TACIT KNOWLEDGE IN THE WORKPLACE

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Abstract

Tacit knowledge is not easily transferred to another person as it is not formalised or standardised and thus must be experienced by the learning party in order to be interpreted and transformed into actions. It is through the everyday experiences that employees build up their knowledge and skills which, in turn, allow them to solve complex problems based on previous experiences.

Tacit knowledge in the workplace entails the transfer and communication of skills and competences that are hard to quantify as these capabilities are not entirely known to whom possesses them.

The project under discussion in this article is an upgrade in 2007 to the telecommunications system used in the chain of Bunnings hardware warehouse style department stores across the eastern seaboard using Voice over Internet Protocol (VoIP) technology.

My role was that of an onsite Project Manager, and I was employed on a contract basis for this upgrade. Until this project was completed and I had studied tacit learning at university I had not realised how important this type of knowledge was to ultimately complete said job.

Reflective practice is a tool I was able to use to understand what lessons were learnt. In the beginning, while being a contractor, I considered that my contributions to the project were not presented in a way that added value in a corporate environment. Looking back on it, without realising it, I was emulating the behaviour of the senior engineers, observing and learning the protocols of big companies which eventually led to my full time employment.

Introduction

Tacit knowledge is, by definition, the type of knowledge that is not easily transferred to another person by either verbalising or writing it as an instruction since it is not formal or standardised (Woolliscroft et al., 2013). For example, to state that Sydney is in New South Wales is knowledge. It can be written or told and it will be plainly understood. However the ability to transfer say, the experience of living in Sydney, by expressing it either in writing or verbally, can be very difficult since the understanding of this type of knowledge would greatly differ based upon who is describing it and to whom it is being explained to.

Tacit knowledge is best understood by actually experiencing it. By the virtue and nature of tacit learning, one experience may vastly vary from one person to another based on factors such as each individual's understanding of the situation, how this perception is influenced by

past experiences and knowledge, personal approaches to problem-solving, among many others.

Whilst tacit knowledge appears to be simple, it has consequences that explicit knowledge can't exhibit. Also, the ability to transfer tacit knowledge into explicit knowledge is still something that is under constant development and it is not fully understood.

"The part played by tacit skills and knowledge in work performance though is well-recognised." (Evans et al., 2004). This is a challenge that shall also continue into the realm of Project Management. Everyday experiences by employees will allow them, without actually realising it, to draw upon these "hidden" strengths and improve their skills when facing new or unexpected situations.

This paper shall concentrate on adult learning in the workplace as opposed to institutionalised learning as I find it important that individuals with experience can transfer their current skills and competences between different jobs. Also, by getting employees to think for themselves and try their own respective approaches to a difficult situation before asking for help is a learning opportunity they will seize through the use of various personal problem-solving strategies.

"Personal competences such as communication, interpersonal and problem-solving abilities have been portrayed as transferable skills which are significant for an individual's effectiveness, flexibility and adaptability within the labour market" (Kelly, 2001). There are many reasons people need to use their transferable skills to adapt into today's competitive working environment since workers no longer have that job security they did decades ago. Individuals must be able to demonstrate they can be successful in transferring their acquired skills into a new role in order to add value to their positions at work.

Tacit knowledge is very difficult to transfer to another person by just writing it down or even verbalising it. We often don't know we possess it, or even how it may be valuable to others. In some instances we are not even able to tell someone what to do in an explicit sense and that requires the learner to use tacit methods to acquire knowledge. Though, for someone to perform an unfamiliar and complex task, extensive personal contact with regular interaction is essential to develop in learners the confidence they need to perform on their own.

The Project

Telecommunications roll out

The project to be discussed hereby under is an upgrade in 2007 to the telecommunications system used in the chain of Bunnings hardware warehouse style department stores across the eastern seaboard using Voice over Internet Protocol (VoIP) technology. The new system would allow them to communicate both internally and externally with capabilities their older system was unable to provide.

My role was that of an onsite Project Manager, and I was employed on a contract basis. It was until after this project was completed that I studied tacit learning at university and realised just how important this type of knowledge was to ultimately complete said job.

Because I was not involved in the initial planning phase of the project, I had no input in the original timeline that the management had established to complete the work. The completion time the company had initially proposed was underestimated but it was not until the project was unfolding that this estimate was deemed to be unrealistic. After the first stage, it became evident that the human resources the company had available to allocate to this project were not sufficient. The staff that had been hired lacked both the experience and the knowledge to execute this type of installation successfully.

The approach that was taken by the company at the time did not take essential factors into account, such as the remote locations and the physical nature of this work combined with long working hours. The introduction of my role was an afterthought when they realised they had made considerable errors in their planning. The Project Management Office (PMO) in Sydney had several staff changes while this project was running and there were frequent critical delays in trying to obtain a response for decisions requiring multiple follow ups.

The physical working environment of this project was also typically harsh, dusty and, depending on the location very hot, humid or cold. As each site was a large warehouse it was, in essence, the same type of environment as a construction site. The engineers were not used to working in these conditions since they generally worked in softer and cleaner office environments around Sydney. It was a grand oversight the company did not anticipate that the project they took on did not have staff experienced in this type of work.

I had originally applied for a position as a full time engineer with this company. I was not successful at the time as they were seeking experience in employees of a different nature than mine. However, when the managers revised the project plan they concluded that it was necessary to include an external contractor who could act as a temporary expert. Given that I possessed those skills from my experience on construction sites I was then called up.

Considering I had only had experience in small business, this was also my introduction into the corporate world. I understood from the beginning there were many things I needed to learn. During this phase of the project, I was actually unaware that I was participating in tacit learning. I am now aware that I subconsciously observed and followed the behaviour of the senior engineers who worked with me. Conversely, they were not aware of the mutual exchange that took place as I too was transferring my tacit knowledge to them from my experiences.

Approach Taken

While I was initially contracted for a 4 month period through an employment agency, this project actually ran for 7 months and some of the challenges I faced included;

- Dealing with issues in a corporate manner with Standard Operating Procedures (SOP) and formal channels of communication versus verbal or informal agreements.
- Effectively promoting a culture of knowledge sharing.
- Developing methods to record and store tacit knowledge.
- Encouraging experienced engineers to share their own tacit knowledge.
- Developing systems to transfer tacit knowledge to explicit knowledge.

Reflective practice is a tool that I was able to use to understand what lessons were learnt. In the beginning, while being a contractor, I considered that my contributions to the project were not presented in a way that added value in a corporate environment. I recall though a very fast and steep learning curve on the techniques that required that I move from the small business environment to a corporate one. This first project sparked my interest into personally developing Project Management abilities, and formalising this tacit experience into the explicit knowledge through studies at the University of Technology Sydney (UTS).

My experience in the construction, telecommunications and electrical industries was the main reason I was offered this contract, given that the IT engineers I worked with lacked the experience in the aforementioned fields. I became aware of the shortcomings of inadequate staff selection early on, when communicating the things that needed to be done was not enough for the staff to begin working.

Teaching how to complete a task such as jumpering the wiring in the telecommunications distribution frames was not done by merely indicating the staff to do so. In many instances I needed to demonstrate the task repeatedly as a method for them to understand how to complete a task and, eventually, develop the skill.

Through demonstrating how to complete a task, first being taught by me, then them being left to complete the task under my supervision until eventually becoming autonomous, the staff became competent and once they had understood the task and the process, a simple explicit instruction was needed to get things done.

The problem with this method though is to convert tacit knowledge into explicit knowledge, which requires considerable time and effort. In the case of this project, where timelines were not adequate and milestone dates could not be changed, the opportunity to transform knowledge was challenging.

Because there had been changes in the staff I realised that, with every new employee, I had to start the training process again, which was not optimal in terms of resource utilisation. Although, the staff that had already been instructed would understand the task and the process, they still were not proficient enough to be able to train someone else. Also, because training was done on an individual basis, with not many resources to spare (time and staff) it had not been possible to formalise said training in the shape of a plan that people could follow by going over explicit instructions. In order to utilise resources effectively, my best strategy then was to negotiate with the management to be assigned the same engineers that I had personally trained on future roll outs.

Reflective Practice and Active Learning

Reflective practice was an important tool on this telecommunications project as this was a practice-based professional learning environment, where I was able to learn from my own experiences and those of others. I walked into the project having no previous knowledge of the task at hand. I was hired, presented with a situation that needed to be resolved without any formal training to do it and with my previous experiences and those of others to as the only resources. My personal and professional development was improved greatly by following the loop in figure 1 below (Nash, 2010):

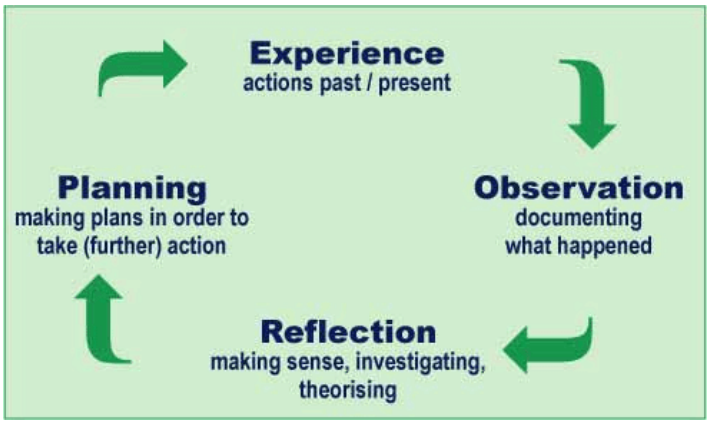

Figure 1 Reflective Practice

Experience: I brought many years of experience from the construction industry to the workforce that had already been hired to complete the upgrade but who lacked expertise in both the type of job and working conditions. My previous experience enabled me to effectively look at this job since I understood the goal of the project, I had the abilities and technical knowledge to deal with problems that could arise and also knew what needed to be done to finish the job within the timelines provided.

Observation: One important consideration was to ensure the project was being clearly observed and documented with the progress and issues faced every day. By recording events that were of a repetitive nature and similar to other projects being completed on different sites, it was possible to determine trends in the difficulties the staff had when learning a specific task, create more effective ways to teach the workers how to perform and, in turn, avoid recurrence of the same issue. Additionally, by having activities and issues documented, it was easy to distribute information to communicate agreements, clearly determine roles and responsibilities and assign accountability for different processes so instructions and help points were clear for all staff should things needed to be escalated.

In this regard, as a Project Manager, being able to see the big picture is of great help in improving processes as issues are not dealt with individually, but trends and tendencies can be identified across all platforms, which makes it easier to detect flaws affecting the entire project, correct them and apply migration plans to the whole system. In this sense, tacit knowledge when observed in a 'helicopter view' is a good starting point towards practice standardisation.

Some of the engineers assigned to work with me also had a tremendous amount of industry experience. Through observing them at work I was able to understand, utilising tacit learning, how they applied their knowledge and skills on technical aspects in which I was still inexperienced. Another relevant lesson from tacit learning was that, though simple observation, one is able to identify how different people with varying experience and formation approach problems and work though difficult situations, exposing the managerial character of each individual.

Reflection: The sole act of teaching the staff was not enough to begin to standardise practices and develop the skills in the staff to be able to solve problems autonomously. Objectives,

activities, processes and outcomes had to be taught, demonstrated and reflected upon so that knowledge was internalised and understood.

Planning: This was a crucial part of the loop. A way to communicate findings that had been observed in the previous stages of the aforementioned process was to have meetings with the engineers in order to correct the initial oversights in the planning of the project and also to improve the gaps that had been found in training the workforce to optimise resource utilisation. Since other managers and engineers had also taken part in a tacit learning exercise of their own, collaboration was important to bring together what each person had observed, identify and prioritise issues and propose corrective measures and mitigation strategies for the future.

The cycle discussed above does not just consist of being taught to perform a given activity without understanding the rationale behind it. Instead, through demonstration, understanding the objectives, reflecting upon the process and the outcome, discussing issues and proposing methods to improve is what makes active learning such a powerful tool to enable people to think autonomously and solve problems on their own. This type of learning ensures that individuals will internalise and be able to interpret a complex situation and, based on their respective experience, replicate it and adapt it to solve future problems.

"Experimental learning in its 'active learning' interpretation offers learners recognition and a role in the learning process" (Brockbank et al., 2002). This means that learners use their own experiences for learning, by recognising what is within the context of their work.

Conclusion

The reflective practice starts from the time we are born, through childhood into adulthood. We never stop learning and, for the most part, we are not aware this is a constant and natural process. We will learn from our achievements as well as from our mistakes.

In this project I brought many years of experience from the construction industry acquired early on, from becoming an apprentice, being delegated tasks by the senior tradesman and asked to show initiative by thinking ahead and planning what I need to do next. I was tacitly learning my trade alongside the formal, explicit, institutional education I was receiving at the time in the classroom, with written documents, exams and tests.

If active learning is not sought, that is, a relevant learning experience that will enhance the skills of an individual to understand a complex situation in order to solve a problem, then learning becomes laborious and often uninteresting (Lightbody, 1997). The act of acquiring knowledge becomes an exercise of memorising and repeating mechanically, as if information were poured from a jug into a mug, where the jug is the lecturer and the mug is the student.

In the construction trade, academic knowledge is not enough, and it only becomes of real value when combined with what can be learned tacitly on the site.

When being hired to manage the project mentioned above, all those lessons learned from the past, acquired through active learning, provided me with the knowledge and an ability to deal

with similar problems that were presented to me and that I had successfully dealt with in the past.

It is essential to become aware of how much learning comes from observing and emulating peers, subordinates and superiors to try to identify, to the extent possible, what are the experiences each individual carries within that shape their managerial styles, the way they interact with others, how they communicate and understand information in order to obtain the best possible results through people. To the extent that tacit knowledge is seized and consolidated, the quality of the eventual explicit knowledge that might help individuals in the future will be affected.

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