

SUMMARY

The aim of this thesis is to present the importance of the innovative product development for product success in the market and to highlight the difficulties that can arise during innovative product development. Although there is lack of adequate examples of innovative product design to be used, the bicycle rack was taken as an example on innovative product thus leading to this research. Bicycle has been a potential of both mobility and flexibility used for transportation and other sport activities. However, bicycles have some certain deficiencies through which they need to be supported by other means, in order to encourage and promote cycling. In some ways returns with many benefits examples as reducing negative environmental impacts of transportation and improving health of potential and current users together with economic and social benefits. In regard to this, bicycle integration with public transportation will be of good benefit for each mode of transportation. Hence, this thesis research study is conducted to develop and improve the bicycle rack system consisting of two main stages, which are modernizing the bicycle rack from its older version to a modern one and findings of the framework, design alternatives for a bike rack system are analyzed and created through the design criteria in the research study.

Also, one of the objectives of this study is to monitor the use of bicycle racks and to identify locations where bicycle facilities are not well matched. High demand locations are identified and also evaluate their potential to accommodate bicycle racks.

KEYWORDS: Innovation, product development, Transportation and Design