

UNDERSTANDING & INCORPORATING CUSTOMER NEEDS IN A ROAD ADMINISTRATION

M. Campbell

Missouri Department of Transportation, Jefferson City, Missouri, United States
mara.campbell@modot.mo.gov

A. Wargsjö

Swedish Road Administration, Borlänge, Sweden
agneta.wargsjo@vv.se

ABSTRACT

Understanding the customer will contribute to more adaptable services and most surely to the efficiency of the whole organization. Using customer input can help shift from a producer's viewpoint to a user's viewpoint. A successful organization also involves the customer in the design and evaluation of its products and services through user dialogues, workshops and meetings.

To achieve true customer orientation, an agency also may need to adapt its approaches for key customer groups. The customer base may be narrowed according to the project, issue, business need or initiative at hand. Customer-oriented road administrations have contact with each of these groups in a multitude of ways, ranging from individual correspondence to public meetings. Once the key customer groups are identified, there are a variety of methods on how to collect customer input. This paper contains some examples of collecting customer input and how this information is interpreted.

Finally, there is a big challenge to actually transform the knowledge of needs and demands to delivery of products and services. The whole organization must be committed. Using the organization's management system is usually an effective approach, in other words, incorporating the needs from customers into the strategic, tactical and operational planning processes.

KEYWORDS

CUSTOMER NEEDS / CUSTOMER INPUT / CUSTOMER ORIENTATION / CUSTOMER SEGMENTATION / CUSTOMER GROUP

1. INTRODUCTION

Society is changing fast and so do the needs and demands from taxpayers. In order to deliver services adapted for these emerging needs, the public sector must be more responsive to customer input. Understanding the customer contributes to more adaptable services, which ultimately leads to improved organizational efficiency. Using customer input can help an organization shift from a producer's viewpoint to a user's viewpoint. While listening to the customer's needs is important, it is more important to incorporate that input into transportation processes and deliverables.

To achieve true customer orientation, an agency must also adapt its approaches for its various customer groups. While most organizations know who their customers are, few take the time to split those customers into specific groups based on expectations. Customer segmentation can provide an organization with critical information on what

customers truly expect. The customer base may be narrowed according to the project, issue, business need or initiative at hand. This provides a solid foundation for decision-making, performance measurement and customer communication. Customer oriented road administrations have contact with each customer group in a multitude of ways, ranging from individual correspondence to public meetings. The desire of customers to have direct input into the products and services they buy has spilled over into the public sector. Now road administrations must look at new ways to be more transparent in how they collect customer input. Innovative customer input methods include Web blogs and project chat rooms. Other traditional venues include telephone and direct mail surveys.

Integrating the customer input into daily operations can be a big challenge. An example of this is using beet juice! In the United States, taxpayers all over the nation have said they want public agencies to be environmentally responsible. In the state of Missouri, they are using an anti-icing product made from sugar beets. The beet juice is a natural product that works well when mixed with either rock salt or liquid salt brine. This is an example of how customer input has demanded change, the agency made the change and now, customers see the agency as being more responsive.

The taxpayers needs and demands are ever changing. Road administrations can no longer operate with the belief that they know what is best for their customers. The customer may not always be right, but the customer must always be heard!

2. IDENTIFYING KEY CUSTOMER GROUPS

2.1 Who Is The Customer?

The success of the road administration will be gauged by the ability to meet the customers' expectations and create public value. It is all about focusing on those who, at the end, will use or benefit from or is influenced by the delivery of products and services from the public sector. Using the definition *customer* is one way to help an organization shift from a producer's viewpoint to a citizen or user's viewpoint. Using the word customer can contribute and strengthen the mental shift and awareness of management and possibly speed up change.

A customer-oriented agency might define a customer as "anyone who is paying taxes and has specific expectations for a service in return." In contrast, partners and stakeholders are those "who come to the table to help the transportation agency deliver on those expectations."

However, using the word customer also can cause a lot of discussion and questioning whether it is the right denomination. To avoid these time consuming and unnecessary discussions it is important to draw the organization's attention on who, at the end, benefits from the delivery of products or services. Using the word customer is not essential. Instead of customer, try expressions such as client, user, citizen and taxpayer. Who is funding the road is not relevant in this perspective.

2.2 Examples of Customer Segmentation

In order to optimize the use of resources it is important to have a good knowledge of customers and their expectations. To provide the organization with information on customer needs and expectations and reach customer insight, the customer must be defined. Some kind of customer segmentation is required. There are a variety of customer segmentations, depending on the specific product or service from the agency.

The *Swedish Road Administration* recently undertook a more focused and systematic approach to improve product and service delivery and enhance customer satisfaction. Two customer groups were defined: Citizens and Business Community. To reach more thorough and detailed knowledge of the customer, these groups are divided into subgroups.

A “whole journey/transport” approach is indispensable to reach customer insight. Because varying needs depend on the life situation, dividing the Citizens group into subgroups, defined as life stages, was appropriate:

- Children 0–18 years
- Youths 18–24 years
- Professionals
- Senior citizens
- Disabled people

Using the same argument for the Business Community: the whole journey/transport, the needs of purchasers of transports and sellers of transports/transport operators differ in some aspects. Hence, the Business Community group is subdivided into:

- Basic industry
- Light manufacturing industry
- Tourist industry
- Public transport and other services
- Goods transport operators
- Public transport operators

In the *United States*, specifically the *Missouri Department of Transportation* (MoDOT) considers a customer to be “anyone who is paying taxes and has specific expectations for a service in return.” MoDOT’s customers range from groups as large as urban metropolitan planning organizations to the citizens who stop by MoDOT’s offices for highway maps. MoDOT recognizes that it must target its audience to communicate effectively with customers. Audiences are narrowed according to the project, issue, business need or initiative at hand. MoDOT’s common customer groups include legislators, stakeholders, the media and the public.

MoDOT has contact with each of these groups in a multitude of ways, ranging from individual correspondence to large public meetings. In addition, some department units are set up to serve specific customer bases. For example, the Governmental Relations unit is designed to meet the needs of legislative customers, the Community Relations unit is charged with handling media inquiries and developing positive media relations, and Motor Carrier Services must meet all the commercial carrier needs to allow the efficient movement of goods throughout the United States and Canada.

In *Finland*, the *Finnish Road Administration* (Finnra) has identified three different customer groups: strategic customers, customers with additional needs and basic customers.

1. Strategic customers
 - School children (7-14)
 - Commuters
 - Passenger traffic service providers
 - Foreign trade
 - Round wood transport for the forest industry
 - Logistics service providers

2. Customers with additional needs
 - Young people (15-21)
 - Senior citizens (65+)
 - Physically impaired people
 - Tourism industry
 - Wholesale and retail trade
 - Over-sized transport service providers
 - Transport of dangerous goods
 - Transit Traffic
 - Emergency services
 - Local customers with additional needs (for example, reindeer husbandry in the Northern road regions)

3. Basic customers
 - All the other customers except above mentioned

Customer segmentation helps to utilize customer information in various road management processes (for example, steering, planning, maintenance and procurement). By fulfilling the needs of strategic customers supplemented with the needs of customers with additional needs, the Finnish Road Administration can produce good service to all of its basic customers.

3. COLLECTING CUSTOMER INPUT

Customer input can come from a variety of different sources including front-line staff information, satisfaction surveys and dialogue.

3.1 Customer Surveys

The *Swedish Road Administration* (SRA) conducts a customer satisfaction survey on a national level, called the Customer Satisfaction Index. This index is a strategic measurement that assesses the road-users' (citizens and haulers) views of the whole journey/transport. The survey captures quality factors such as: design, route guidance, information about traffic disruption, safety, traffic regulations, road facilities, etc. The respondents' grade, from 0 to 100, how satisfied they are with, for example, the winter maintenance, current information about traffic disruption or if the roads are free from ruts and irregularities. Through an analysis model, the importance and effect of each quality factor can be derived. A quality factor with a low grade and high effect should be prioritized. In other words, improvements within these areas will enhance the customer satisfaction. One example with results from the 2007 survey for haulers is shown below.

The survey has been conducted annually since 2005. The result of this survey is a useful indicator to find collaborative system solutions to improve the transport system in accordance to the SRA's vision "We make the good journey possible."

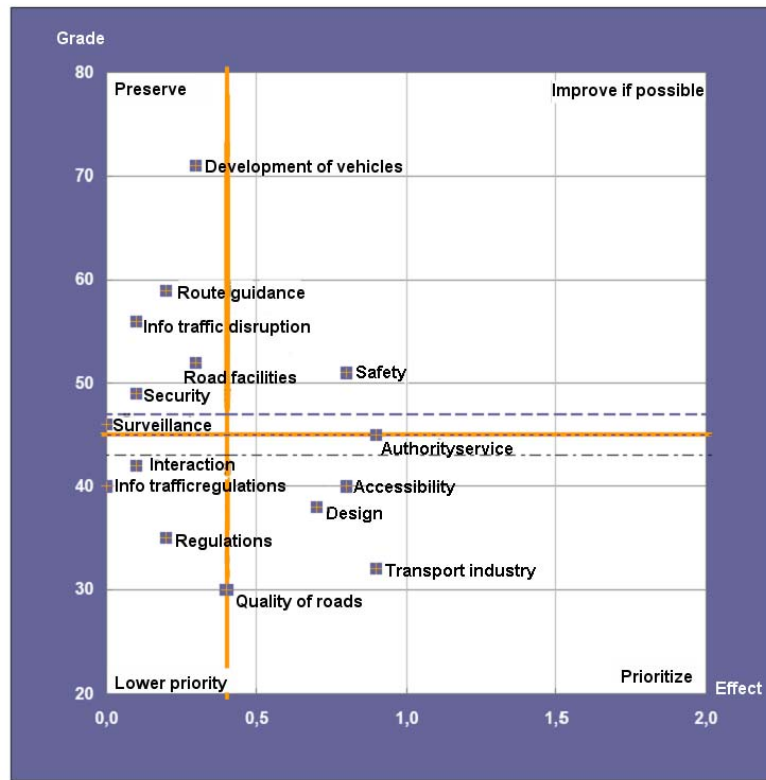


Figure 1 – Results from a customer satisfaction survey 2007, SRA. The respondents are haulers

The weakness of the Customer Satisfaction Index lies in the difficulty of identifying the customer perception of the services delivered from the road administration per se. Hence, an Operative Customer Satisfaction Index has been developed. This is a helpful tool to provide the organization with direct feedback of its performance, a follow-up of the daily deliverables. The Operative Customer Satisfaction Index consists of a number of customer satisfaction surveys and statistics, for example, customer satisfaction with direct contact with the SRA, road-user ratings, fulfillment of promises, etc. These results are merged into one index for both the national and regional level. The survey is conducted at least annually. Having this operative index, the strategic Customer Satisfaction Index can be less frequent - about two to three years.

The *Finnish Road Administration* regularly conducts nationwide customer and other stakeholder surveys. The Customer Satisfaction Survey is made twice a year (summer and winter survey separately). The random sample is 10,000 people in the summer study and 27,000 people in the winter study, of both individuals and heavy traffic drivers all over Finland. This mainly quantitative survey also allows survey participants to write open comments, which are categorized by themes (for example, slippery prevention, snow plowing, gravel roads and signing). The nine different road regions in Finland analyze the summer survey results. The winter survey is more detailed providing results that can be analyzed by each of the 82 maintenance contract areas in Finland. Surprisingly, the summer survey results are used to assist in evaluating wintertime operations. For example, the condition of pavements in the summertime affects the pavements top road

surface in the winter even though they are covered with snow. If pavements are in bad condition, the road surface feels uneven for the road users, and it is very difficult to use any winter maintenance techniques to improve the situation.

The Finnish Road Administration also conducted a separate customer survey to businesses for the first time in 2009. The results provided valuable information about the needs and satisfaction of the business communities whose operations require road transports.

The strategic stakeholder satisfaction survey provides information about the satisfaction of other stakeholders such as media, communities, universities and police. The questionnaire covers mainly strategic issues. The responders are asked to give opinions on how the Finnish Road Administration has performed in order to achieve the common goals such as improvement of traffic safety. Goal-oriented cooperation with stakeholders is a key element in developing the performance of the Finnish Road Administration.

In the *United States*, *MoDOT* conducts statewide customer surveys to get feedback in many areas – overall satisfaction, investment levels, project quality and others. *MoDOT* contracts with outside professionals to conduct random sampling phone surveys to gauge statewide response levels and then tracks progress over time with follow-up surveys. *MoDOT* also conducts more narrowly targeted surveys – customer service surveys, media surveys, landowner purchase surveys and others – to measure quality of service in specific areas.

In mid-2008, the *National Roads Authority (InIR)* in *Portugal* launched a study comprehending an evaluation of road-user perception. Having in mind the special focus on road-users as defined in the *InIR* mission, *InIR* obtained information about:

- How are customers of the existing motorways under concession (real and shadow tolls) dealing with the services provided by the different concessionary companies?
- What do they think about the quality of the services provided?

The target population was constituted of drivers of light and heavy vehicles, using the national motorways (real or shadow tolled). The methodology used was personal interviews (assisted by appropriate computer software) with an average duration of 22 minutes per interview. Usually, interviews took place in service areas along the motorways. However, in some situations concerning motorway links without service areas, interviews were conducted in fuel service areas close to the motorways. Most of the questions asked of the drivers were closely related to the motorway the customer had just been driving along a few minutes before.

The sample was constructed in such a way to be clearly representative of all relevant variables to be studied:

- All motorways (27);
- All concessionaries (12);
- Type of operation (real or shadow toll);
- Type of road customer (light or heavy vehicle);
- Day of the week;
- Hour of the day (4 periods).

Concerning the sample characteristics, the survey interviews were conducted with people using the following main characteristics:

- Gender: 83% male and 17% female;
- Age: 59% (25 – 44 years); 27% (45 – 64 years);
- Education: University formation (44%); secondary formation (42%);
- Trip purpose: 40% - business; 21% - commuter trips.

Satisfaction is the central dimension of the structural model – this model is comprised by thirteen satisfaction dimensions and one consequent dimension, loyalty. Loyalty is defined as the probability for the customer to use that motorway again or to recommend to someone to use it.

3.2 Dialogue Methods

MoDOT also uses direct dialogues for listening to its customers. Road Rallies invite a randomly selected sample of citizens and civic leaders in different parts of the state to drive along a predetermined course on state roads and bridges. As the groups rode along, participants graded road conditions based on factors such as pavement smoothness, lane and shoulder width, striping, signage and others.

In *Finland*, dialogue methods are widely used for obtaining customer information. *Sweden* has a similar approach. Each strategic customer and customer with additional needs have their own key account manager who is responsible for the dialogue between the customer group and the Finnish Road Administration. Meetings are organized regularly, sometimes in the customers' premises where it is easy to learn more about their everyday operations and transport issues. In these meetings, the Finnish Road Administration can, for example, ask customers' opinions when updating strategies or guiding principles, such as winter maintenance or signing guidelines.

In maintenance contract areas it is a common practice to invite local heavy traffic or other professional drivers to a meeting where road issues are discussed. Local people have a good knowledge of the regional driving conditions and they can give valuable feedback. On the other hand, the Finnish Road Administration can bring up its point of view such as financing. Also contractors working for Finnra can arrange open house events where local people can come to discuss road maintenance. Winter maintenance especially has always been an interesting topic since winter driving conditions have a huge effect on the mobility of people.

Another example of a dialogue method is campaigns with stakeholders. For example, the Finnish Road Administration is having regular traffic safety campaigns at schools or outside in the rest areas in cooperation with Central Organization for Traffic safety in Finland and the National Traffic Police.

The use of focus groups is yet another dialogue method. This method is suitable to use when there is a need to obtain detailed knowledge about, for example, winter maintenance, driving behaviour of young people and other road and transport related issues. This method is employed by, for example, *United States, Finland and Sweden*.

3.3 Collecting Customer Inputs Through Internet Tools

The Internet offers many opportunities to reach the citizens and business community and collect customer inputs. There is a wide range of approaches that constantly develop for

different purposes. One example is customer Web panels, where a defined group rapidly can answer questions. The SRA has a permanent customer panel with respondents all over the country, at least 500 in each region. The Web panel is used when a rapid answer for a specific issue is needed or as a support for developing new services and gathering service user feedback of delivery promises. A recent example was when a new delivery promise was developed. Based on the results from a Web panel questionnaire, it was obvious that rapid feedback from the SRA was of high priority. A new service promise was developed: a promise that the customer shall have a feedback within five days from the SRA informing that the matter was taken care of and when a complete answer (if not already complete) can be expected. Another example is a questionnaire in one region about prohibiting passing by heavy vehicles on specific stretches during peak hours. The results indicated that a majority had a positive attitude to these kinds of measures.

Riding the popularity of YouTube.com, the *Missouri Department of Transportation* posts online videos for customers to watch and offer comments. MoDOT's Post a Comment blog also collects comments on the road administration's latest activities and announcements. Other social media participation includes Twitter micro-blogs, Facebook pages, Podcasts and virtual meetings. Recently, four virtual meetings regarding the environmental impact on three projects attracted more than 6,000 participants. This compares to just 542 attendees at traditional meetings on those same three projects.

3.4 Other Ways Of Collecting Customer Inputs

At *MoDOT*, customer service centers are set up in each of its 10 districts and the Central Office to serve the public by answering questions, listening to concerns and providing requested information. MoDOT also offers a toll-free telephone number and an interactive Web site to solicit and respond to customer input. Customer complaints are regularly received through the customer service centers. All complaints are logged into a database and responded to, usually within 24 hours. When necessary, complaints are directed to technical staff with the expertise to address specific complaints. The database is capable of producing regular reports that show frequency and types of complaints and how or if they were resolved.

MoDOT listens to its customers on specific projects through the public hearing process. At the initial onset of a project, the concept is introduced to the affected community, and the public – MoDOT's customers – provides feedback and voices concerns, objections and approval about the concept. Customer input is balanced against engineering practice to choose the most effective transportation solution.

The *Finnish Road Administration* has one centralized customer service center, which serves the public by providing requested information. Customer input is also collected by telephone (Road-user's Line) and Internet.

It is important to note that road administrations do not need to gather all the customer information themselves. For example, in Finland the National Travel Survey is conducted for the Ministry of Transport and Communications Finland, the Finnish Road Administration and the Finnish Rail Administration. This survey provides an overall picture of Finnish passenger mobility and its background as well as demographic, geographic and temporal variations in mobility. The survey provides information required for transport planning such as information on travel modes in addition to an overall view of mobility and its influencing factors. The survey is conducted by interviewing over 13,000 Finns by telephone every six years.

Geographic information systems are useful in localizing, for example, schools and industrial areas. The Finnish Road Administration started in spring 2009 a project to utilize frequent drivers in road maintenance. Ten heavy traffic drivers from one maintenance contract area participated in the project by using GPS-based device in their vehicles. This device enables drivers to give direct feedback about driving conditions when they are driving on the roads. This information is useful when analyzing the possible gap between the drivers' real experiences and the service level that the Finnish Road Administration is providing.

4. INCORPORATING CUSTOMER NEEDS IN THE PLANNING PROCESS

All participating countries follow the same basic process to incorporate customer needs in the planning process. The vision and mission of a road administration is built upon its customer and partner input, which is the driver for all of its products and services.

4.1 Example From The Swedish Road Administration

The SRA's vision "We make the good journey possible" emphasizes the shift from a producer's viewpoint to a customer's viewpoint. This cultural change in the organization has been enabled by, among others, a committed leadership and a customer-orientated management system. The national transport policy goal "Transport policy is to safeguard the provision of socio-economically efficient and sustainable transport for individuals and business community throughout the country" is the framework for all the operations conducted by the SRA. In addition to this, the starting point for our planning process is the needs of the customers. The results from customer surveys, dialogues, etc, have been interpreted and a number of prioritized improvement areas have been identified.

The SRA's strategic plan 2008-2017 is composed on the basis of these improvement areas. Nine challenges for the SRA have been identified, for example, society with an efficient transport system and a good accessibility, better mobility for commuters and goods transports, and better transport system for more attractive cities and population centers. For each challenge a number of goals are identified that contribute to improvements in the transport system to reach the challenges. How the SRA and the sector are going to reach the strategic goals is formulated in strategies. Several require dialogue with customers and cooperation with other players to be successful.

In the SRA's annual planning, the strategic plan is put into motion through action plans. Each part of the SRA organization has a responsibility to contribute to "the good journey" according to the goals in the strategic plan. It is mandatory that the annual commitment between the managers at different levels includes goals that are critical to achieve customer satisfaction, for instance "decreased traffic disruption on network nn" or

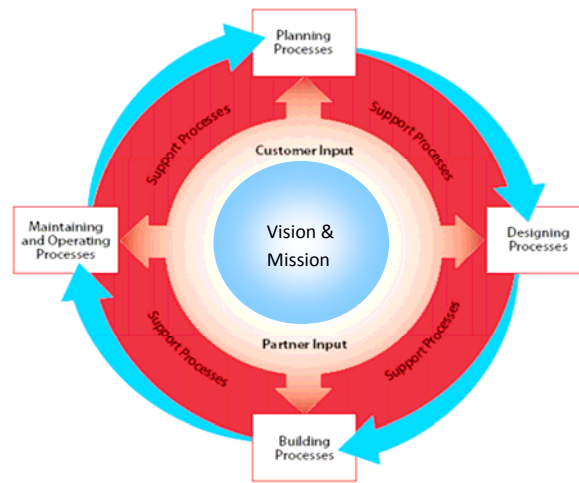


Figure 2 – Process to Incorporate Customer Input

“decreased the amount of complaints about fulfillment of our promises.” It is also common that each operational unit has an action plan for improving customer satisfaction.

4.2 Example From The Finnish Road Administration

The *Finnra*'s vision is to be the leading European organization in its field in customer orientation, transport infrastructure and traffic safety. This is achieved by providing a safe, smooth and sustainable road network based on the needs of citizens and business life. The strategic plan, operating principles, operations and financial plan and guidelines and quality standards define how Finnra operates in order to achieve its vision.

Finnra is at present developing its planning process. The starting point of the planning process is service level analysis. This analysis is a process where strategic customers' needs are the basis of *the planned service level*. The planned service level is defined based on the combination of needs and resources available such as finance. *The achieved service level* is monitored with different follow-up measurements such as road users' experiences, traffic flow and condition of infrastructure. The gap between strategic customers' needs and planned service level provides valuable information that can be used in communication with the decision makers. This possible gap is a clear message that Finnra is not capable of fulfilling the needs of society by using the resources available at the moment. If there is a gap between the planned service level and the achieved service level, Finnra must evaluate its own performance: what can be done in a different way in order to achieve the planned service level. The service level analysis cannot be done without customer input, such as dialogue with strategic customer groups and customer surveys.

4.3 Example From The National Roads Authority In Portugal

The preliminary results of the survey in Portugal made it possible to assign a classification for the concessionaire companies according to their performances in several dimensions and variables identified by the customers. This was one of the main purposes of the survey for InIR. Other results obtained included the importance assigned by road users to the condition of the motorways by characteristics (road surface, pavement, etc) and road signing. These results will be taken into consideration in the planning process.

4.4 Example From Missouri Department of Transportation

MoDOT has integrated the use of customer input into its management processes through several organizational performance measures in its operational areas. Along with monitoring overall customer satisfaction, MoDOT further breaks down customer satisfaction for signing, striping, work zones, rest areas, commuter parking lots, motor carrier services, responses to inquiries, transportation options, customer involvement in decision-making and completed projects as the right solution. Current status and planned actions for these measures are reviewed and discussed by senior managers each quarter. By placing this type of emphasis on customer satisfaction, MoDOT's leadership has moved the department to be more agile in responding to changing customer expectations.

An example of this is MoDOT's efforts to be more environmentally responsible. Historically, this has not been emphasized in the transportation industry. However,

taxpayers all over the United States have said they want public agencies to be more environmentally responsible. MoDOT used this customer input to change how it clears ice and snow from its roads. The environmentally friendly solution is an anti-icing product made from sugar beets.

The beet juice is a natural product that works well when mixed with either rock salt or liquid salt brine. When the department began work on rebuilding an Interstate rest area, wind spires were added to the facilities to reduce power needs. An overall agency review of green practices is currently underway.

5. CONCLUSIONS AND RECOMMENDATIONS

There are several benefits of being a customer-orientated organization compared to being only a producer of services. The optimal use of resources cannot be achieved without the knowledge of customers' needs. Well-planned and targeted products and services demand customer input.

Changing to a customer-orientated organization requires a cultural change. These changes take time and a persistent and focused work is needed. Steps and action taken to achieve a customer-orientated organization varies and depends on type of operations, the size of the organization, etc. However, some general findings have been identified.

- While some are convinced that defining the customer is critical for a successful customer approach, the results from these examples indicate that it is not that crucial. However, you must accept that you have customers.
- Before you can effectively deploy a customer orientation approach, the road administration must have a strategic plan or philosophy that embraces an external focus.
- If you are not confident that you are going to use customer input, then do not seek it.

It is important to remember that customer orientation does not mean that road administrations have to strictly obey their customers. It is the road administration's responsibility to take into consideration the technical aspects of road maintenance. For example, road administrations know how to keep pavements in good condition. Being a customer-oriented organization means that road administrations need to find a way to combine customer input and "hard technical knowledge" into reality.

Regardless of the spot on the globe, transportation customers are demanding more transparency and more direct input into how funds are invested. To maintain its effectiveness, transportation road administrations need to segment their customers to better understand distinct interests and transportation needs. Because customers desire more direct and immediate input into decision-making, transportation road administrations must explore innovative techniques such as new social media available through the Internet. However, the most thorough customer segmentation and aggressive customer input collection approach will only identify customer expectations. Ultimately, a road administration's success in improving performance and customer satisfaction will be determined by how well it uses customer input as a critical piece in strategic and daily decision-making.