**Assignment 1**

**The Software Industry’s Increasing Impact on Economic Growth and Job Gains**

**By - Pooja V Patel**

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**Instructor- Professor Fayad**

**Introduction:**

This assignment includes the software industry’s impact on the economic growth of the country and job gains. Software industry is one of the most powerful industry in this century and hence it motivates me to get into the depth about how it plays its role affecting others. It focuses on how software has played a vital role in all businesses, across all industries and sectors since last few years and the ways how software directly affects various. The goals are to represent the growing economic market of the country along with the increasing job opportunities. The rapid growth of demand for software reflects its character as a genuine “general purpose” or enabling technology that has been adopted and adapted by virtually every other industry and sector. Hence, the software industry has had excessive positive effects on American output, potency, exports and jobs. The success of the software industry has increased the relative value of professional workers, not only programmers, but also managers and analysts. The growing importance of human capital has led to innovative models of entrepreneurship and organization, pioneered by the software sector. The software industry was responsible for a total $1.07 trillion of all US value-added GDP in 2014, and directly drove $475.3 billion of that amount. Software companies and jobs directly add more than $475 billion to the national economy. About 2.5 million people are employed in software roles across the country

**Pitfalls & Problem Summary:**

The main problem with the software industry is there are many developers in the software industry build a software that is very difficult to change or make additions to. It can take months or years between releases, and they buffer up so much change that it is almost impossible to upgrade. This scares the purchasing department. For this they take a list of specifications from the client but having such a big list of specifications is very difficult. Secondly, the IT world has gotten increasingly complex. The complexity is rapidly reaching a point of critical mass, where one single developer can no longer know everything needed to be proficient at his or her job. One another problem is that the productivity gains lead to job losses by the companies and industries that make sound use of software. Companies downsize their labor force for many reasons, from falling demand for their products to more efficient ways of producing those products. Due to the project delays, there is a lot of loss of money. As the cost for making a software increases, the pricing also increases and this directly affects the economic growth. Also, the management becomes more complicated as your company grows. Due to that more people will be hired but this will increase the cost efforts given to the project. Without scalability, any changes or adding new features will require much time and efforts. The Traditional software engineering development is able to specify the challenges and concerns in means of complexity without considering evolutionary needs of the system and this leads to problems which may include: In ability of most projects to meet their: deadline, budget, quality requirements and ever-increasing cost associated with software maintenance.

**Solution:**

Using stability model will help to remove the pitfalls. For example, it will help to increase the gains by reducing the cost and utilizing the maximum inputs. Also, the software will be designed in such a way that it would be easy to add or edit the existing functionalities or specifications. SSM needs to ensure stability and for this SSM should capture the core basics of the system so that a core stable model can be built. A SSM is partitioned into three different levels: Enduring Business Themes (EBTs), Business Objects (BOs), and Industrial Objects (IOs). The EBTs represent elements that remain stable internally and externally. The BOs are objects that are internally adaptable but externally stable, and IOs are the external interface of the system. So, using this it becomes easier to overcome the problem of stability in any software project. In order to solve the problem of reusability, SSM ensures the reusability feature of the stable models by building the right core basics of the system, which is done through the well recognition of the EBTs and BOs.

**Conclusion:**

The software industry also has substantial indirect effects on employment. Much like many other types of businesses investment, the adoption of new forms of software entails both the creation of new jobs – for example, to design, produce, install and maintain new software – and the destruction of some old jobs rendered obsolete by the new programs. There are legitimate public concerns about job losses associated with the increased use of software, but there is no question that the job gains associated with that use dwarf any such job losses. This study provides empirical analyses that support the intuition of most Americans, including most economists, that software has changed the operations of nearly every aspect of the American economy, and that the consequences of those changes, in the main, are resoundingly positive. The ever-increasing demand in the use of software in business, industry, administration, games and researches have made software engineering and development more complex. This calls for the need for higher-level abstraction of software systems in order to develop real-world systems that meets the new challenges facing software engineering and development process.

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