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Article

THE POWER OF KNOWLEDGE MANAGEMENT IN TERTIARY SECTOR

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ABSTRACT

Tertiary Education Organisations generate significant amounts of data within the course of their primary activities and have multiple complex processes to manage the work of the Faculties, Student Support and Administrative Services. This makes knowledge management a critical necessity to ensure continuity across the organisation. The project examines the practices at Otago Polytechnic Auckland International Campus which is as a joint venture and has a unique challenge of having to merge knowledge management systems from two different tertiary education organisations – Future Skills and Otago Polytechnic.

The project explores internal communications, individual work preferences and knowledge accessibility as key contributors to knowledge management through document analysis and thematic analysis of interviews with members of Otago Polytechnic Auckland International Campus academic and professional teams/ departments. The findings identified that different departments rely on individual processes that may vary significantly depending on personal preferences of the key internal stakeholders and often compartmentalise beneficial information without making it available to stakeholders outside of their teams. This research highlighted the challenges of relying on faculty-specific systems for managing operational data, which extends into different knowledge management systems across the organisation and complicates knowledge transfer. The evidence was used to make a case for higher integration of the knowledge management processes within the organisation as a way to maintain consistent quality standards and reduce operational costs, particularly within the context of increased volatility of the higher education sector.

Keywords: knowledge management; tertiary education; organisational contiuity.

KNOWLEDGE IN EDUCATION

The communication and information revolution along with the increasing value of knowledge as a primary driver for growth and the convergent impact of globalisation is forcing tertiary education to face unprecedented challenges (Omerzel, Biloslavo, & Trnavčcevič, 2011). The number of people participating in higher education (HE) has been increasing domestically and internationally. According to education counts the number of equivalent full-time enrolments (EFTs) in public and private tertiary education organisations (TEOs) in New Zealand increased from 181,100 in 1999 to 213020 in 2020 for domestic students with the numbers peaking in 2010 at 254,520 EFTs (Ministry of Education, 2021). The number of international student EFTs increased from 8695 to 38,010 over the same period with a peak of 44,010 in 2016 (Ministry of Education, 2021). These numbers are very significant even within a small HE market like New Zealand, and the tremendous complexity to the organisational logistics within TEOs.

Growth has costs and consequences and one of the biggest ones was the increasing numbers of employees, including both academic and administrative employees with specialised and unique knowledge. The challenges of managing the knowledge were exacerbated by the amount of data that is created by each

student or employee involved in the tertiary education process and the increasing organisational requirements for preserving the data in various shapes and forms (New Zealand Qualifications Authority, 2021; Tertiary Education Commission, 2016).

The need to preserve knowledge is not only driven by the organisation's but also by government agencies that are responsible for financial reporting, quality control, pastoral care etc. The formats of data in each case may be slightly different and impose additional burdens on the knowledge management systems within organisations (Tertiary Education Commission, 2016). While external reporting is a compulsory element of compliance and, therefore, organisations are required to invest in data management associated with these reports, internal data management, and knowledge management is much more likely to be sacrificed as a costly and potentially cumbersome operational element. While internal policies may outline the knowledge management system as it is supposed to be implemented, real-life application of these policies may be rather far removed from the process laid out in the documents. This research is intended to examine the practical challenges of knowledge management in one of the TEOs in Aotearoa New Zealand.

Otago Polytechnic (OP) began its history in 1870 with the opening of the Dunedin School of Art and is a public New Zealand tertiary educational organisation. Today, OP is a Category 1 education and training provider delivering over 100 programmes in various fields, with qualifications from certificates to doctorate across three campuses: Dunedin, Central Otago, and Central Auckland. Future Skills (FS) was established in September 2000 and has been trading since January 2001. FS is a Category 1 education and training provider in South Auckland and is registered as a Private Training Establishment (PTE) with the New Zealand Qualifications Authority (NZQA). The increased demand for tailored education, specifically for international students led to the Otago Polytechnic and Future Skills partnership in 2012 and the opening of the Otago Polytechnic Auckland International Campus (OPAIC) which will be the subject of the research.

The project aims to identify the current systems and processes of retaining organisational knowledge and learnings at OPAIC. The existing knowledge management system and analysing the mechanisms used to transfer this knowledge to new employees was the focus. The situation was further complicated by the ongoing Review of Vocational Education (RoVE), a process that is intended to centralise the existing 16 polytechnics as a single organisation– Te Pukenga. Even though OPAIC has its employees, it still benefits from OP's employee's expertise and capabilities and a disruption of this organisational link is likely to result in potential loss of organisational knowledge if not managed effectively. The project examined three knowledge transfer scenarios: induction and onboarding of new employees, the transition of existing employees into new roles, and transferring operational knowledge within existing teams/departments.

WHAT IS KNOWLEDGE IN TERTIARY EDUCATION ORGANISATIONS

Knowledge can be considered to have two dimensions: tacit and explicit. Each behaves slightly differently during the knowledge-sharing process (Nonaka & Takeuchi, 1995). The explicit knowledge is easily transferable and communicated, often being embedded in written structures, strategies, norms, and policies (Krome-Hamilton, 2005/2006). Tacit knowledge is embedded in individuals through their skills, habits and experience, and cognition such as insights, values, and perspectives. Szulanski (1996) calls this "sticky knowledge" as it is attached to the human mind and is tricky to extract. Knowledge needs to be accessible, communicated, and enhanced to be valuable. An organisation can retain the tacit knowledge through active participation of individuals in the organisational routines and design (Krome-Hamilton, 2006) and through embedding incremental knowledge sharing in organisational culture (Biloslavo & Trnavčcevič, 2007).

Due to the intangible nature of tacit knowledge, converting it into explicit knowledge to create organisational memory becomes a challenge (Gold, Mahotra & Segars, 2001). At the same time, Marshall & Brandy (2001) argue that by coding and storing the tacit knowledge in repositories it strips off its fundamental value since the tacit knowledge is embedded in the specific contexts of social action. But the

transition may be, in fact, a critical step towards preserving organisational knowledge and the heart of a knowledge management system (Ardun et al., 2013).

There are two perspectives of knowledge in HE organisations that can be distinguished. One is the academic knowledge, the primary purpose of HE organisations, and the result from learning and teaching activities (Sedziuvienne & Vveinhardt, 2009). The second perspective is the organisational knowledge, referring to the overall business of an organisation, its strategies, strengths, and weaknesses (Shams, Rad & Hooshmand, 2009). Through the process of knowledge sharing, academic organisations are inclined to guide and coach employees for the advancement of career prospects. However, a study focused on key dimensions of knowledge sharing concluded that academic organisations need to learn from the business sector to promote a culture of knowledge sharing to enhance their productivity (Ahmed, Akhtar & Mallick, 2013).

CURRENT STUDY

This project is not focusing on the academic knowledge perspective. It concentrates on the operational side of organisational knowledge, looking at the strategies used to retain and transfer knowledge within the organisation for efficiency and successful outcomes. This project is not centring on any existing models of knowledge management, but rather engaging through the grounded theory approach in an attempt to identify an appropriate knowledge management system for OPAIC.

To gain a more in-depth understanding of the processes used in retaining and transferring the organisation's knowledge, it carried out semi-structured interviews with employees in different key roles to collate the necessary primary qualitative data. Five OPAIC employees representing approximately ten percent of all full-time employees agreed to take part following an e-mail invitation. All employee interviewees s had been working in the organisation for at least half a year, including managers who had been appointed to new or additional roles and had worked for the organisation for more than one year.

The interview questions were structured into three main topics. The first looked at background information, including questions about their tasks, interpretation of organisational culture, their responsibilities, and their ideas on departmental induction and onboarding. The second theme investigated problem-solving mechanics, specifically into the means of alerting employees of issues as they appear and are resolved, and the information required to facilitate organisational problem-solving. Lastly, major strategies for collecting information, the weaknesses and strengths of current strategies, and the methods used to communicate with employees of the organisation. Thematic analysis of the responses further identified three key topics: communication across the organisation, individual preferences of working, and information/knowledge accessibility.

One of the challenges identified related to the unique situation at OPAIC in the fact that there are three different sets of values presented to employees. Each of the organisations (OP, OPAIC, and FS) have their values and guiding principles. Although most are OPAIC employees s, many of them are required to collaborate with OP and FS employees to complete their work. Employees identify with values and actions (Personal communication, 2020) and the fact that there are three different sets of values communicated confuses them and they cannot identify with a clear vision. One of the participants stated: "We've got OPAIC values, and they're not the same as the OP values. I couldn't make sense of that at all and there is no answer for that. So, I think at a very fundamental level because culture is values and action. And if we're referring to our values, we need to know which ones".

Communication also becomes challenging when employees need to collaborate with colleagues at OP Dunedin or FS. There are certain aspects of the day-to-day work that need joint efforts from both organisations. The fact that all three organisations have a different organisational structure makes it more difficult to complete work and adds to the workload. It is not always clear to OPAIC employees who should

they contact at the other organisations for various tasks or information. Each organisation assumes that the other one is aware of all actions, processes, and strategies needed to complete their work or assume they follow the same ones. There are various processes and essential tasks carried out by OP employees because they have the capability and means to do it. However, with situations when the structure of the organisation is changing and employees leave, essential tasks are being overlooked, creating future problems that could be prevented.

For knowledge to be transferred within an organisation is necessary and sometimes sufficient to identify topics and knowing who to call (Personal communication, 2020). Even though OPAIC is a small organisation, interviewees agreed that it is not always clear who does what and who to contact for specific information. The process used to identify the experts and those members with the needed information is valuable since knowledge and expertise are people bound and people change roles and responsibilities within the organisation (Personal communication, 2020). With the lack of clear and unified structure in processes across the organisation and because of individual preferences of working, people approach different strategies for completing tasks and actions differently.

At OPAIC, it became common practice for each team to adopt and create processes and work according to individual preferences (Personal communication, 2020). Although the interviewees appreciated the benefits of adopting a preferred style of working, they also acknowledged its limitations. In certain situations, having to comply with each request, for example, would add to the workload and double the tasks. The same report or information may be requested in a different format from different parties, be it from within the organisation or from the partner organisations. A recent organisational restructure did not help. Teams/departments had to readjust to each managerial style and change their processes based on the new manager's preference. These challenges directly affect the possibilities of having seamless and structured knowledge management. Table 1 provides a list of identified organisational issues and their direct impact on the knowledge management systems in their current state.

Table 1 Diagnosis of Knowledge Management (KM) issues at OPAIC

ISSUES	CHALLENGES FROM A KM PERSPECTIVE
Employees mentioned the heavy workload and lack of time.	Key knowledge is overlooked and not documented.
Reacting to urgencies rather than preventing them.	Lack of strategy and planning.
Employees are sensitive to their own and others' preferences when it comes to accomplishing a task or a report.	No systematic way of reporting at the organisational level.
Key employees leaving the organisation.	With no systematic and strategic planning in retaining knowledge, knowledge is lost.
OPAIC does not have a unified standard of retaining knowledge and documenting lessons learned.	Each manager will have their way of documenting lessons learned and key knowledge may be lost as people have different views of what is important; knowledge is not appropriately defined, captured, and retained.
Too many systems and applications in use.	Employees were confused and invest more time in completing a task because of multiple system limitations.

Employees perceive differently the importance and the need for a streamlined process or capturing knowledge with the vision of transferring it to others. A mechanism may seem very easy and logical for one person or a team/department, while for another, the same process may seem very complicated (Personal communication, 2020). An interviewee mentioned that "it takes a long time to find where all information it was stored and the weaknesses are that people will have personal preferences on where they store the information". Each individual will assess problems and solutions from a different perspective (Personal communication, 2020). As a result the strategies used to retain and transfer knowledge within the organisation are also engaged through the lens of individual preferences (Personal communication, 2020). What an employee will consider necessary to capture as organisational learning and register it as valuable knowledge and data, another one may consider the same information unimportant or just common sense and will not record it (Personal communication, 2020).

The ambiguity of naming conventions of documents was another element identified by interviewees as challenging in certain situations. There were aware that some file accessibility is dependent on their role, however, they needed to understand what folders they have access to and how to navigate. According to interviewees, this was not always the case. For example, they were often added to Microsoft Teams groups without receiving an overview of the structure of storing files and collaborating within that group. Not knowing which version of the document is the more recent one adds to the challenge of understating the information you have access to (Personal communication, 2020).

Little attention is given to deleting invalid or outdated information from the organisation's database, becoming challenging to identify the most recent and relevant information. Too much information available for employees might create similar problems to the lack of information (Corbitt, 2005). This statement is also reinforced by Rich and Duchessi (2005) when they found that when the collection of accepted knowledge grew, the quality in the knowledge shared was not equal to the quantity of knowledge available.

More information does not always mean better information or knowledge (Personal communication, 2020). To mitigate the risk of accumulating countless and invaluable knowledge an organisation needs to include a selective process for accepting contributions alongside a vetting and reviewing process of the content in the system (Personal communication, 2020). According to the interviewees, the selection of data storage is done at the departmental level. The vast array of knowledge management instruments is presented in Table 2.

Table 2 Knowledge Management Components Identified at OPAIC

REPOSITORY	SYSTEM / APPLICATION	PURPOSE AND CONTENT
Document-based		Within the digital era, there are fewer and fewer physical archives. The only documents still stored in a physical form are based on individual preference and they are stored in digital format as well.
		Paper exams.
Digital	Shared Drive.	Programme Documents; programme history; course details; Accreditation details. (OP operated).
	Enable Human Resources (HR).	HR management system; operational policies; guidelines; performance review system; (FS operated).
	Moodle.	Learning management system; academic courses; delivery planning; communication with students.

REPOSITORY	SYSTEM / APPLICATION	PURPOSE AND CONTENT
Digital	Microsoft 365 applications: – Microsoft Teams. – Dynamics 365 (CRM). – SharePoint. – OneDrive.	Hub for teamwork; meetings; content collaboration. Case management system. Document library. Document library
	EBS.	Student management system (OP operated).
	Tūhono.	Content management and staff hub; academic policies, news, access to tools.
	EvaluationKit.	Confidential student feedback tool about their experiences of learning and teaching (OP operated.)
	Xero. Approval Max. DataPay Payroll.	Finance Apps (FS operated).
	Vault.	Safety and Wellbeing. (OP operated).
	Academic Dashboard. Moderation App. Student Support App. Lecturer Referral. Industry Projects App. Sales Dashboard. Registry Dashboard. Academic Staff Dashboard. EFTS Dashboard. New Student Dashboard.	In house Apps developed for reporting and data analysis.
Self		E-mail archives, files, In head memory, etc.

The strength of OPAIC identified by interviewees is its people and the agility in adapting to the unpredictable environment. Interviewees were also impressed with the fact that the organisation is always open for improvement and to implement lessons learned and best practices identified.

While there was appreciation for the agility of the organisation in adapting to change, the weakness of the organisation emphasised by interviewees was the lack of sound understanding of roles and functions of various colleagues or working groups. Even though they do recognise the uncertain times, the organisation is going through and the fact that there cannot be clear answers to certain questions, the need for an overall plan was voiced. Interviewees felt that they could add more value to the organisation if they could see the direction and how things evolve.

IMPLICATIONS AND CONCLUSIONS

Following the analysis of data collected during the project, it can be concluded that OPAIC does have knowledge management system up to a certain degree, however, it is incomplete and not well defined at the organisation level. Every team/ department has developed its knowledge management system for day-to-day work and the same approach and strategy is applied when retaining or transferring knowledge.

However, when interviewees were asked about a knowledge management system at the organisational

level, it was identified that gaps need to be addressed. Some of the gaps in the knowledge management systems at OPAIC may have been caused by two restructures and their effects in less than 12 months, however, the project was not focused on those effects.

Knowledge management is not a project; it is rather a continuum behaviour and culture (Anand, et al., 2005). Knowledge management is a way of working and not a distinct task to be accomplished. Any approach to a knowledge management system needs a high level of commitment from within the organisation for the system to work. Since the benefits resulting from such an initiative are often subtle and hard to measure, addressing the existing problems can prove to be a good initiative.

It would be beneficial to all the organisations discussed in the project to invest time to create a universally accessible flowchart of organisational knowledge that depicts how the knowledge gets recorded across various systems and eliminate the systems that do not fit. It is important to gradually work through every team/department and make sure that the processes fit the designated structure. While this is not a quick and easy fix, there is currently no simple way to address the issues. Solving the current problems would result in an intangible benefit such as more content employee, therefore leading to increased engagement and productivity. Members of the organisation also need to find benefits to engaging their effort.

In-depth research into the capabilities engaged from partner organisations may be deemed useful with the intention of building those capabilities and resources within OPAIC. Additionally, a thorough analysis of good practices and lessons learned across each team/department at OPAIC could further develop a cultural habit of sharing knowledge and information.

Patricia Ostate is an experienced professional with a proven history of working in the tertiary education and nonprofit organisation management industry. Patricia started her research journey with a bachelor's degree in Psychology, a master's degree in Applied Management and a Postgraduate in Forensic Psychology. Patricia's current focus is on knowledge management systems and product development research, looking at opportunities to start a PhD in Organizational Psychology.

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Yury Zhukov's journey in Aotearoa started when he decided to pursue of his research interests in deliberative democracy and e-government at the University of Auckland. He has been working in tertiary education alongside other jobs for over fifteen years. Yury has a research Master's degree and is working on his PhD at the moment.

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