A study of product service system under quality function deployment application-Bicycle as example : 以自行車為例

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ABSTRACT

Under the effects of oil price hike and people growing awareness on environmental protection, consumers have begun to pay more attention on the term carbon reduction. For the transportation vehicle like bicycle that does not need fuel, it has rapidly become the exercise mainstream in recent years. However, the bicycle industry still cannot get away from the general corporate practice of mass producing and developing new products continuously in order to compete with other companies and to take a larger market share in term of quantity. They would continue to advocate through media in order to stimulate consumption and develop products of different specifications, resulting with a shorter lifespan for the original products and more resource wasting. As far as bicycle is concerned, it seems to be an environmentally friendly transportation vehicle, but if we were to calculate its carbon footprint, we would find that most bicycle designs and manufacturing do not adopt an environmentally friendly process. After scrapping, some of its parts would come in the combination metals with various kinds of plastic materials that would make the recycling process more difficult. Cars and motorcycles, on the other hands, have a set of standard recovery processes, but there is as yet no professional recovery program for bicycle. Solving the environmental problems would be able to satisfy the consumer demand, allow the factories to get their earnings, reduce the waste of resources and increase the product usage as the product service system is a system that takes both sides into consideration and bring them into equilibrium. However, the successful introduction of product service system has to depend on consumer demand. After understanding the current problems that the product service system would encounter after it has been introduced into the bicycle industry, the quality function deployment and factor analysis were adopted by this study to analyze the quality technology weightings of consumers towards the bicycle ’ s product service system. The study has discovered that the top five factors that the consumers would want to improve are as follows: 1. additional services, 2. conveniences, 3. price differences, 4. functional factors, and 5. application frequency. The priorities of these factors and the establishment of product service system can be applied in bicycle design criteria checklist for the bicycle industry to serve as a design basis while investing in product service system.

Keywords : Product service system、quality function deployment、bicycle、green marketing

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