

IT Project Quality Management System

A newly startup software development company (Dynamic Venture Sdn Bhd) just hired James Denson, a senior quality assurance consultant from a large multi-national corporation firm, to lead an IT development project to resolve the quality problems (i.e. quality assurance and quality control) with the company's new Integrated Radio Systems (IRS). A team of internal programmers and analysts worked with several company executives to develop this new system. Many executives were hooked on the new, user-friendly IRS. They loved the way the system allowed them to transmit its radio paths from different connected/communicated links/channels. After successful testing the new IRS with several external experts, the company decided to make the system available to all level of users.

Unfortunately, several quality problems developed with the new IRS after a few months of operation. Operation users were complaining that radio paths from selected links/channels were not communicated and transformed correctly to destination path. The system started going down a couple of times every week, and the communication time was reportedly getting slower and incomplete. User complained delay in frequency translation and conversion of IRS, thus increasing the number of calls to the company's Helpdesk call. The most challenging obstacle faced by James Denson is that the company does NOT follow any standards formally throughout the entire project life cycle.

The management of IRS wanted the problems fixed quickly and accurately, so the management decided to hire an expert in quality from outside the company whom has sound experience in handling such project issues and problems. James Denson's job was to lead a tem of quality assurance people to identify and resolve quality-related issues with the IRS and to develop a plan to help prevent problems from happening on future projects. James Denson was informed that project IRS were to comply with the standards of ISO12207 with target to achieve ISO15504 standards for all fundamental/basic functions of IPS. Besides, the current SQA status of the company is adopting a general and informal standard for ISO9001.

Questions

Part 1 : Awareness and Importance of SQA

Q1. Discuss the importance of software quality assurance to the project of Integrated Radio System (IRS). (10 marks)

Hints: List the objectives of IRS and major components of IRS. Discuss the importance of SQA in relation to major components of IRS in accordance to IRS objectives.

Part 2 : Formulation of Approaches for SQA

Q2. As a newly employed consultant to the company in the Quality Assurance department, you are required to formulate appropriate high-level software quality assurance approaches for IPS. Justify the formulation of the adopted SQA. (10 marks)

Hints: Formulation of SQA approaches MUST be in-line with organization quality assurance directive (i.e. adoption of framework, methodology and/or standards covering all phases of project life cycle as well as software development life cycle

Part 3 : Measurement of Approaches for SQA

Q3. With reference to Q2, determine the appropriate tools/methods for measuring the “high-level software quality assurance approaches” for IPS in terms of “software quality improvement”. (10 marks)

Hints: Firstly, identify the metrics for the proposed SQA approaches. Understand the case study and identify the adopted standards when proposing tools/methods for measuring the “high-level software quality assurance approaches” for IPS in relation to “software quality improvement”.

Part 4 : Identification of SQA Activities and Effectiveness of SQA Approaches

Q4 (i). Identify the list of software quality activities (in detail) for Integrated Radio Systems (IRS). (20 marks)

Q4 (ii). With reference to Q4(i) as well as the proposed SQA approaches in Q2, determine the effectiveness of SQA to propose list of SQA activities for Integrated Radio Systems (IRS). (20 marks)

Q4 (iii). With reference to Q4(ii), provide justification/explanation in supporting the effectiveness of SQA implementation for Integrated Radio Systems (IRS). Use TWO(2) examples to illustrate the justification/explanation. (30 marks)

| Question | | | Question | Total |
|----------|----------|-----|----------|----------|
| Q1 | 10 marks | CO1 | Q1 CO1 | 10 marks |
| Q2 | 10 marks | CO2 | Q2 CO2 | 10 marks |
| Q3 | 10 marks | CO4 | Q3 CO4 | 10 marks |
| Q4(i) | 20 marks | CO3 | Q4 CO3 | 70 marks |
| Q4(ii) | 20 marks | CO3 | | |
| Q4(iii) | 30 marks | CO3 | | |