

26th CIRP Design Conference

The communication strategies and customer's requirements definition at the early design stages: an empirical study on Italian luxury automotive brands.

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Abstract

At the early stages of the product development, it is important to set up customer's requirements and translate these into the technical specifications with the highest level of precision since the changes in the late design phases have extremely high cost. These requirements are directly dependent on the correct and complete definition of perceived quality attributes. Such attention to the details is vital for the luxury car manufacturers since they are seeking to fulfill customer requirements with the high level of personalization. This research based on the perceived quality framework and presents findings from the empirical study of leading Italian luxury vehicle manufacturers. This research contributes to the existing debate regarding the correct definition of the customer's requirements and communication strategies. Moreover, it highlights possible ways to reduce information asymmetry between car manufacturers and customers.

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Peer-review under responsibility of the organizing committee of the 26th CIRP Design Conference

Keywords: product development; customer requirements; perceived quality; automotive; luxury; premium; communication strategy

1. Introduction

Over the last decade the luxury market has shown a remarkable growth [1] and the luxury automotive manufacturers traditionally have been an important part of this market. Therefore, to stay competitive and increase customer's demand, the luxury automotive manufacturers need to focus on customer's requirements as early as possible in the product development processes [2]. A requirement can be defined as "a request that a product fulfills certain properties or functions" [3]. Also, a requirement consists of a describing attribute and a defining value, quantification, and can be posed consciously or unconsciously by any person that is recognized as stakeholder [3]. As a matter of fact, luxury automotive manufacturers always had a customer-centric approach to product development, and there would be no reason to investigate this

topic if the concept of luxury would not change so rapidly.

The term "luxury" is a quite fuzzy concept and usually associated with the particular products, services or lifestyle [4]. In the past, key characteristics for the luxury automotive manufacturers was exclusivity, aesthetics, design, brand history and heritage. The aspects of manufacturing quality were not necessarily prioritized in the past since the customer was attracted with the emotional or hedonic value in the first hand. The traditional marketing approach is usually brand-centered, and value was proposed for a customer to accept or decline without active involvement. However, in the recent past, the emphasis has shifted to the active participation of the customer in the process of value creation [5], [6], [7].

There is to mention, that the premium segment of the automotive industry traditionally excelled in the high manufacturing quality and today in this segment the perceived quality is the major determinant of the customer purchasing decision [8], [9], [10].

In this study, with the help of qualitative analysis, we find a preliminary evidence that:

- Customers of the luxury vehicle manufacturers have been actively involved in the setting up requirements and expect the same level of the perceived quality as in the premium segment.
- Luxury vehicle manufacturers benchmark their products not only against competitors but rather against premium segment.

The evidence that was found could bring certain complications regarding the communication strategies implementation and set up of customer's requirements for luxury vehicle manufacturers. There is to mention that the company's communication strategy can be seen as a pattern in the decisions and actions regarding the requirements definition which can influence relationships with stakeholders [11].

Such problems arise from the fact that product designers and engineers often do not interact with the customers directly [12] and the customer's preferences often translated into the requirements in the highly subjective manner [13]. As the result customer needs and preferences regarding allocation or ranking of the various perceived quality attributes are "lost in translation," often implicit and poorly communicated [14]. Luxury vehicle manufacturers need to understand which perceived quality attributes are important for their customer and how these could be successfully translated into requirements so that the customer will have a higher quality perception of the product.

Assuming that luxury vehicle manufacturers can inherit existing problems within the communication strategies and challenges regarding setting up of customer's requirements from the premium automotive sector we propose the use of the Perceived Quality Framework [14].

To appropriately catch customer requirements at the early stages of product design and development is paramount to avoid costly design changes later in the process [15], [16], [17]. To deliver a successful product requires customer's requirements to be carefully investigated during the so-called front-end design and product platform planning [18]. Not only customer's requirements should be properly captured, but also, these should be weighted in terms of their relative importance from a customer perspective and accurately transmitted to the overall design process. Formal processes of requirement definition and management exist in various

dominos with the name of *requirement engineering* [3], [19].

Requirement engineering guarantees (i) all relevant requirements are explicitly known and understood at the required level of detail, (ii) agreement on the requirements exists between the stakeholders involved, and (iii) the requirements are documented. Commonly, a requirement engineering process includes the phases of elicitation, analysis, specification, validation, and management [19], [20].

Requirement engineering represents a pivotal phase in the design process and has been recognized paramount for a successful product development. However, companies from premium segment have time and cost constraints that often limit them to go accurately through complex requirement engineering process. These lead companies in the premium segment to be often imprecise in customer's requirement definition and misaligned with perceived quality attributes. When benchmarking with premium segment – as we are experiencing this trend in practice – companies from luxury car segment should carefully avoid same mistakes, and take advantage of their lower time and cost pressure advantages.

Companies from the luxury automotive sector can find support on the Perceived Quality Framework [14] to base their requirement engineering process efficiently and more.

This paper is structured as follows: Section 2 introduces the qualitative methodology used in this work; Section 3 discusses early findings and provides recommendations for further research; Section 4 presents conclusions.

2. Methodology

The research design implemented in this article is rather exploratory in the form of pilot study. We used Grounded theory methodology through the analysis of received data [21]. Main reason behind the choice of methodology was the fact that luxury automotive manufacturers unlikely to share data with public and chances to conduct the prior analysis of the available data are very low.

The pilot study includes interviews with senior designers and engineers of two Italian luxury market automotive manufacturers that explore their processes of customer's requirements definition and understanding dimensions of the perceived quality. This study includes only a preliminary results.

For data collection, we used semi-structured interviews. There are many forms of the interview design, and typically an interview study can be classified as an unstructured interview in the form of informal conversation, structured interview, and a semi-structured interview with the open-ended and follow-up questions [22]. The semi-structured

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