



Project Management in Electronic Devices RD&D by Ir. Amir Hussein bin Jaafar and Dr Siow Chun Lim

Ir. Amir Hussein bin Jaafar is currently a committee member in Electrical Engineering Technical Division.



Dr Siow Chun Lim is currently a Senior Lecturer at Multimedia University. His research interests include electrical grounding systems, high voltage experiments and engineering education.

Two back-to-back talks titled “Project Management in Electronic Devices RD&D” were successfully organised by Electrical Engineering Technical Division (EETD) on 20th May 2017 at Wisma IEM. Attended by more than 20 participants, The speaker of the day was Mr. Azlan Kameel, the current Project Management Lead in DYSON Manufacturing Sdn. Bhd. He started his presentation by engaging with the audience to identify the 3 constraints in project management namely specifications, resources and time. These constraints must be considered during the feasibility study together with the targeted market, regulations as well as the Intellectual Property issue done prior to the commencement of a particular project.

That is, this study shall be done during the first phase namely the research phase. Upon completion of the research phase, the design and development phase ensues which is finally followed by the manufacturing stage. The immediate output of the feasibility study would be proof of concept which in turn leads to the formulation of test methods to validate and verify the concept. The speaker also defined a project as a short or temporary endeavour.

The figure below illustrates the flow of project planning:

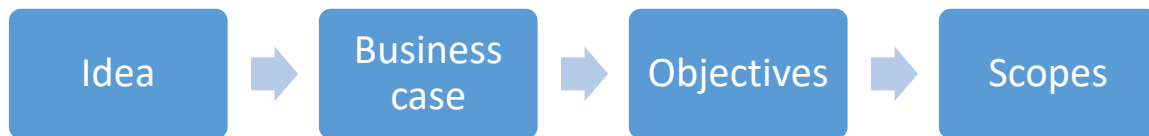


Figure 1: Flow of project planning

In the first stage of project planning, an idea shall be identified by the project sponsor. This is followed by the construction of business case as aforementioned. The business case shall clearly outline the benefits of delivering the expected outcomes. This then leads to the formulation of SMART objectives. SMART stands for specific, measurable, attainable, realistic and timely. Last but not least, the scoping stage cannot be skipped. A scope is defined by the document which is agreed amongst the stakeholders. Product scope articulates the end deliverables, features and functions that characterise a product or service, the intended user, performance, safety and reliability, standards and regulations, physical design characteristics and label and packaging. On the other hand, project scope governs the work needed to deliver the product or service. Only after clear definition of scopes, can the work breakdown structure be defined. The speaker then highlighted the importance of proper communication plan with the stakeholder to ensure a smooth and efficient execution of a project. In the second half of the talk, the speaker dedicated a detailed attention to discussing risk management for new product development. Risk is an uncertain event which will have an impact on the attainment of project objectives. It is measured by the combination of likelihood of a perceived threat and magnitude of the impact. Opportunity is potentially a type of risk and can have a positive effect on the project. Identification of opportunity depends on the seniority and talent of the project leader. Risk management on the hand is the process of identification, assessment and prioritisation of risks to be tackled. Risk can be further categorised into known risk and unknown risk at which the former requires contingency reserve while the latter calls for management reserve. Early detection of issues or errors is vital as the cost of the risk which arise out of such issue gets heavier as the project moves from feasibility study stage down to the manufacturing stage. The type of risk is dependent on the requirement, assumption, constraints and conditions which encapsulates the project. Once a particular risk is identified and assessed, proper planning and implementation of the response has to be in place to ensure that the risk is mitigated. The Decision Tree analysis may be a useful quantitative risk assessment tool. Mr. Azlan then discussed on the existence off cyclic model of technological change which itself may be an opportunity or may impose a risk which needs to be managed. Disruptive technology which comes about after clever identification of opportunity and threat has an

accelerated growth pace which bears substantial impact on the market. The speaker concluded his talks by emphasizing the importance of consideration of patenting, keeping abreast with research work and compliance to regulation as well as assessment of maturity of technology to ensure that the technological risk is managed well. The talk ended with the presentation of a token of appreciation by Ir. Amir, the general committee of EETD, to Mr. Azlan.



Ir. Amir (EETD) presenting a token of appreciation to Mr. Azlan