

# Project Description & Operating Parameters

*for the*

**Six Sigma Research Institute**  
Motorola University  
Motorola Inc.

*August 15, 1990*



## Introduction and Overview

The *Six Sigma* thrust provides distinct advantages in the quest for *Total Customer Satisfaction*. That success needs to be achieved in the presence of increasing global competition and rapid technological change. These two factors emphasize the continuing need for a single foundation to unite the many aspects of product and service quality into an integrated strategic thrust.

The Six Sigma Research Institute (SSRI) was conceived to provide that unifying thrust. The overall mission of the institute is to:

*... Research and develop the theoretical framework and supporting tools necessary to accelerate the achievement of Six Sigma Quality and to facilitate the subsequent transfer of such knowledge and skills to technical and managerial communities.*

As may be apparent, the primary focus of the institute is on the research, development, and transfer of advanced engineering tools. In turn, the tools will be used to successfully attack the three primary sources of product variation -- inadequate design margin, insufficient process control, and unstable material.



## The Motorola University Role

The Six Sigma Institute was an outgrowth of the very successful quality program implemented at Motorola during the 1980's. That success led to Motorola being selected as one of the National Award winners for the prestigious "Malcolm Baldrige Award" in November, 1988. Subsequently, we have had an opportunity to discuss our program and the very positive results with many organizations. We realize that they too felt an urgent need to actively address the question of total customer satisfaction in a manner similar to the Six Sigma program. It was also clear that no one corporation would be able to identify the highly talented staff and resources in the very short period of time required.

Therefore, a very limited and select group of corporations were considered for a partnership in the Six Sigma Research Institute. The same firms already had some of the best process scientists and mathematicians on their staffs. After much deliberation, it was determined that International Business Machines (IBM) would make the ideal partner.

Motorola has already made a commitment to the Institute. Therefore we have identified and relocated a Director and an instructional technologist began operation on April 1, 1990. Other staff members are being interviewed. We are committed to provide strong leadership and professional management of the Institute.



## The Principal Outputs

The principal output of the Institute will be informative, modularized textbooks<sup>1</sup> which fully describe the given tools. In addition, instructional materials will be developed to facilitate knowledge transfer. Also included will be "pc-based" software. The software is intended to support the various instructional courses -- in the classroom and on the job.

The Institute concept is based upon Motorola's successful Six Sigma program. The implementation of that program resulted in Motorola being one of the three firms recognized with the Malcolm Baldrige National Quality Award in 1988. Figure 1 provides a roadmap of what is to be expected when the Six Sigma tools are applied, as well as the required investments necessary to achieve those outputs.

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<sup>1</sup> Each textbook will contain a Critical Knowledge Path (CKP) in addition to the Application Roadmap (AR).