

Abstract : Apparently with an intent to simplify conduct of global activities involving trade and commerce, many nations had been vigorously pursuing large scale deployments of public information systems catering to various public needs. A few of these implementations had been subjected to detailed scrutiny to explore the features of such deployments. However, in most of such studies, it was observed that intricate details of what actually constituted sustainability of such public software deployments and secureness of public information were either very vague or ill-defined. Software sources, data formats and software protocols were some of the principal constituents of most of these public software deployments. It was argued that software deployment ought to be declared sustainable to the agency implementing it only after the constituents of the software system were devoid of any kind of external ownership. This would facilitate infinite reproduction of software. A framework was designed which could explain sustainability for public software deployments. A deductive-nomological method was evolved to derive specifications that would help attain sustainability for the software deployment.

Secureness of public information is usually a concern for the users whose information get processed. Various manuals on standards relating to software and network security had cited confidentiality, integrity and availability as some of the cardinal references to achieve secureness of information. The deviations and divergence of secureness in various studies related to public information systems were explored. It was argued that transparency of the constituents of software deployments would enhance secureness of such public information systems. Here too, a framework was designed to explain secureness in existing software deployments and a deductive-nomological method evolved to derive specifications that would enhance secureness of public information. An online monitoring software system developed to monitor activities of an employment guarantee scheme in India was selected as a case to validate the efficacy of the framework and the deductive nomological method. A software prototype was developed with these specifications which showed more promise for enhanced sustainability and secureness, especially for software deployments rendering public service.

Keywords : Software Sustainability, Software Secureness, Software Specifications, Software Project Management