**Product quality** has long been recognised as a key factor in driving business performance and achieving competitive advantage, but what we mean by quality can be subjective and hard to define. For example, while an engineer might judge quality according to whether a car conforms to certain design standards and specifications, a consumer might perceive quality according to whether the door closes with the right kind of click, and yet another might judge quality according to the size of the engine.

Customers’ perceptions count. Their experience of product quality – their judgement of the overall excellence or superiority of a particular product relative to alternatives – influences their future purchasing behaviour, their willingness to pay for the product, and the degree to which they would recommend a product to another potential purchaser. Customer experience of quality is different from customer satisfaction; it is more complex than simply giving a four-star rating on an online shopping portal. Digging deeper into customer behaviour, we find that customers experience product quality in a multi-dimensional way. It involves consideration of a product’s performance and primary operating characteristics, as well as other characteristics that supplement the base product – for example, additional features, its durability or its aesthetics.

It is therefore vitally important for manufacturers of durable goods to know how different dimensions of product quality are experienced by their customers. While there are recognised research instruments such as SERVQUAL and SERVPERF, which measure customer service quality, metrics for assessing exactly how customers experience product quality have been lacking.

New research to develop such a metric is therefore timely. Professor Marcel Paulssen and Dr Ramesh Roshan Das Guru from the University of Geneva in Switzerland have developed and validated a new multi-dimensional product quality scale – the Customer Experienced Product Quality (CEPQ) metric – to help manufacturers use product quality to drive business performance.

**The study**

Professor Marcel Paulssen and Dr Ramesh Roshan Das Guru began with exploratory research into the factors that influence customers’ quality experience for durable products. Online surveys with customers were carried out in both India and the United States in four product categories, which covered: cars, smartphones, headphones, and running shoes.

The study covered four product categories – cars, dishwashers, headphones, and tablet computers – and was completed by 2500 respondents from the United States. Respondents must have owned and used the respective product regularly (at least once a week) for a minimum of 6 months and were asked about their product experience on the eight identified dimensions of product quality.

**The most significant product quality dimension across all products was performance.**

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>VERBATIM ILLUSTRATION THROUGH CUSTOMERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AESTHETICS:</td>
<td>How a product looks, feels, sounds, tastes, or smells</td>
</tr>
<tr>
<td>DURABILITY:</td>
<td>Measure of the product’s useful life</td>
</tr>
<tr>
<td>PERFORMANCE:</td>
<td>The product’s primary operating characteristics</td>
</tr>
<tr>
<td>RELIABILITY:</td>
<td>The probability of a product malfunctioning or failing within a specified period</td>
</tr>
<tr>
<td>SERVICEABILITY:</td>
<td>The speed, courtesy, competence, and ease of repair associated with the product</td>
</tr>
<tr>
<td>MATERIAL:</td>
<td>The standard and robustness of materials used in the product’s body and the interior as well as the accessories of a product</td>
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</table>

Table 1. Dimensions of Customer Experienced Product Quality (CEPQ) illustrated with verbatim responses from the exploratory study.

A preliminary literature review had led the researchers to expect seven quality dimensions. These dimensions were: performance, features, reliability, durability, ease of use, aesthetics and serviceability. These were confirmed in the exploratory research across categories.

In addition, the study identified the importance of an eighth factor: the quality of materials used in the product’s manufacture. The eight identified dimensions of quality were validated in a pre-test in two product categories with US customers.

The main study covered four product categories – cars, dishwashers, smartphones, and tablet computers – and was completed by 2500 respondents from the United States. Respondents for a minimum of 6 months and were asked about their product experience on the eight identified dimensions of product quality.

**Analysis of Data**

Analysis of the data from the main study produced significant insights. First, the eight identified product quality dimensions could be validated in all four product categories of the main study. Second, previous research considered product quality as a mere antecedent of or input to customer satisfaction, which in turn is supposed to drive relationship outcomes. Especially for WTPP, research results clearly support that CEPQ has a strong, direct effect on customer satisfaction. Customer satisfaction only partially mediates the effect of CEPQ on relationship outcomes. Especially for WTPP, the direct effect of CEPQ accounts for around 50% of the total effect across categories. For RI, the relative impact of the direct CEPQ effect is comparatively weaker but still accounts for about 40% of the total effect. It is particularly noteworthy that the total effect of CEPQ is stronger than the total effect of satisfaction for both RI and WTPP across all product categories.
Knowing how different product quality dimensions are experienced by their customers is vitally important for manufacturers of cars and other goods. It is vitally important for manufacturers of durable goods to know how different dimensions of product quality are experienced by their customers.

New product development. It can also enable operations managers and product managers to focus on critical product quality dimensions and thus allocate resources more effectively for improving the quality of their products.

In addition, the CEPQ metric can be applied to different market segments within a product category, for example, to help companies develop products or target messages at specific market segments. Professor Paulssen and Dr Das Guru explain: “This segment-specific, dimensional significance is crucial for product managers when targeting and positioning existing and new products by allowing them to prioritise which product aspects to focus on in research development for new products.”

A KEY MEASURE FOR BUSINESS

While customer satisfaction has traditionally been regarded by companies as the most significant customer metric, this alone is not a sufficient predictor of future purchase behaviour. Rather than being regarded as an antecedent to customer satisfaction, Professor Paulssen and Dr Das Guru’s study shows that Customer Experienced Product Quality (CEPQ) drives key customer behaviours such as repurchase and willingness to pay. It follows that the CEPQ metric they have developed should become both a key measure of business performance and a subject for future research.

**What was the most surprising insight into customer experienced product quality gained from your research?**

It was quite surprising to observe that despite conceptualisation of product quality insisted on its multidimensional nature, no scale existed to capture such a fundamental construct despite of a service quality scale being so significant and around for decades.

**Personal Response**

Professor Marcel Paulssen and Dr Ramesh Roshan Das Guru have developed a multi-dimensional Customer Experienced Product Quality (CEPQ) scale to help boost business performance through assessment of product quality.

**References**


**Bio**

Marcel Paulssen is a Professor of Marketing and Director of the Institute of Management. Ramesh Roshan Das Guru is a Research Assistant at the Geneva School of Economics and Management. In their current research projects, both work on product defects and product quality perceptions.