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Successful Project Completion During the COVID-19 Pandemic - A Lesson Learnt

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Abstract. COVID-19 pandemic has taught us how to continue with the day-to-day activities interacting and working from remote locations. In this paper, we have highlighted the positive approach necessary to complete a project with success under this constraint by interacting regularly with the relevant stakeholders keeping focus on the final project deliverables. The salient points with supporting references are chalked out which might be helpful for others to follow if faced with stressful situations that COVID-19 pandemic taught us.

Keywords: project management, small and medium size enterprises (SMEs), self-reflection, information technology, business intelligence, self-reflection

1 Introduction

Involving oneself in a project is one thing and completing the project is another. The project manager (PM) plays a key role in progressing the project, in collaboration with the other members of the project's team, towards the vision for the end-result that has been set out at the very beginning of the project. However, establishing the vision of a project and what the possible project outcome should be it is not easy to set out in the initial days of the project. Following constructive methodologies makes it easier for the PM to develop such vision and identify desirable project outcomes. To establish the outcomes and their requirements it is necessary to embed the interaction with stakeholders related to the project in the project management process from the project ideation stages. The more accurately a PM knows the requirements for the project, the more they can focus on key milestones that can determine the project success and ensure that stakeholders are satisfied with it. In doing so the PM may target too broad goals within the timeframe of the project. During

the envisioning stages of the project there is the risk that the PM may cast a wide net that determines goals too broad for the project. To avoid this risk, it would be wise for the PM to narrow down the project's vision to one that is practical and useful for the end-users of the project deliverables. Although the project vision should be the keystone that mandate how the project evolves, problems and requirements set by end users might require that such vision changes and evolves during the project. This evolving vision might have dire repercussions on the project, both economical and practical. To mitigate this risk, it is important that the PM knows what the real-world situation is, and although there will always be a certain degree of unpredictability, appropriate requirements and constraints are set within the vision.

In this paper, the lessons learnt from a successfully completed recent project within a small and medium size enterprise (SME) will be discussed. The project was funded by a knowledge transfer partnership (KTP), a UK funding scheme aimed at embedding academic knowledge into businesses by promoting collaboration between higher education institutions (HEI) and industry.

The COVID-19 situation imposed considerable stress on the project. In this paper, it will be discussed how such stresses were managed to ensure that the project could continue and be successful. The aim is to share the experience we gained through a case study with the hope that it will be of benefit to academic and businesses that embark on a similar project.

2 Related Works

Project management is an established area of professional expertise and academic research that offers a methodical approach to all stages of a project, ensuring each stage is carefully planned, measured, and monitored (White and Fortune, 2002). Modern approaches of project management can be tailored to fit the demands for the smaller organisations such as SMEs (Murphy and Ledwith, 2007). By the UK definitions, small firms are those which employ 1 to 49 people, whilst medium-sized firms are those which employ 50 to 200 people (Dept of Business Innovation and Skills, 2010). SMEs play a vital role in the economy of any country as they represent the major share of business activities (Mohammadjafari et al. 2011). KTP projects help the SMEs to acquire skills and technology that strategically enhance their competitiveness through collaborations with higher education institutions (HEI). The

knowledge from the HEI is embedded into the company through a project undertaken by a qualified graduate known as KTP Associate employed by higher education institutions (HEI) (Ogunleye, 2007).

SMEs need these kinds of projects because they are normally suppliers for larger companies, such as ASDA, TESCO etc in our case study, or cover a specialised nice in the market. SMEs often create the final products or services for the end-users, but due to their size and limited resources it is difficult for SMEs to compete with larger companies without due consideration to the customer desires (Mohammadjafari et al, 2011). SMEs require to be equipped with people that have mastery of modern technological skills such as digital marketing, or knowledge of business intelligence tools, so that they can sustain their business. However, acquiring such competencies is quite expensive. KTP projects help to create a collaborative environment between various stakeholders so that the SMEs can embed the discussed skills withing their business and endeavour to fulfil their strategies.

The success for this type of projects depends on the systematic approach of the KTP Associate in moving forward with the project, and on his project management skills. Research suggests that a project becomes successful if the project planning laid out by the PM is well developed (Murphy and Ledwith, 2007). Having the clear objectives, with support from top management is important for the success factors of SMEs' projects (Murphy and Ledwith, 2007). A typical KTP project will be presented as a case study in the reminder of this paper to highlight the importance of project management skills, emphasising on the vital role the KTP associate plays to make the project a success story.

3 The KTP Project

Our case study is a recently completed two-year long KTP project, which started on 8th April 2019. This collaborative project involved three organizations: Innovate UK, University of the West Scotland, and Golden Casket. The company Golden Casket is located at the north-western side of Scotland whose primary function is to produce chocolates and sweets and distribute them to various customers. This company is growing consistently ever since its foundation about 50 years ago. The project was primarily related to the development of a mobile platform supporting the sales representatives and

enhancement of existing business intelligence platforms which are pivotal to the company's day to day decision making in the long run. The main stakeholders from this project are HEI supervisory team, which supports and guide the project from the technical point of view, the KTP adviser, which works as a link between the HEI and the business ensuring that all the supporting elements and decisions are actioned, the company supervisor, which ensures that the company can embed the knowledge and supports the development of the project, and finally the end-users, that drive the projects by establishing the requirements and the constraints, in this case study the end-users were sales managers and salespersons within the company. To monitor the continuous progress of the project, local management committee (LMC) meetings took place quarterly.

a) **Approach from KTP Associate**. The KTP associate works within the KTP as a project manager. At the initial stages of the project, the focus of the associate was on understanding the exact requirements, this was achieved through a contextual study (Hochheiser et al, 2010) with the sales-reps, in which the KTP Associate shadowed and interviewed the reps, understanding their workflow and the limitations imposed by their context during work. The contextual study helped developing a set of user personae that were then used to develop the project requirements and mock-up the user interfaces of the mobile platform. In addition to the contextual study the KTP associate worked with other company staff, understanding how the company operation works, in particular during the life of the project the KTP associate worked closely with the Director of Operations (company supervisor) which helped the associate envision how the mobile platform will fit within the company operations and what BI tools will be required to enhance the company outputs. Within a couple of months from the start of the project, the project's main requirements were documented describing a systematic approach to reach the project deliverables. This document was then circulated to both the HEI advisory team and the company supervisor for final approval. The documentation enabled HEI supervisory team, associate, and company supervisor to develop the vision of the project and remain focused on developing the deliverables and make the project a success. Once the requirement document was developed, the next stage was to establish the technical feasibility of the requirements and determine the optimum tools necessary to develop the project deliverables. To achieve these goals existing company resources such as the IT infrastructure, the technical documentations already in possession of the company, and what the existing know-how of existing systems are, were studied. This helped scope existing infrastructures and determine whether sufficient resources were in place to support the project. For example, the company already had access to Microsoft Dynamics-AX connected with a Mi-

crosoft SQL database server. This system was in operation since 2017 and the company supervisor was the only knowledgeable person to run it smoothly since that time. Once the scoping of the requirement for further development to IT infrastructure was completed, the KTP associate could concentrate on other elements of the project's requirements. At this stage, it was helpful to know how the company benefit from existing systems, aiming at identifying which areas within the company the KTP project could augment and provide a clearer vision to for the project deliverables. To achieve this insight, the KTP associate informally interviewed staff within different departments of the company, such as the office personnel, the warehouse staff, other company directors, and the end-users. The communication skills and the note-taking habits helped a lot at this phase of the project. This preliminary work and understanding of the company operations resulted to be very helpful when the project faced the remote work conditions due to the COVID-19 pandemic starting from March 2020, which coincided with the second year of the project. The data gathered through contextual studies, informal interviews and notes were very helpful to develop and compile business intelligence documents when the need for face-to-face meetings were felt necessary but could not be materialized.

b) **Importance of LMC Meetings**. As part of monitoring the project progress, quarterly LMC meetings were regularly conducted throughout the project time-period. All the stakeholders, comprising of the HEI supervisors, the company supervisor, and the funder representative, took part in these meetings. The KTP associate, in his role of PM, had to deliver a presentation mentioning the project progress, future courses of actions and highlighting the requirements for any technical or training support from different corners. The LMC meetings main advantage was for the KTP associate, which helped keep his motivation and instil a sense of urgency from the team towards the smooth progress of the project. The LMC meetings also helped the company supervisor remain confident that the project would be successful despite the difficulties imposed by the pandemic.

c) **Crucial Implementation Stages**. At the planning stage, it is easy to underestimate the effort needed to complete a project objective and produce the required deliverables. However, a project can only be successful if it fully satisfies the end users, it is therefore important to ensure that the planning and time management allocate sufficient time for the implementation and buffer period that allow for unforeseen delays. Implementation is a crucial stage during the development of software and it is often the case that during iterative testing end-users ask for more functions or requirements to be added with the deliverables. This is very challenging for the developer (which in this case study is the KTP associate). Because those requirements were not catered for in the initial planning or requirement documents other technical support from the HEI could also not be available as the project moved closer to its end. This challenging situation could be avoided if the KTP as-

sociate spend a longer period of time completing the contextual study and gather more data about the end-users during preliminary stages of the project. Although an agile methodology (Beck, 2001) was taken for the implementation of the mobile platform the preliminary contextual study could have captured more requirements if more time were allocated for it, which would have helped during the COVID-19 pandemic.

During the COVID-19 pandemic, the access to the end-users was challenging and often not possible. Efforts were taken to develop prototypes on a PC and test them remotely with the end users. This was not an easy task to do because the end-users were available to do so, had other concerns (the pandemic), or they were sufficiently literate in IT to perform these tests interactively. Best efforts were made by the KTP associate to achieve a timely completion of the project. The success was possible thanks to the strong sense of belongingness with the project developed during the initial stages of the project, the motivation instilled by supervisors and LMC meetings, the personal willpower of the associate, and the vision of success developed by the KTP associate.

4 Lessons Learned and Approach with Self-reflection

While working as a KTP associate a great number of skills could be acquired, namely software development skills, such as how to follow the software development lifecycle (SDLC), and negotiation skills, as the KTP associate had to face a good number of intelligent people who were very helpful and demanding so that the project could be a success in the long run. The confidence by all supervisors and funder representative in a successful project completion motivated the KTP associate to seriously think about how to expand this skill to develop a business model where the same kind of software could be developed for other small companies of similar nature. Practical work experience with the company also provided the associate a great insight on the use of the six techniques and thinking tools for business model generation highlighted in (Osterwalder and Pigneur, 2011), such as: customer insights (customer's perspective), ideation (creative process of generating business ideas), visual thinking (capturing big pictures through visualization of nine building blocks), prototyping (sketches allowing discussion /inquiry on business model), storytelling (facilitates effective communication) and scenarios (reflections on future business model). The 6th thinking tool named as 'scenarios', allows creativity via future contexts on business model designing for varied environ-

ments. Highlighting on some models of reflective activities are also important to note as these activities were always encouraged from the Knowledge Transfer Adviser from Innovate UK, who worked as an anchor role in the project.

4.1 Models of Self-reflection and KTP Associate's Approach

Different reflective models such as Kolb's Learning Cycle (1984), Gibb's model (1995), Schön (1938) are important to note. Kolb's reflective model suggested this practice as a tool to obtain the conclusions and ideas from the experiences, and the process consists of four phases named as concrete experience, reflective observation, abstract conceptualization, and active experimentation. On the other hand, Gibb's model helps a person to reflect after the experience and is useful for people who is new to reflection. This is formed of six stages such as, description, feelings, evaluation, analysis, conclusion, and action plan. This is easy to understand and aids with sensible judgement (EPM Export Program Management, 2019). Another approach to reflection was work done by Schön (1938) which differentiates between reflection-in-action and reflection-on-action. Reflection-in-action is an efficient method as it allows one to react and change an event while in action. On the other hand, Reflection-on-action requires deeper thought as it encourages one to consider causes and options, which should be informed by a wider network of understanding from research (Cambridge International Education, 2020). The KTP associate followed reflection approach close to the concept of Gibb's model. The thinking process was mostly goal directed throughout the KTP project's progress till its implementation and completion stages. The associate always thought first before any action and formulated the chunks of short-term goals in actions to obtain the long-term achievement. This provided the associate a kind of happy feelings when the long-term goal was achieved. The associate always reflected on the approach and activities of the accomplished task so that the next assignments or goals could be done better through important LMC meetings and the face-to-face meetings with different stakeholders of the project.

5 Recommendations to Make a KTP Project Successful.

To make a project success, it is wise to visualise the end-result and formulate the activities to reach that goal. The overall activities could be divided into small chunks of small reachable goals. Efforts should be given as much as possible to complete those small chunks of activities as complete as possible so that the requirements for revisions or recapitulation could be avoided. This is important because people forget the things easily and sometimes systematic note taking might be helpful.

Excellent communication skills and collaborative team efforts are very important for the project's smooth progress. The time management is also important.

Gaining the confidence from the stakeholders as quick as possible is also paramount for the projects successful end. If the stakeholders do not have enough faith on the PM, then it would be very difficult for him to progress effectively.

PM should also know the limitations as one might not be equipped with all the necessary know-how. The team effort becomes very important at this stage of the project because people are always there to help but whom to approach and how to approach are the key. In this internet era, there are forums and also plenty of resources where the solutions would be available, only perseverance to search for those solutions are important.

Some type of belongingness to the project is very important as PM is given importance throughout the project period. To value that importance and honour, the PM should own the project so that it moves to a success story.

6 Conclusions

In this paper, a typical project management role on behalf of a project manager is discussed. How PM face the different events of the project stages and continue to give the best effort taking maximum help from all the supporting members of the project team is also described so that the other PMs doing similar type of projects for the SMEs can learn some lessons.

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