes in small steps.** Large-scale change requires that many initiatives be put into place in a carefully designed and integrated sequence. Such a plan may be doomed to failure from the start. Rather, changing an organization through a series of modest, focused, and specific changes will allow people to experience success. The result is still likely to be large-scale change.
- **Institutionalize the changes that work** – and discard the rest. All too often, organizations will attempt a change. When one aspect of the change does not work, the tendency is to discard the entire program. Rather, as management gains experience, it can take steps to institutionalize the practices and technologies that contribute most to learning and build those into the infrastructure of the company.
- **Periodically review progress and reformulate strategy.** Results-driven improvement is an empirical process in which managers use the experience of each phase as data for shaping the next phase of change. Fresh insights flood in from early experiments – how quickly project teams can make gains, what kind of support they need, what changes in work methods can be implemented quickly, what obstacles must be addressed at higher levels of the organization. Armed with this information, senior management can refine strategies and timetables, and in consultation with others in the agency carve out the next round of strategies to incorporate learning into the organization as confidence and momentum grow.



Calgary Transit

Calgary, Alberta

Compared to You

Calgary Transit, a unit of the Calgary Transportation Department, is part of the municipal government of the City of Calgary, Alberta. The City Council sets policy for the 576-bus, 13-shuttle, and 85-car light rail transit (LRT) system. The staff of 1,684 serves a population of 717,000. Calgary Transit's service demand included 45 million bus boardings and 33 million C-Train (LRT) boardings in 1993.

Fare revenues comprise 47 percent of Calgary Transit operating costs. A long tradition of strong local and provincial support is evidenced by the City's responsibility, with local taxes providing 43 percent of the budget and provincial grants, 8 percent. Advertising provides 2 percent of the budget; federal funding is minimal.

All three C-Train lines (South, Northeast and Northwest) serve Calgary's central business district (CBD). Two out of five (40 percent) work trips to downtown are on Calgary Transit. Eleven park-and-ride lots at C-Train stations provide parking for 6,800 vehicles. Eleven smaller bus service park-and-ride lots offer parking for 260 vehicles.

During Calgary's economic and population boom of the late 1970's and early 1980's, the City restricted the construction of new parking, limiting parking availability and increasing prices in the CBD. Quality public transit service increased with the introduction of the South line in 1981 and the Northeast line in 1985. With the decline of petroleum prices during the mid-1980's, local economies and tax revenues plummeted. The downtown employment focus declined. Vacant parcels previously targeted for development are now used as surface parking lots. The additional parking supply resulted in lower rates, and driving is again more attractive.

Their Research Program: Big Bang for the Buck

The constraints on local and provincial funding programs have affected Calgary Transit and provided an impetus for a very focused research effort centering on nonriders as well as riders. A Market Research Committee of operations, maintenance, transit studies, marketing, service planning and community relations staff helps define the surveys.

With an annual budget of \$85,000 (for external costs), Calgary Transit engages in **omnibus surveys**, an annual **customer satisfaction survey**, a tri-annual **work-travel census**, and other **"quick response" studies** as needed. Conducted by private research firms for several clients at once, the cost-effective **omnibus surveys** include questions about Calgary Transit's market share, reasons people do not use transit, advertising effectiveness, and public opinion

about the value of transit service to the community. Calgary Transit's 1993 expense for its omnibus survey participation was \$2,500.

The **annual customer satisfaction survey** identifies travel patterns and transit usage, rider preferences and service performance ratings. Riders' perceptions and expectations, as well as their use of Teleride and printed riding information, are monitored each year. The survey cost is \$10,000.

About 25 percent of the research budget is set aside for immediate research needs that arise during the year. Three issues required **quick response surveys** in 1993: customers' perceptions of personal security at rail stations and park-and-ride lots; fare evasion; and bus seating.

Evening riders felt isolated on station platforms, and the quick-response security survey indicated that *any* kind of official presence would help overcome passengers' personal safety concerns. With these findings, Calgary Transit moved the cleaning schedule at stations to evenings, rather than after the stations closed for the night. Thus, uniformed staff was present and visible in the later evening hours. In addition, spare-board drivers and safety/training personnel were assigned to patrol the stations and parking lots. City police officers also carried out a security audit of LRT stations and parking lots, providing insights for improvements.

Evasion of the C-Train honor fare system was thought to be around one percent, according to the results of random spot-checks by uniformed fare agents. However, a comparison of passenger data with revenues indicated that the rate of evasion may be higher. Accordingly, a quick-response survey was implemented with non-uniformed interviewers asking passengers how much they had paid and requesting proof of payment. A warning rather than a \$35 citation was issued to respondents who had not paid a fare. The findings showed an evasion rate of 7.5 percent. At some stations, the estimated rate was as high as 14 percent. With these results, Calgary Transit increased the citation from \$35 to \$150. Follow-up surveys showed that the fare evasion rate declined from 7.5 percent to 1.5 percent.

With a new order of buses, Calgary Transit specified seats that were different from those in the current fleet. Through the customer feedback process, it was found that most riders did not like the new seat design. A more formal, quick-response survey of customers helped to determine the extent and nature of concerns regarding the new seating. Based on the results of the survey, the old seat design was restored.

In addition to the quick-response surveys, Calgary Transit has also used panel discussions with all nonriders to develop a transit demand model and worked with the Canadian Urban Transit Association to identify changing urban demographics and their impacts on transit.

Two key areas are responsible for the growth and success of Calgary Transit's market research efforts:

- 1) A philosophy that market research goes from the macro to the micro levels; and
- 2) The agency's open-minded desire to apply research or change research procedures as needed.

The agency's basic philosophy recognizes that while its market research tends to focus on particular issues, research can involve a variety of activities and issues. Thus, larger (macro)

studies of riders and nonriders can lead to smaller, specifically focused (micro) studies for more detailed information.

Because the research findings have major relevance to the success of Calgary Transit in meeting its policy objectives, the research is used by top management and throughout the organization. Transit staff acts to remedy situations of concern to customers and the general transportation market.

"Market research provides a vital link between the identification of particular needs and the decisions that respond to these needs. We've tailored our research so we can use it to respond to current and future issues that affect service. Whether it is reviewing new seating for buses or assessing advertising strategies, we recognize the importance of providing data that supports responsive decision-making."

Neil McKendrick, Coordinator of Transit Studies.

The openness about doing things differently includes adding new research, as well as refining and changing the current studies and procedures. Calgary Transit is considering the development of a new database of current riders' demographic features and origin-destination patterns. The database would be continuously updated and would record responses to questions of preference, helping to keep current riders as customers and encourage nonriders to use transit.

A more detailed integration of market research information with transit planning is a goal under consideration for the near future. Twenty-four-hour data regarding travel mode shares with emphasis on wider peak periods would be gathered and included in the Transportation Department's long-range travel demand forecasting process.

One aspect of Calgary Transit's basic approach to market research that could apply to other operators is the recognition that market research should take place from macro to micro levels, in a hierarchy as follows:

- Examine community transportation needs and priorities.
- Determine how the public views transit.
- Identify system-wide issues regarding future service development.
- Given limited resources, determine service and other priorities.
- Study narrower issues (such as passenger amenities and seating).

"There is a broad hierarchy of issues facing public transportation systems throughout North America, ranging from changing demographics and their impacts on travel to focused problem areas that require short-term actions and research efforts to guide the decisions and responses to be made."

John Hubbell, Superintendent of Service Planning and Customer Relations.

Using Calgary Transit's overall, general-to-specific study approach; the contributions to the market research function by staff members from all organizational levels; and the flexibility afforded by budgeting for quick-response surveys, many transit systems could take the initiative in serving the changing needs of their communities.



Capital Metro

Austin, Texas

Compared to You

Located in the Austin, Texas metropolitan area, Capital Metro provides bus service to a population of 536,000. Estimated ridership in 1994 equaled 28 million – and has been increasing at an annual rate of 3 to 4 percent during the past few years.

Their Research Program: Focused on Specific and Immediate Issues

While ridership has grown over the past few years, following improvements in the overall economy of the area since the energy-related downturn of the late 1980's, Capital Metro continues to carry out research efforts which include rider and nonrider profiles and focus on both current customers *and* employees. Carried out by the Communications Department, and supervised by a Marketing Supervisor responsible for surveys and other research work, market research at Capital Metro uses a mix of tops-down and bottoms-up approaches when identifying possible market research activities. Past research efforts at Capital Metro have focused on specific and immediate issues facing the agency, such as vehicle acquisition, public information, and transfer policies.

- **Focus Groups:** Capital Metro has used focus groups to help evaluate potential features of new vehicles and develop a formal survey of riders to obtain customer feedback regarding new vehicles considered for acquisition by the agency.
- **Customer Review:** Before proceeding with the detailed development of converting individual route schedules into a comprehensive schedule "book," a draft was reviewed by a group of customers who indicated support for the idea.
- **Employee Review:** Capital Metro recognizes that bus operators are part of the "client" base. When considering possible changes regarding transfer policies, the agency presented the changes to a group of operators. The group offered comprehensive suggestions to make the system user-friendlier, suggestions that were incorporated into the program.

Capital Metro has integrated their research efforts into their management planning efforts by allowing the research conducted to provide management with decision tools and resources based on real-world opinions and attitudes toward service-related issues.



Cleveland RTA

Greater Cleveland, Ohio

Compared to You

Uniting the City of Cleveland's Transit System and a group of smaller public and private transit systems in Cuyahoga County, the Greater Cleveland Regional Transit Authority (GCRTA) was created in 1974 to stabilize and improve a deteriorating Cleveland area transit system. Currently, the GCRTA is a large, multi-modal transportation system serving the metropolitan Cleveland, Ohio area. Over 61 million passengers rode the system's fixed route bus, para-transit and rail services in 1994.

A public agency, the GCRTA is governed by a ten-member board comprised of elected and appointed officials representing the service areas. The agency's 1994 annual budget was \$175 million. Funding is provided by an area sales and use tax with additional public funding by the state and federal governments. Approximately 25 percent of operating cost is recovered from the fare box.

Following the creation of the GCRTA, ridership increased – reaching a peak of 130 million in 1980. This high water mark was followed by a period of serious decline – in part due to problems many other transit agencies were currently dealing with, including the shift of jobs to dispersed, suburban locations – yet others were of its own making. The agency's credibility and service quality suffered through a period of well-publicized mismanagement and scandal, finally culminating with the 1987 resignation of several board members and the general manager.

"It was terrible, absolutely terrible, sloppy. People didn't know what they were doing. They had no idea what customer service, or responsiveness or responsibility meant. It was unbelievable."

Ronald Tober, General Manager

A new management team was brought in and given the daunting task of rebuilding the public's faith in and use of the GCRTA. The management team set to work to rebuild the system, identifying the key to rebirth as a need to get back in touch with customers. In addition to instituting a total quality program, with "delighting the customer" as its philosophy, reorganization of the agency to a customer quality driven structure, long range plan development and conduct of a comprehensive operational analysis, the GCRTA uses market research – and its newly created market research function, under the direction of the GCRTA's Assistant General Manager of Marketing and Development, to provide the keystone in

evaluating customer and potential customer attitudes toward and expectations from the GCRTA.

Their Research Program: Key to a Customer-Driven Organization

Over the past five years, the agency has developed a consistent tracking database of market information that is incorporated into the decision-making strategies of its management. Key studies used by the GCRTA include:

- **On-Board Passenger Survey:** The GCRTA uses this annual self-administered questionnaire to measure demographics, travel behavior, attitudes and importance of various attributes among two to three thousand riders.
- **Nonrider / Infrequent Rider Survey:** An annual survey conducted throughout the agency's service area among 600 nonriders and infrequent riders is used to track potential market opportunities as well as overall citizen attitudes toward the system.
- **Passenger Origin / Destination Survey:** Approximately every three years, GCRTA conducts an on-board survey of two to three thousand completed questionnaires to focus on the travel patterns of existing riders. The instrument includes basic demographic question sets and detailed inquiries about origins, destinations, transfers, and trip purpose.
- **Special Purpose Studies:** The GCRTA routinely conducts studies related to specific service and marketing issues. During the last year, a series of focus groups were conducted on the following issues:
 - **Gateway Service Study:** Focus groups were conducted with individuals who had purchased tickets to Cleveland Indian games to identify the types of GCRTA services that might be most attractive to patrons of Cleveland's new Gateway Jacobs Field games.
 - **Employer Pass Sales Study:** In its attempt to maintain existing riders through encouraging regular ridership, the GCRTA has launched an effort to encourage increased usage of monthly passes. As part of this effort, the agency conducted a series of focus groups with major employer decision-makers as to their attitudes towards acting as distributors for various fare media and what they would like to see in the program to make it worth their participation.
 - **Suburban Relocation Survey:** When two major downtown Cleveland employers were planning moves to suburban locations, the GCRTA surveyed the firm's employees – based on lists provided by each of the firms – to determine if service modifications could be designed to serve their needs.
 - **"Time Sensitive" Public Opinion Tracking Survey:** Designed to overcome a limitation with current surveys which reflect opinions about the agency gathered during a very limited slice of time, making them vulnerable to short term impact events that may distort overall findings – such as negative news stories printed during the time of the survey – the GCRTA's new tracking study will be a random telephone survey in which a small number of randomly selected individuals are

surveyed weekly. The survey will track basic attitudes of respondents towards GCRTA on an ongoing basis, and will enable the agency to see the impact of isolated events on overall attitudes towards the agency, as well as tracking seasonal factors.

Market research and the TQ philosophy are integral parts of the decision process at GCRTA. Research findings are used to identify areas TQ teams need to work on, measure the effectiveness of the programs, and to help develop budgets.

Perhaps the best example of the GCRTA's successful use of market research is the recent construction of the Gateway Walkway. The City of Cleveland has recently begun a major redevelopment of its downtown area, an anchor to this effort is the development of the Gateway Sports and Entertainment Complex which opened in 1994. The \$300 million complex includes the 41,000 seat Jacobs Field, the new home of the Cleveland Indians, and the 21,000 seat Gund Arena, home of the city's basketball and hockey teams as well as more than 200 special events annually – from circuses to rock concerts. Recognizing the opportunity to both increase the usage of the system by existing riders in recreational trips to the facility and to reach a new market of nonriders attending Gateway special events, the GCRTA made construction of the Gateway Walkway, a quarter mile long glass enclosed, climate-controlled pedestrian walkway linking the Complex with the GCRTA's service hub at Tower City Center a top priority.

Recognizing, based on their database of research, that safety and security were two of the biggest concerns among RTA riders, the GCRTA recruited focus groups of potential Complex patrons to help define the types of service the riders and potential riders would like to see, as well as how they felt about security issues. Participants, recruited from Cleveland Indian ticket holders, indicated that there was indeed a concern about security in service to the facility that ranked second only to convenience in importance.

Based on these results, the GCRTA instituted several measures in the newly constructed Walkway that directly targeted the safety concerns of their customers, including:

- Fifteen press-to-talk emergency call boxes with direct access to transit police;
- Video cameras monitored by transit police, providing real time and video-taped surveillance of all walkway activity – focusing on call boxes when activated;
- High levels of lighting;
- Expansive windows;
- Wall murals of public art; and
- Emergency exits monitored by cameras and secured with call boxes.

The results of the focus groups also influenced service planning, causing the GCRTA to increase the frequency of trains and buses leaving evening events, beef up security at suburban park-and-rides and develop a network of "Gateway Flyer" express bus services to regional park-and-rides to cut down on waits and transfers.

The focus groups revealed that the concerns about security were serious enough that the authority's marketing team felt the issue would have to be addressed head on. This approach

was somewhat different than the traditional thinking that bringing up security issues might increase perceptions of security problems. The direct approach concepts were tested in focus group sessions before materials were actually published, and focus groups conducted following the GCRTA efforts showed that participants felt taking "RTA bus service would be safer than driving."

Gateway service success became a highlight of 1994 for the GCRTA. On its first day of operation on April 4, 1994 – Opening Day for the Ballpark – the authority's Gateway services carried 18,000 people or 44 percent of the 41,450 attending the Indian's Home Opener. The ridership was double the projections for the service. Overall, the year's total ridership to Gateway events was 830,000 people. Had that not been the year of the Major League baseball strike, it is estimated the system would have carried over one million people to Gateway during the year.

"We did this one by the book; using and believing in our research, applying a team approach and designing a service to give the public what they asked for – it worked."

GCRTA Director of Marketing



Long Island Railroad

New York, New York

Compared to You

The Long Island Railroad is the nation's busiest and oldest commuter railroad. Serving millions of New Yorkers over its 161-year history, the railroad has enjoyed a "love-hate" relationship with its riders. The hate portion of this relationship was winning out prior to 1990, due in part to many of the same difficulties besetting many mass transportation agencies at the time, including declining ridership, rising costs, poor employee morale, decreasing productivity, and a deteriorating public image.

"It used to take real courage to admit in public that you worked for the Long Island."

Senior LIRR official.

However, the Long Island had other problems all its own. Not only was there a significant shift of jobs from the urban core served by the railroad to suburban locations – widely dispersed areas difficult for a conventionally structured commuter rail operation to serve – as well as an economic downturn, but, due to old and poorly maintained equipment and operating plant breakdowns, delays were frequent, maintenance costs were rising and passenger dissatisfaction was quickly turning to anger.

Not only did the railroad's management face a crisis, it faced an opportunity. Improved funding and investment in the plant provided a foundation to attack the overall service problems bedeviling Long Island's passengers. Prior to 1990, the Long Island's "parent" agency, New York's Metropolitan Transportation Authority (MTA), had begun a major effort to restructure and improve service throughout the New York metropolitan area. The MTA's program involved heavy capital investment, providing for a more stable funding base, an umbrella planning function, and a new customer-driven philosophy.

The railroad's top management took the approach that it was necessary to stop the ridership declines of the past and to instill a new organizational philosophy to reverse the decline and improve service quality. Key to this effort was the belief that the Long Island wasn't just a railroad, but was primarily a service provider. To ensure that this shift would occur, and the philosophy would be maintained, the railroad decided to formalize the program at the highest management level, creating the Vice President of Total Quality Management. The Vice President, reporting directly to the President, serves as a senior facilitator and coordinator for implementing a TQM program for all divisions of the railroad.

A customized TQM program, based on the Harvard program "Achieving Breakthrough Service," was developed based on the concept that in a successful organization front-line workers and their customers need to be the center of management concern. Only through the enthusiasm and ability of front-line employees as presented every day can the railroad's customers receive the kind of service quality they expect. At the heart of the Long Island's program, called "Breakthrough Customer Service Program," is the belief that the key to achieving this quality of service is that front-line employees must have all the training and support necessary to deliver those services. It is the interaction between the front-line personnel and the customer that is perhaps the most important element.

Their Research Program: An Integrated Approach to Railroad Operations

To this new process was added another element – market research. Although, the LIRR has had a significant market research program in place for a number of years, most managers only began to integrate the research findings into all aspects of the railroads operations about five years ago. Following are descriptions of several of the studies the LIRR has designed to provide information about customers and potential customers.

- **The Market Share Tracking Study:** The LIRR conducts this random household telephone study twice a year to track the market share and attitudes of both customers and potential customers. The study measures customer and noncustomer demographics, system usage patterns and nonsystem usage patterns, advertising awareness, and understanding of communications initiatives. The study is key to the railroad's target marketing program. Its twice-yearly frequency, as well as its five-year tracking history provide a valuable measuring device of the effectiveness of a number of initiatives the railroad has undertaken over time.
- **The Customer Satisfaction Survey:** The agency's rider report card is used by virtually all major divisions to assess their progress in meeting customer needs. Additionally, it serves as an early warning system in identifying negative trends before they become problems. The LIRR conducts the on-board, self-administered study annually to measure:
 - Customer attitude readings,
 - System performance perceptions,
 - Customer perceptions of progress,
 - Emerging areas of customer concerns,
 - Customer priorities for improvements,
 - Customer and noncustomer demographics, and
 - System usage patterns.
- **LIRR Passenger Count Program:** The railroad's origin and destination tracking survey is conducted annually with variations in emphasis. For example, one year the

emphasis might be on peak ridership, while in another year it may be off-peak. The passenger count program is designed to provide a systemwide geographically detailed picture of LIRR customer travel patterns by system, branch, station and train.

These ongoing research programs are key to a number of Long Island's planning and marketing efforts including:

- **Service / Operations Planning** efforts including train scheduling, equipment deployment and number of cars per train, train routing and the identification of LIRR branches for possible service configuration.
- **Investment Planning** for Future Capital Initiatives.
- **Marketing Initiatives** including targeting services and promotions to specific user groups and to support strategy development to maximize revenues.

In addition to the major tracking studies conducted by the railroad, the agency has conducted a series of special purpose research projects to further refine understanding of customers and identify market opportunities. Many of these studies are designed to explore more fully trends or patterns identified in the tracking surveys or are developed for special purposes, such as major upcoming equipment purchases. Recently conducted studies include:

- **The Tiles Gateways / Crossways Corporate Park Employee Study:** Actively exploring new market opportunities for reverse commute, i.e. Manhattan to Long Island and intra-Long Island commuters, the Long Island conducted a self-administered survey of employees of two large suburban industrial parks on Long Island. Designed to help understand market potential, reasons people drove alone to the parks, and to test the appeal of commute alternatives including trains, shuttles, express bus service, carpools and vanpools, study results indicated weak market potential, in terms of gaining a significant number of commuting customers, for the railroad, yet provided valuable guidance in the allocation of limited resources.
- **Route 110 Demand Study:** Conducted to determine the market potential of specific bus route feeds to Long Island Stations, the Route 110 study is one of many studies designed to measure the demand for coordinated bus-rail service. This study, based on a large-scale self-administered survey, indicated that the 110 route could contribute a significant number of passengers per day to Long Island.
- **East End Study:** One of a number of studies the LIRR has conducted over the last few years to better identify specific market opportunities, the East End Study is a random digit telephone survey conducted to learn more about seasonal travel among adult residents of Manhattan, Queens and Brooklyn traveling to the Long Island's East End. Results from the study will be applied to a planned restructuring of service along the impacted branches as well as possible equipment modifications.

Although not conventionally associated with the application of market research, many capital projects at the LIRR are either the direct result of market research or research has been used as an integral part of the planning process. The LIRR has applied market research to decisions about everything from where capital resources should be applied for track improvements to station improvements. One of the best examples of this integration is the process applied to the purchase of the Long Island's replacement diesel fleet.

Currently, the Long Island Railroad uses two basic types of equipment for its service. The majority of the fleet consists of variations of all electric powered self-propelled multiple unit (MU) cars which can only operate on electrified right-of-way. The remainder of the fleet operates on non-electrified right-of-way and uses non-powered coaches hauled by conventional diesel locomotives. The "diesel fleet" operates on the outer portions of the railroad beyond its high-density service into New York City, and is made up of some of the oldest equipment in the system, leading to frequent breakdowns, increased maintenance costs and general customer dissatisfaction with the service. Moreover, most diesel fleet passengers transfer to electric equipment to complete trips to Manhattan, a process considered inconvenient by many customers.

The decision to replace the fleet was based on two key factors:

- Increased customer satisfaction and potential for increasing ridership; and
- Cost benefits based on maintenance savings and additional revenues from increased passenger satisfaction.

It was clear that the old and difficult to maintain equipment was resulting in complaints about reliability, seating comfort, climate control, cleanliness, bathrooms, state of disrepair and crew to passenger communications, as well as dissatisfaction related to the need to transfer.

Estimated cost to replace the fleet is \$307.8 million for 114 bi-level coaches and 23 diesel locomotives. With railroad equipment capable of remaining in service for 25 to 30 years, the decisions regarding the new equipment would have a major long-term impact on the Long Island's ability to maintain customer satisfaction. Early customer satisfaction studies – the railroad's annual on-board report card study – tracked customer dissatisfaction on the diesel branch lines as being relatively high compared to other services. This led to studies designed to assess specific aspects of dissatisfaction. It also led to another unique decision – the design of the new cars was to involve extensive customer input through market research.

From the beginning of the specification development process, market research, both qualitative and quantitative, was incorporated into the design of the new equipment.

Needing more specific data than the tracking surveys offered, the LIRR conducted on-board surveys of customers utilizing prototypes of the new double-deck cars – put into trial operation in October 1994. The findings indicated that, though the majority (68 percent) rated the new cars favorably, there was considerable room for improvement. Riders were dissatisfied with seat comfort, space, and a number of other specific elements. Significant changes were made to the design to meet customer satisfaction. However, more detailed information was needed before final specifications could be developed.

To gather this level of detailed information, the LIRR began a three-phase customer research program developed to help provide the product information necessary for final design. The phases consisted of:

- **Interior Design Concept Focus Group Testing:** Exploratory research among fourteen groups to elicit ideas from customers and line employees, and to test preliminary car design concepts;
- **Testing of full-size mock-up** of new car interiors; and

- **Final prototype testing** of actual coach.

On a parallel track, the railroad will also be testing the various design concepts with line employees – from operating crew members to maintenance staff – the purpose of which is to make sure the customer input is fully understood by line staff.

The results of the focus groups have been reviewed by the railroad's senior management and in combination with the chosen car manufacturer as many recommendations as practical were incorporated into a full-scale mockup. The mockup will be used in a variation of future focus groups.

"The worst day of operations on the Long Island today is significantly better than the best day of the late 1980's. In 1990 the railroad was in crisis. It was either do something or fail to survive as an organization."

Charles Hoppe, former Long Island Railroad President

Long Island Railroad has clearly taken the challenge to "do something."