Impact of University Education on Software Quality Skill-set of HR in Software Outsourcing Industry of Pakistan

Abstract

- The authors of this paper have attempted to suggest an ideal set of software quality skills for IT Outsourcing companies that could boost software export revenues of software export-focused IT firms in Pakistan by enhancing much needed quality factor in their products and services. This ideal set of skills is extracted by assessing the quality related human resource from top performing IT outsourcing companies in Pakistan. In order to identify quality skills that are not imparted to IT professionals with adequate emphasis, a curricula based analysis of software quality related programs in top Pakistani IT universities was done. As a result of this analysis, again a set of imparted software quality skills at top Pakistani universities was identified. Authors believe that skills that are not addressed either at university end or IT company's end, can be incorporated in curriculum of software related courses offered at Pakistani IT universities. This step would result in enrichment of local IT resource which without requisite quality skills has to rely solely on expensive foreign quality certifications. The authors' research is based on two basic but crucial assumptions (i) an IT professional who gained software quality skills through his/her university education years has a significant positive impact on quality of software produced by his organization (ii) Most software-exporting companies outperform others due to their emphasis on software quality. No previous studies done locally, have been able to establish a clear relation between demand of industrial software quality skills and requisite supply of skills from universities.

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I. INTRODUCTION

It is beyond doubt that Pakistani software-

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export industry apart from a hand full of successful companies has not been able to exploit its true potential in terms of availability of non-expensive human resource. Among several other reasons responsible for this inability one major reason is the lack of quality practices that need to be followed at country's software houses [1] [2]. Despite factors such as negative image portrayal through media that contribute in repelling foreign companies from investing in Pakistan, an already large presence of foreign firms in Pakistan [2] brings to notice an important observation i.e. successful multinational firms bring with them a well matured model of quality assurance yet gaps are still evident in quality sector of many local setups of multinationals. Question arises, why? The authors believe that at whatever maturity stage any model of quality assurance be, it is rendered inefficient if human resource deployed on such models lack requisite quality skills. Unfortunately IT human resource in Pakistan lacks much needed software quality skills and this research attempts to identify same skills. The research effort in this paper involves gathering a snap-shot of profiles held by Quality Assurance (QA) teams/departments at top eight performing software export-oriented IT firms in Pakistan [3]. From these profiles, a skill set can then be formulated that represents the types of skills top performing Pakistani IT firms employ to achieve high sales and revenue. Finally the successful-companies skill-set is compared with skill set provided by top Pakistani IT universities and deficient software quality skills in our university curricula and IT industry are identified. It should be noted here that all universities assessed have either graduate or undergraduate level programs

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