

CHAPTER 1

INTRODUCTION

The present work deals with an area that is not so commonly treated by mechanical engineering students since it is not technically oriented but not for that is less important: the development of geographically distributed projects for making innovative products. My job consists principally on theoretical research; methodology suggestion; practical applications; analysis of a particular case; integration of theories, elements and tools; and finally conclusions and recommendations. In fact the topic of this thesis has not been studied in deep since its novelty and originality. Distributed innovation is a recently discussed area on which there is not too much written information yet; therefore through pilot programs, case studies, elaboration of thesis like this, plus the help of other successful trends for engineering work; foundations for the future engineers on this field are being generated day by day.

Participating directly on one of the earliest international projects of this kind took my attention and made me interested on writing about this scientific area. Being part of the dojoyo project inspired me to create this document which I am sure will be helpful for future students. It consists of six chapters (including this one) and it is organized in a way that there is always a clear understandability, representation and accomplishment of the main objectives.

I start looking at the antecedents that shape the foundations of this thesis conformed by the importance of innovation in the present and by an introduction to distributed work. Then I present the general outline of the dojoyo project so readers have a clearer idea when I talk about something related to it. Chapter two contains basically historical data regarding to engineering work tendencies practiced in the past, it contains also actualized definitions and manages the information from the past to the present time.

Next in the thesis, I retake again the topics mentioned above but I specialize on each through a deeper research activity. The purpose of chapter three is to provide readers with the necessary knowledge to understand later processes and concepts in the methodologies proposed. When talking about innovation I choose one innovation method that I consider appropriate, well done and successful and I detail every step of it (all the information about this innovation method is encountered on chapter three). Not leaving apart the distributed work assignment, I found as well very supportive data about distributed teams, distance work and communications.

After having the theoretical basis it is possible to integrate the most important points in order to produce a methodology for internationally distributed product innovation. In chapter four I propose a compilation of techniques/methods/theories/tools which can be implemented when working in that special type of projects; even for improving the current processes. There I mainly discuss the steps involved in completing the working cycle of an internationally distributed project.

Chapter five contains a real application of the methods and theory presented before and it is a detailed analysis of the dojoyo project on which I took part having the advantage of getting the live experience plus a compilation of every event from its beginning to its end showing of course the results of the processes. The result of this for you as a reader is a wide overview of a real case, its good “hits”, its mistakes, and the learning experience of one pioneer team that works at distance involving an innovative activity.

Finally I finish with conclusions and recommendations in general for further similar projects or even further dojoyos so future teams can get the experience from its predecessors and gain knowledge to make their own work more effective and efficient.

In my opinion, one of the most important goals of this thesis is to show next generations of students the extra possibilities on the mechanical engineering field that

working distributelly in innovative products offers and to encourage them to be part of similar experiences either during school attendance or when working as professionals.