A Satisfaction-Based Definition of Quality

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Abstract

No consensus has been reached on a definition for quality; the term is defined differently for products and services, for different industries, and for different levels of dimensionality. This study investigates the major definitions of quality and the antecedents of customer retention to establish a foundation for a new definition of quality based on satisfaction. Quality is defined as the summation of the affective evaluations by each customer of each attitude object that creates customer satisfaction.

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INTRODUCTION

An intensely competitive global marketplace is driving a quest for excellence through improved quality practices as evidenced by the increase in applications and the introduction of new categories associated with the Malcolm Baldrige Quality Award Program and the recent changes in the ISO 9000:2000 principles (http://www.quality.nist.gov; Kartha 2002). Deming established many of the foundational principles of quality in 1986; Deming suggested that a focus on quality can increase demand and price flexibility, which will increase profits on the demand side, and can increase productivity and decrease scrap and rework, which will increase profits on the cost side. Deming’s foundational principles, the Baldrige criteria, and the ISO standards are the basis today for decision-making practices that lead to sustainability (Rusinko 2005, Bhuiyan and Beghel 2005, and Anderson 2006). A quality focus has also been shown to create sustainability in the service and e-service sectors (Choi et al. 2006; Chong and Pervan 2007).

However, many quality initiatives have failed (Black and Revere 2006, Hays, et al. 2006; Zbaracki1998). Reasons for such failures include a continued focus on financial returns instead of customer satisfaction (Hays et al. 2006). Some recent industry declines may be due to customer satisfaction factors and a focus on quality as it is now narrowly defined.

This article presents the viewpoint that part of the problem may be the lack of a universally-accepted, satisfaction-based definition of quality. Crosby (2006) stated that: “There are many, many definitions of quality”, but according to Kara et. al (2005) “there are no universal definitions”. Every quality expert defines the term differently. Definitions vary between manufacturing and services, between academicians and practitioners, and between industries. And definitions vary just because of the intangible nature of the components associated with quality. Therefore, this article examines why satisfaction is so important, examines the various definitions of quality and how these definitions of quality are evolving, and
examines the commonalities in the various definitions of quality to determine whether quality or satisfaction should be the central concept for developing customer retention, which in turn will determine the focus of a quality definition. Our research resulted in defining quality as the summation of the affective evaluations by each customer of each attitude object that creates customer satisfaction, where the term customer is defined as any internal or external stakeholder of the organization and an attitude object is defined as the particular entity of interest. This definition addresses aspects of customer satisfaction other than the strict process and service quality definitions by capturing all aspects that create value for the customer and include cost, product improvements, technological implementation, and strategic focus.

WHY IS SATISFACTION SO IMPORTANT?

Customer satisfaction is directly related to customer retention since satisfaction is the major antecedent of customer loyalty (Oliver 1997; Westlund et al. 2001; Kristensen et al. 2001). This is a crucial factor since loyalty is the major antecedent of customer retention (Dick and Basu, 1994; Storbacka et al. 1994), and retention is critical for the long-term financial success of any organization (Rust et al. 1994 and 1995; Storbacka et al. 1994; Reichheld 1996). (See Figure 1 for a diagram of the customer retention chain.) Hoyer and MacInnis (2001) base their definition of retention on satisfaction and need to develop long-term relationships with customers. Satisfied customers are less costly to retain (Reichheld and Sasser 1990a and 1990b), are less sensitive to changes in price (Anderson and Sullivan 1993), and provide positive word-of-mouth advertising. Thus organizations that consistently satisfy their customers enjoy higher retention levels and greater profitability.

Figure 1. The Customer Retention Chain

Yang (2003) introduces an Importance-Satisfaction model to allow an enterprise to classify quality attributes in order of importance. The purposes of a customers' satisfaction survey are not only to learn the actual satisfaction level, but also to highlight the strengths and the area for improvement. Through the continual improvement actions, the enterprises can increase customers' satisfaction and raise profits. Due to customers evaluating the quality of product or service by considering several important quality attributes, firms must take improvement actions on the important attributes that have a lower satisfaction level. The
Importance-Satisfaction model, based on the importance and satisfaction surveys of the quality attributes, is a simple and powerful tool for enterprises to find out the excellent attributes and the "to be improved" attributes, which require improvement actions immediately (Yang 2003).

In 2001, Dubrovski wrote that the consumer satisfaction category has the main position in marketing theory and is based on the premise that the profit is made through the process of satisfaction of consumers' demands, i.e. achievement of their satisfaction. Researchers continually confirm a significant correlation between satisfaction and repeated buying, greater brand loyalty and spreading a positive opinion of the product. A model of consumers' buying decisions was introduced as consisting of five consecutive phases: 1) product perceiving phase (offered product with all producer's factors of competitiveness from the consumer's point of view); 2) value estimation phase (weighting benefits and sacrifices); 3) comparing the values of different products and decision-making phase (comparing alternative options); 4) action phase (realization of the decision); 5) and consumer's state of mind after buying action phase (satisfaction with the product). There are several aspects that should be taken into consideration from the producer's (seller's) point of view in order to implement successfully the concept of customer satisfaction (Dubrovski 2001).

Customer satisfaction is a primary principle of quality philosophies and quality management tools. Deming's Management Model depicts seven constructs leading to customer satisfaction, and Deming defines quality in terms of the current and future needs of the customer (1986). Krawjewski and Ritzman (2002) place customer satisfaction at the center of the "TQM Wheel" (p. 243). Quality Functional Deployment provides a framework for translating customer requirements into the design of the product or service; the key output is customer satisfaction (Hauser and Clausing 1988).

Evaluation frameworks also focus on customer satisfaction. The revisions to ISO9000 include customer focus as Principle 1 (Kartha 2002). The second core value of the Malcolm Baldrige Quality Award criteria, immediately following "vision leadership," is "customer-driven excellence" (National Institute of Standards and Technology 2005, p. 1). And, the major goal of the European Foundation for Quality Management is customer satisfaction (Brown et al. 2000).

Customer satisfaction should be the central construct in any model developed to measure customer retention, and the literature supports this premise. The Competing Values Model addresses customer satisfaction in terms of its compete imperative and includes a 360 degree evaluation perspective (Quinn 1988; Quinn and Rohrbaugh 1983). The Balanced Scorecard contains a customer perspective (Kaplan and Norton, 1996). Both frameworks emphasize the importance of customer satisfaction for organizational competitiveness and sustainability.

Since customer satisfaction is a critical component of organizational success, customer satisfaction or a customer focus should appear as a common theme among the current definitions of quality. Other commonalities may appear as well. Therefore, we examined the major definitions of quality to determine these commonalities.

**WHAT ARE THE CURRENT DEFINITIONS OF QUALITY?**

According to Sower and Fair (2005), "every quality expert defines quality somewhat differently, and there are a variety of perspectives that can be taken in defining quality" (p. 8).
This means there are numerous definitions of quality (Crosby 2006). However, no universally accepted definition of quality exists (Kara et al., 2005); the most widely accepted is the ISO definition of quality as "the degree to which a set of inherent characteristics fulfils requirements" (International Organization for Standardization 2004). The reason may be the elusive nature of the concept (Pfeffer and Coote 1991). The term has been defined from different perspectives and orientations, according to the person making the definition, the measures applied and the context within which is it considered (Tapiero 1996).

Quality is derived from the Latin "qualis" and is defined as "essential character or nature...an inherent or distinguishable attribute or property, a character trait" and is defined as "superiority of kind and degree or grade of excellence," when quality relates to logic, quality is the "positive or negative character of a proposition" (Merriam-Webster's 2000, p. 905). Many definitions of quality in the customer satisfaction and operations management literatures have aligned with either the development of a set of character traits or a relationship to excellence. Other definitions have shifted to a focus on conformance to specifications predominately associated with manufacturing or to a focus on the perceptions and expectations of the customer predominately associated with services.


Another set of definitions focus on the development of a set of characteristics or categories of quality in multidimensional terms. Garvin (1988) segmented quality into five categories: (1) Transcendent definitions. These definitions are subjective and personal. They are eternal but go beyond measurement and logical description. They are related to concepts such as beauty and love. (2) Product-based definitions. Quality is seen as a measurable variable. The bases for measurement are objective attributes of the product. (3) User-based definitions. Quality is a means for customer satisfaction. This makes these definitions individual and partly subjective. (4) Manufacturing-based definitions. Quality is seen as conformance to requirements and specifications. (5) Value-based definitions. These definitions define quality in relation to costs. Quality is seen as providing good value in relation to cost. In this article, Garvin incorporates all three approaches (excellence or value, conformance to specifications, and customer focus) into his five definitions of quality.

Harvey and Green (1993) also develop a set of five definitions. Exception is related to excellence and is defined as "distinctive, embodied in excellence, passing a minimum set of standards" (p. 12). Perfection is related to conformance to specifications and is defined as "zero defects, getting things right the first time (focus on process as opposed to inputs and outputs)" (p. 12). The customer is included in fitness for purpose, defined as how quality "relates...to a purpose, defined by the provider" (p. 13). Value for money, defined as "a focus on efficiency and effectiveness, measuring outputs against inputs" is related to Feigenbaum's definition (p.
13). Transformation is a new concept for quality and is defined as a “qualitative change” and including the “concepts of enhancing and empowering” (p. 13).

Sahney, et al., (2004) define quality using two perspectives, either as attributed to the characteristics of a product or service or attributed to the production of a product or delivery of a service. Sahney, et al., (2004) also include the importance of meeting and exceeding the expectations of the customers and the need to create customer satisfaction in the goods and services produced and/or delivered.

These examples illustrate the fundamental similarities and differences in the various major definitions of quality. The commonalities could be used as a basis for a new definition of quality. However, the quality concept is evolving, and it is useful first to look at how the definitions of quality are changing.

**HOW ARE THE DEFINITIONS OF QUALITY CHANGING?**

Industry-specific differences can be found and, according to Tam (1999), the definitions of quality are subject to continuous change. Lagrosen (2001) found it important to define quality by the specific industry characteristics that create customer satisfaction for that specific industry or for specific situations encountered by the organization. Brooks (2005) found that the definition would depend on the organization’s purpose, customer base and other contextual factors. And, Sower and Fair (2006) have found that the traditional definitions and dimensions of quality do not apply to innovative products or paradigm-shifting products or services.

For example, in education, quality is viewed as outcomes assessment (Ewell 1994) but also includes a strong stakeholder focus (Telford and Masson 2005). The authors found that any definition of quality in higher education must include the criteria and perspectives of all the institutions stakeholders, where stakeholders would include “students, employers, teaching and non-teaching staff, government and its funding agencies, accreditors, validators, auditors, assessors, and the community at large” (p. 107). Sanvido, et al. (1992) and Barrett (2000) defined quality as the fulfillment of expectations of all participants. Fulfillment of expectations is related directly to customer satisfaction in both studies.

In some instances, quality components vary within the industry. For example, in retail financial services, in the O’Loughlin and Szsmig (2006) study, convenience was the most important factor. The Wesskirichen et al. (2006) study found easy neighborhood access, a cheerful setting, and transparent terms and conditions were driving forces for customer satisfaction. Lewis and Sourel (2006) identified speed of delivery, competence, friendliness, reliability, responsiveness, and trust as key factors.

And the components of quality may change across cultures. Buda, et al., (2006) found that the dimensions of quality and the impact of those dimensions change according to cultural views. Donthu and Yoo (1998) and Furrer, et al. (2000) concur. And, internationally, the type and weight of the components change across industries and across cultures. Choi and Chu (2000) found this to be true in the hotel industry, Jiang et al. (2000) in the information service industry, and Sultan and Simpson (2000) in the airline industry.
WHAT ARE THE QUALITY DEFINITION COMMONALITIES?

The major commonality among all the current definitions of quality is that regardless of the industry or culture, the definitions of quality are moving more toward a focus on customer satisfaction. Given the diversity of definitions, “twice as many managers (62.4 percent vs. 33.3 percent) define quality in user-based terms (quality is realized when customer satisfaction is maximized because the product/service fits its intended use) as in transcendent-based terms (quality is innate excellence)” (Tamimi and Sebastianelli 1996, p. 8).

The various definitions of quality are created by the characteristics that address a number of stakeholders, and these stakeholders own quality (Harvey and Green 1993). It is important to define the needs and expectations of the organization’s stakeholders. In fact, organizations must be responsible to shareholders and all the other stakeholders of the organization: customer, employees, suppliers, and the community (Allio 2006). The Baldrige Criteria require a focus on all stakeholders (National Institute of Standards and Technology 2005). Telford and Masson (2005) identify eleven stakeholders and found that each have a set of criteria and perspectives on quality.

In addition, there is no (longer a clear distinction between a product and a service (Fitzsimmons and Fitzsimmons 2004). Manufacturing processes contain service segments, those processes that deal with a customer; and, in turn, service delivery may include facilitating products (Fitzsimmons and Fitzsimmons 2004). Therefore, a focus on both the technical aspects of quality and functional aspects of quality as defined in services operations should be adopted by all organizations. Technical quality refers to what the customer receives (e.g., the product or delivery of the services) and functional quality refers to how the technical components are delivered to the customer (Gronroos 1984). According to our research, the importance of a focus on both the technical and functional aspects of quality is developing. For example, in industries where processes are highly mechanized and/or are globally traded commodities, such as in the seafood industry, quality “is not just a discursive expression of what people like, nor is it just a set of physical characteristics of the commodity. Instead, quality itself emerges from the complex sociomaterial relations of commodity production, trade, and consumption” (Mansfield 2003, p. 6). According to Bitner, et al. (1990), quality is measured by conformance to basic standards and quality is measured by how well these standards are performed and how the customer views the standards as being high quality. To retain customers and entice new ones, a company needs to focus on providing value to the customer and that too in a manner that is more effective than that of its competitors” (Kahn 2003, p. 375). Providing value in both manufacturing and service operations must include technical and functional aspects of quality.

WHAT DO THE COMMONALITIES TELL US?

These studies tell us that the definition of quality is evolving, but that the common factor throughout the evolution process is a focus on both the technical and functional aspects of quality. In order to become world-class, organizations need a user-based definition that is more important to the customer, and a process-based definition that is more important to the manufacturer or service provider. However, the manufacturer or service provider needs to keep the customer at the center of the design and development of goods or services. Processes need to be developed that ensure that the goods and services developed are produced or offered in the manner in which they were designed; that is, the organization needs one focus on the process.
perspective. However, process perspective dimensions of quality need to be developed and designed using the customer perspective; that is, the organizations needs to understand the needs, wants, and desires of the customer in order to design products and services that satisfy the customer to ensure that the maximum level of customer satisfaction is achieved.

Therefore, the new definition must "include the utility of that which is produced to the end customer" (Raisinghani et al. 2005) and must include the ability to outperform the competition by satisfying internal specification, or customer, requirements. Most researchers now agree that a definition of quality must contain both components: objective or that which can be measured according to specifications and subjective or that which is evaluated by the customer (Hoyer et al. 2001). Harvey and Green (1993) also found that the different definitions of quality are "not a different perspective on the same thing but different perspectives on different things with the same label" and that the characteristics of quality are discrete but interrelated (p. 12). In summary, a new definition of quality must be important to the customer and service provider. The definition must include tangible measurements as well as customer based subjective elements.

THEORETICAL DEVELOPMENT OF THE NEW DEFINITION OF QUALITY

There are 10,000,000 companies that follow the International Organization of Standardization (ISO) standards. Their standards, recognized in both industry and academia, are known throughout the world. As such, their definition of quality is currently the most appropriate definition. The definition, as stated in ISO 8402 and ISO 9001:2000 reads "the totality of features and characteristics of a product or service that bear upon its ability to satisfy stated or implied needs" (Haider, 2001, p. 8). In the new standard, the integration of customer satisfaction into the guiding principles is further encouraged. The new version encourages the adoption of the process approach for both the management of the organization and its processes and as a means of readily identifying and managing opportunities for customer satisfaction with continuous improvement (Haider 2001, p. 23).

As stated in Section 8.2.1 of ISO 9001:2000: "As one of the measurements of the performance of the quality management system, the organization shall monitor information relating to customer perception as to whether the organization has met customer requirements. This method for obtaining and using this information shall be determined" (International Organization for Standardization, 2004).
This widely accepted definition of quality, in a standard that encourages customer satisfaction, omits one integral factor: the dominance of affective evaluations in the formation of customer satisfaction. Recognizing the need for evaluations is just the first step to actually implementing a process to record and interpret customer satisfaction levels. Psychologists as well as other social scientists agree that responses to an attitude object (i.e., a person, situation, or inanimate object) require evaluation and establish three classes of evaluations--affective, cognitive, and behavioral (or conative). The three classes are the basis of the tripartite evaluation model that is widely accepted today (Forgas 2000). Affective evaluations are the most critical in the formation of satisfaction (Wicks et al. 2004).

The psychology literature takes the position that attitudes such as satisfaction are formed by all the emotional evaluations (which consist of affects, feelings, emotions and moods) about the attitude object (Forgas 2000). When evaluating an emotion, the degree of the positive or negative reaction to each aspect or characteristic of a product or service process cumulatively creates an emotional response to such a degree of satisfaction or dissatisfaction (Plutchik 2000). The psychological concept is closely aligned with the dictionary definition when quality relates to logic: “quality is the positive or negative character of a proposition” (Merriam-Webster’s 2000, p. 905). Thus, the formation of quality as it relates to customer satisfaction can be seen as the summation of the positive and negative emotional responses created throughout the service experience or the manufacturing process.
Based on previously discussed definitions of quality, three views from the dictionary definition of quality can be incorporated into a new definition.

The view can be adopted that quality is a set of characteristics or properties, as supported by the multidimensional definitions of quality. Quality can focus on excellence. Or, quality can be viewed as the degree of customer satisfaction attained.

If excellence is defined by customers and is directly related to the degree of customer satisfaction attained, then quality should be defined as: the summation of the affective evaluations by each customer of each attitude object that creates customer satisfaction, where the term customer is defined as any of the internal or external stakeholders of the organization and the term attitude object is defined as the particular entity of interest for either an internal or external customer. This definition builds upon the previously mentioned ISO definition ("the totality of features and characteristics of a product or service that bear upon its ability to satisfy stated or implied needs") by focusing on the affective evaluations of the attitude objects that create customer satisfaction. A diagram depicting this new definition is shown in Figure 2. We continue with a discussion of the appropriateness of the new definition for industry and for services.

**IS THE NEW DEFINITION APPROPRIATE FOR INDUSTRY?**

Medrad Inc. develops, manufactures, markets and services medical devices that enable and enhance imaging (commonly called magnetic resonance imaging or MRI) of the human body. They are a subsidiary of Schering AG in Germany and Medrad employs about 1,200 in two U.S. locations (its Indianola, PA, headquarters and Pittsburgh) and other locations in Africa, Asia, Europe and North America. Sales are about $250 million annually. As Medrad is a provider of both manufacturing products and services, they are a good example of how affective evaluations are used in industry.

Since 1998, Medrad has consistently met its growth goals, with an average annual revenue growth rate of 15% and operating income as a percentage of revenue (which reflects overall profitability) increasing from 16% in 1999 to 20% in 2002 and now approaching best in class. The Baldrige process gets credit for much of Medrad's worldwide reputation for the highest quality products, customer satisfaction rates well above those of its nearest competitor and employee satisfaction rates exceeding best in class. Medrad uses a seven-step sales process to build customer relationships, acquire customers, meet their expectations, increase loyalty and repeat business, and gain positive referrals. Striving to improve customer satisfaction scores, in 1999 Medrad challenged itself to (longer measure customer satisfaction scores of both four and five as indications of improvement but to instead count only fives. It received the Baldrige award in 2003, reporting above average revenue growth as it approaches exceptional overall profitability levels (Daniels 2004, p. 58).

Since Medrad won the 2003 Malcolm Baldrige National Quality Award, a brief description of each of the seven phases of their sales process is appropriate because the phases define a sales process that focuses on customer relationships and satisfaction. The seven phases, detailed in the 2003 Malcolm Baldrige National Quality Award application, follows:
**Earn the Right.** The customer trusts the Medrad employee based on perceived knowledge of the business, products and applications, and trust in Medrad’s commitment to deliver. All front-line employees are trained in communications and customer handling skills.

**Qualify the Opportunity.** During this phase, Medrad determines whether there is a qualified opportunity with the customer by asking questions about timeline, funds availability, impending event, decision maker identification, buying criteria, need, and competition or substitutes. Once at least four of these questions are answered positively, the opportunity is considered to be qualified. Continuous training of Medrad’s customer contact employees ensures steady improvement in the company’s ability to understand the customer’s business situation and needs.

**Establish Buying Influences and Criteria.** Medrad clarifies the decision makers and influencers and establishes the criteria that each of them will use to determine their choice of product. Medrad representatives then create an action plan with the customer to satisfy their criteria.

**Satisfy Buying Criteria.** The action plan is executed. Medrad offers its customers proof sources, reference lists, site visits, and product demonstrations or evaluations as means to satisfy their criteria. Customer contact employees receive product, service, applications business, market, and customer training as needed to continuously improve their ability to offer the best solutions to the customer’s problems and needs.

**Gain Commitment.** Medrad obtains verbal commitment, negotiates a deal, provides a written quote, and obtains a purchase order.

**Implement.** Upon agreement, Medrad’s field teams deliver, install, service, and provide training on the products to ensure defect-free implementation and to continue building customer relations and satisfaction.

**Customer Enhancement.** With a large percentage of sales from existing customers, maintaining customer satisfaction and loyalty is critical to Medrad. Medrad maintains routine contact through direct customer contact and follow-up satisfaction surveys. Medrad’s Opportunity Management Process maps to the Customer Process. The Opportunity Management Process monitors opportunities with a customer as they progress from casual interest to a “won” or “lost” resolution. A probability of winning is assigned based on customer interest, satisfaction of buying criteria, and the competitive situation. Opportunity maps and sales “funnels” provide input to sales projections and help guide the sales cycle. Key process performance measures are on-time deliveries, acceptance rates, and customer satisfaction surveys. Field team members use timely, comprehensive customer information to implement the Customer Process.

Medrad measures customer satisfaction through a fully independent external customer survey and third party surveys commissioned by Medrad (Medrad Malcolm Baldrige Application Summary 2003). Through the independent survey, Medrad rated in the top five in 2000 to third in 2002 to second in 2003. The affective evaluations used at Medrad, Inc. have not only shown improvements in customer satisfaction scores, they have contributed to recognized Baldrige
success and exceptional profit levels. Clearly, use of affective evaluations have benefited Medrad's manufacturing and service capabilities.

**IS THE NEW DEFINITION APPROPRIATE FOR SERVICES?**

Services, like manufacturing, have turned to total quality management philosophies, tools, and techniques (Milakovich 1995) to achieve financial success and stability (Anderson et al. 1994; Rust et al. 1995). Although quality characteristics in services are as difficult to define as for manufacturing (Galloway and Ho 1996), here the focus is clearly on the customer (Galloway and Wearn, 1998). "Quality starts with the customers and is defined by the customers" (Sahney et al. 2004). The service operations literature either views satisfaction as the antecedent of perceived quality (Anderson and Sullivan 1993) or perceived quality as an antecedent of customer satisfaction (Parasuraman et al. 1988). Whichever view is accepted, customer satisfaction is still a crucial factor.

In services, it is clearly important to develop and implement processes that address both the service process and product outcomes since the customer is most often more intimately involved in the service process (Field et al. 2004). In fact, customers are often co-producers in the service delivery process (Field et al. 2004). With services, customer satisfaction is viewed as a crucial factor of perceived quality, and as a means of measurement between customers' perceptions and expectations. Thus a satisfaction-based definition of quality is as appropriate for service as for manufacturing organizations.

In industry, whether manufacturing or service, measures of customer satisfaction have been effectively used to increase profitability, identify attributes important for continual improvement and to understand consumers' buying decisions.

**CONCLUSION**

Our research resulted in defining quality as the summation of the affective evaluations by each customer of each attitude object that creates customer satisfaction, where the term customer is defined as any internal or external stakeholder of the organization and an attitude object is any entity of interest. The definition appears appropriate for both manufacturing and services since the primary objective for both types of organizations is customer retention. Regardless of the organizational type, customer retention results in profit, growth, and sustainability. Satisfaction is achieved by providing goods and services that create specific levels of value for the customer so that the customer remains with the organization.

Customers are assets and create value for all types of organizations. Organizations should consider the lifetime value of the customer in terms of acquisition versus retention costs, increased purchasing levels over time, and the benefits of positive word-of-mouth advertising. It costs five times more to acquire a new customer than to retain an existing one (Babich 1992; Sheth 1994). Loyalty has more impact on a company's profits than "scale, market share, unit costs, and many other factors usually associated with competitive advantage. As a customer's relationship with the company lengths, profits rise. And not just a little. Companies can boost profits by almost 100 percent by retaining just 5 percent more of their customers" (Reichheld 1996, p. 106). Dick and Basu (1994) found that customer spending levels increased the longer the customer stayed with the organization. And Babich (1992) found that dissatisfied customers
tell 8 to 20 other people and that satisfied customers tell 3 to 5. Loyalty and retention, driven by customer satisfaction, are critical factors in organizational success.

Both production and service operations literatures stress the importance of customer retention to the long-term sustainability of the organization. Both rely on customer loyalty, and a consensus exists that customer satisfaction is the major antecedent of customer loyalty. Therefore any model developed to measure customer retention or customer loyalty should be based on customer satisfaction, and the definition of what creates quality in the eyes of the customer should be based on what creates satisfaction in the customer.

Clearly, actual implementation of a plan to record and evaluate customer satisfaction in a quality definition is more difficult than discussing the need for it. Perhaps evaluation systems, such as the 360 degree feedback system which is acknowledged as a major component of relationship management (Garman et al. 2006) or the multi-source feedback system as developed by Atwater, et al. (2002) would be beneficial. At a minimum, a more open and honest discussion between customers (or stakeholders) and suppliers is needed in order to develop the measurable and critical customer satisfaction criteria for each organization. Only after agreement between these organizations is identified and agreed upon can a truer definition of quality be realized. However, as indicated in this paper, a new definition of quality is needed that includes a method for recording and evaluating customer satisfaction. Developing a set of quality criteria from a customer satisfaction based definition of quality should enable an organization to maintain its focus on what creates loyalty and retention. With loyalty and retention, increased profits and sustainability for the organizations involved should be realized.

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