Developing Tradespeople in Facilities Management to

Avoid the Loss of Institutional Knowledge due to the

Looming Retirement Boom

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LEAD 7390.23062

April 23, 2025

**Abstract**

**Purpose**

To tackle the inevitable loss of institutional knowledge in its facilities management department, the University of Tennessee, Knoxville Facilities Services department is investigating how developing tradespeople through apprenticeship programs, partnerships with manufacturers and vendors, and leadership development initiatives can lessen the negative impact of knowledge loss due to employees retiring. Professional development of tradespeople working in facilities management is an ideal way to prevent the loss of institutional knowledge due to the coming retirement boom.

**Design/methodology/approach**

Evaluating knowledge sharing and professional development via a literature review will guide facilities managers in preparing their next generation of operators.

**Findings**

When appropriately implemented, knowledge sharing frameworks can help facilities management departments retain vital institutional knowledge as retirement-eligible employees approach the end of their careers.

**Originality/value**

The results of this evaluation could lead the current department leadership to create a comprehensive tradesperson development program to support the university’s growth well into the future.

Keywords: Facilities Management, professional development, tradespeople, retirement, knowledge sharing

**Introduction**

Facilities management employees work in several areas, including trade specialties, asset management, administrative and support services, sustainability, and people management. Trade specialties include low- and high-voltage electrical, construction, plumbing services, steam plant operations, and heating, ventilation, and air conditioning (HVAC) services. The number of new tradespeople entering facilities management is insufficient to offset the number of tradespeople who are ready to retire or have already retired ([Carter, 2022](#_ENREF_5)). This paper focuses on exploring the professional development of tradespeople within facilities management at the University of Tennessee, Knoxville (UTK), through knowledge sharing and professional development, aiming to offset the loss of institutional knowledge due to the impending retirement of knowledgeable and experienced tradespeople.

Employees who work in a particular field for an extended period and develop specialized skills over time gain valuable institutional knowledge, and because that knowledge is unique, it is challenging to replicate ([Serenko, 2022](#_ENREF_27)). Institutional knowledge is key to organizational success (Burmeister & Deller, 2016). Tradespeople gain knowledge over time by completing repairs or installations of equipment while working alongside more tenured tradespeople. The more tenured tradespeople possess more institutional knowledge than their peers and are responsible for sharing their knowledge with their coworkers and supervisors to prevent irreversible loss of campus knowledge ([Burmeister & Deller, 2016](#_ENREF_3)).

One way to prevent the loss of institutional knowledge is for tradespeople to participate actively in professional development opportunities. These opportunities are available in various forms, including apprenticeship programs, continuing education, in-house leadership development training, and vendor and contractor training ([Maqbool et al., 2024](#_ENREF_18); [Ressler, 2022](#_ENREF_24); [Then, 2013](#_ENREF_35)). Offering apprenticeship programs to younger employees allows them to grow their skills in specific trades ([Daniel et al., 2024](#_ENREF_7)). While employees may earn less money during their apprenticeship program, they can work while completing their training. Facilities management employees may also participate in continuing education programs to enhance their knowledge of the industry. Some universities worldwide offer undergraduate and graduate degree programs in facilities management ([Then, 2013](#_ENREF_35)). Apprenticeship and continuing education programs are professional development options provided to employees to help enhance their job-specific skills.

To enhance skills beyond trade-specific skills, employees at UTK can participate in in-house leadership development programs such as those offered by the University of Tennessee System (UTSA) Employee and Organizational Development (EOD), UTK Learning and Organizational Development (LOD), and UTK Facilities Services Employee Training and Development. These three separate but collaborative departments work together to implement leadership development programs for the Facilities Services staff. In Facilities Services at UTK, the purpose of in-house leadership development programs for tradespeople is to ensure organizational alignment and success while developing leaders across all levels ([Hilleman, n.d.](#_ENREF_16)) for a low cost. Beyond partnering with campus departments, facilities management organizations can also partner with their vendors and contractors, many of whom provide training to tradespeople at little to no cost to the department. Vendors and contractors often provide training on tools, equipment, and processes to ensure employees' safety while on the job. This training enables vendors and contractors to share their expert knowledge with others, thereby enhancing the institutional knowledge of their customers ([Grainger Editorial Staff, 2024](#_ENREF_14)).

Increasing the institutional knowledge of younger and less-tenured employees is important due to the large number of retirement-eligible employees. A study from 2021 indicated 31% of facilities management employees are over the age of 55 ([Call, 2022](#_ENREF_4)) and those employees will be eligible to retire between 2022 and 2037. When the 31% of facilities management employees who are currently close to or at retirement age will retire is unknown. This uncertainty means managers of facilities management departments must continue preparing for the inevitable retirement boom. Retirement eligibility is based on several factors. People born in or after 1960 are eligible to retire at 67 ([Social Security Administration, 2025](#_ENREF_28)). To be eligible to retire from UTK, employees must meet the eligibility requirements set forth by the state of Tennessee or federal retirement guidelines, which include years of service or age minimums ([The University of Tennessee System, 2019](#_ENREF_34)). “Those requirements are: a) age 60 with at least 5 years of service with no health insurance, or b) age 55 with at least 10 years of service, or c) any age with 25 years of service” ([The University of Tennessee System, 2019, para 2](#_ENREF_34)).

If not planned for, retiring employees will take the institutional knowledge they possess with them at the end of their employment ([Georgoulis, 2008](#_ENREF_13)). At UTK, this loss of knowledge will negatively impact the department’s ability to continue successfully maintaining campus spaces. **If younger**, less-tenured employees do not receive knowledge from potential retirees and grow their skills through meaningful professional development {Lawton Jr, 2014 #221}, the department's future success may be at risk.

**BACKGROUND**

**Definitions**

For the purposes of this paper, the following terms may be unfamiliar to those outside the facilities management industry.

* Knowledge loss is the loss of an organization's intellectual capital resulting from the attrition of employees, which directly impacts the productivity of staff and maintenance of critical operations ([Cox & Overbey, 2022](#_ENREF_6); [Haughton, 2021](#_ENREF_15); [Tauro, 2021](#_ENREF_31)).
* Knowledge sharing, as defined by [Elrehail et al. (2018)](#_ENREF_10), is “a set of behaviors that involve the exchange of information, sharing, and donating task-relevant ideas, information, and suggestions between employees and team members” ([p. 58](#_ENREF_10)).
* Leadership development within facilities management should be crafted based on the level within the organization where the employees work, i.e., first-level leaders, mid-level leaders, and directors or executives, and should be connected to the organization’s strategic plan ([Hilleman, n.d.](#_ENREF_16)).
* Professional development for tradespeople consists of informal, on-the-job training, apprenticeship programs, community college or other facilities management degree programs, and contractor or vendor training ([Farrell & Lawhorn, 2022](#_ENREF_12); [Then, 2013](#_ENREF_35); [Wagner & Kulwiec, 2022](#_ENREF_36)).
* A tradesperson is someone who works in one of many skilled trades such as construction, HVAC, electrical work, steam plant operations, or plumbing services ([O'Connell, 2021](#_ENREF_19); [Wilson, 2022](#_ENREF_37)).

**UTK Facilities Services**

The facilities management department for the UTK campus is Facilities Services and is responsible for maintaining over 250 buildings and 920 acres of land for a student population of nearly 40,000 ([The University of Tennessee Knoxville, n.d.-b](#_ENREF_33)). As of March 22, 2025, 594 employees work in the department ([DASH, personal communication, March 22, 2025](#_ENREF_8)). There are 10 units within Facilities Services, and tradespeople work in three of those units ([*Facilities Services Organizational Charts*, n.d.](#_ENREF_11)). Units containing tradespeople are Maintenance & Repair, Utilities Services, and In-House Construction. Maintenance & Repair has 113 employees, Utilities Services has 101 employees, and In-House Construction has 28 employees. The majority of the employees in those units are tradespeople.

Due to data limitations, the number of retirement-eligible employees is unknown to the author. Between 2020 and 2025, 97 individuals retired from the department, accounting for 3.4% of its total staff. In 2020, 15 employees, or 2.6%, retired. The following year saw 19 retirees, representing 3.5% of the department's workforce. 2022 had the second-lowest retirements, with just 16, or 2.7% of all employees. In 2023, retirements peaked at 26, which constituted 4.5% of the departmental staff. Finally, 2024 recorded 21 retirements, or 3.5% of employees. ([A. Eidemiller, personal communication, March 14, 2025](#_ENREF_9)). These retirements were a mix of trades and non-trades personnel, and the reasons for retirement included a variety of years of service, age eligibility, or medical reasons. Not all employees retire despite being retirement-eligible ([Burmeister & Deller, 2016](#_ENREF_3)).

**Professional Development Opportunities**

Currently, Facilities Services employees can participate in voluntary and mandatory professional development programs. The Occupational Safety and Health Act **(OSHA)** of 1970 was created to ensure employers provide their staff with a safe place to work ([OSHA, 2015](#_ENREF_20)), resulting in mandatory safety training for all employees to complete annually. This training is directly related to each tradesperson's work, so the number of training hours employees complete annually is different for each unit in Facilities Services.

In addition to OSHA training, employees must also complete annual campus compliance training on topics such as Title IV, Title VI, IT Security, and the Family Educational Rights and Privacy Act (FERPA) of 1974. Participation in these courses is mandatory to ensure a compliant and ethical workplace ([The University of Tennessee Knoxville, n.d.-a](#_ENREF_32)). The campus's annual compliance training and OSHA training are administered to employees on the university’s Learning Management System (LMS), K@TE.

Voluntary professional development programs include enhanced equipment training from manufacturers and first or additional certifications in trade-specific areas, such as the EPA Section 608 certification to work with refrigerants ([*Section 608 Technician Certification Requirements*, 2024](#_ENREF_26)). Apprenticeship programs are also considered voluntary professional development opportunities, providing staff with the chance to enhance existing skills or acquire new ones through hands-on training and coursework ([Farrell & Lawhorn, 2022](#_ENREF_12)). The Maintenance **and** Repair unit in Facilities Services is currently the only unit with an apprenticeship program for its employees as part of their employment agreement with the UTK. However, the Tennessee College of Applied Technology (TCAT) offers additional programs that allow employees to participate in apprenticeship programs and technical education opportunities related to the trades.

**Leadership Development Opportunities**

Employees in Facilities Services at UTK can participate in leadership development opportunities through the campus Human Resources' LOD unit, along with UTSA EOD and in-house Facilities Services leadership training. In addition to those options, Facilities Services staff participate in leadership development with APPA, the primary association for higher education facilities managers. APPA offers two main leadership development programs: the Leadership Institute and the Supervisor’s Toolkit ([APPA, n.d.](#_ENREF_1)). These programs provide facilities management staff with facilities-specific leadership training.

**PURPOSE STATEMENT**

Current knowledge sharing practices and leadership and professional development opportunities will be evaluated against recommendations from extant literature to determine whether they are sufficient to offset the loss of institutional knowledge that facilities management departments may experience as a result of employees retiring.

**RESEARCH QUESTIONS**

To determine the best way to prepare employees for both knowledge sharing and receiving, as well as to identify the most suitable professional development opportunities for tradespeople in facilities management, and to understand how employee retirements will impact these topics, the author is seeking answers to three research questions:

1. What recommendations are available for preparing the existing workforce for a large number of retirements?
2. What professional development techniques are recommended for tradespeople in facilities management?
3. What processes exist to ensure that institutional knowledge is transferred from potential retirees to the younger, less tenured tradespeople?

The following literature review aims to address these questions.

**LITERATURE REVIEW**

This section reviews available literature on retirement, professional development, and knowledge transfer within facilities management and the trades.

**Workforce Preparation for Retirement**

Baby Boomers, born between 1946 and 1964, comprise approximately 21% of the United States workforce, and with nearly a quarter of the workforce being retirement-eligible, the impact on those employees remaining behind is significant ([Patrizio, 2024](#_ENREF_21)). To prepare employees who are not retiring for the inevitable reduction in the workforce, employers must plan for this retirement boom in advance by measuring the impact of individuals throughout the organization and identifying which employees the organization is investing in for professional development ([Stovel & Bontis, 2002](#_ENREF_29)). In facilities management, the retirement boom can lead to more space than there are people to maintain it ([Sullivan et al., 2010](#_ENREF_30)). Acknowledging the coming retirement boom is the first step employers can take to prepare their remaining staff for the future.

Retirements can significantly impact an organization's success, and to ensure continued success, employers must focus on encouraging older workers to share their existing knowledge and expertise with younger workers ([Burmeister & Deller, 2016](#_ENREF_3)). While this is a necessary step in preparing staff, it is a difficult step if there are no guidelines established for what knowledge to share. When organizations establish guidelines for sharing information between tradespeople, vital institutional knowledge is retained, and the organization and its tradespeople are more likely to maintain their spaces and develop their skills successfully ([Burmeister & Deller, 2016](#_ENREF_3)).

In addition to developing guidelines for sharing knowledge, organizations should conduct needs analyses to identify skills where tradespeople need to focus to further develop skills that may become less accessible as the older generation of employees **approach** retirement ([Hilleman, n.d.](#_ENREF_16)). Another consideration beyond knowledge sharing guidelines would be for facilities management organizations to incorporate the Bate model of action research to solve problems, diagnose organizational issues, and take action on those problems ([Pease, 2009](#_ENREF_22)). The Bate model of action research focuses on five areas: diagnosis, analysis, feedback, action, and evaluation. These action research areas intertwine to create the learning process ([Bate, 2000](#_ENREF_2)). The needs analysis and the action research model **will** lead to professional development and skill enhancement recommendations. These recommendations, in addition to knowledge sharing, can help organizations have a more fully prepared staff when the retirement boom reaches their doors.

**Professional Development of Tradespeople**

The literature evaluated as part of this review strongly suggests that apprenticeship programs are of great value in the development of tradespeople working in facilities management. Apprenticeship programs exist to enhance the knowledge and skills of tradespeople, lasting from six months to several years and focus on multiple aspects of the specific trade in which they are an apprentice ([Daniel et al., 2024](#_ENREF_7); [Farrell & Lawhorn, 2022](#_ENREF_12)). Apprenticeship programs offer younger generations of employees the opportunity to learn from more skilled and knowledgeable coworkers.

In addition to apprenticeship programs, [Sullivan et al. (2010)](#_ENREF_30), [Maqbool et al. (2024)](#_ENREF_18), [Pease (2009)](#_ENREF_22), and [Burmeister and Deller (2016)](#_ENREF_3) strongly encourage organizations to focus on training in the trades. Many facilities management departments lack a training environment that accommodates the skills-based training required by tradespeople, affecting the amount of training provided to employees ([Maqbool et al., 2024](#_ENREF_18)). Training programs allow tradespeople to acquire knowledge and skills and share their new knowledge and skills with their teams ([Burmeister & Deller, 2016](#_ENREF_3)). Without proper training environments, it is less likely that tradespeople will be afforded opportunities to grow their skills.

Career paths are one area of professional development, as outlined by {Pease, 2009 #130} and {Sullivan, 2010 #132}, that can enhance the skills and knowledge of tradespeople. {Jenkins, 2006 #287@@author-year} define career paths as a series of training and educational programs connected with support services that help individuals get a job in a specific trade or industry and advance to higher levels of employment over time. Tradespeople with aspirations of advancing in their careers can follow a career path that outlines the specific knowledge, skills, and abilities required to progress to the next level in their chosen trade ([Pease, 2009](#_ENREF_22)).

Within facilities management, there is a view that career paths to advance beyond a specific trade while remaining in facilities management are limited, which in turn reduces the number of people seeking employment in formal leadership positions in the industry ([Sullivan et al., 2010](#_ENREF_30)). This view is directly influenced by the fact that there are few four-**year education** institutions with degree-granting programs focused on the study of facilities management ([Sullivan et al., 2010](#_ENREF_30)). Without a clear career path to work in facilities management, there are fewer young people entering the industry ([Call, 2022](#_ENREF_4)), which is reducing the number of employees to replace retirees.

[Popang and Hendarman (2024)](#_ENREF_23) argue that if facilities management organizations can invest the time and finances in professional development and training programs for their tradespeople, their employees' skills and knowledge will increase, enhancing the efficiency with which work is completed and the overall perception of the department. Professional development opportunities should be offered to all tradespeople in an organization. When organizations invest in employee professional development, their employees feel valued and are likely to stay with the company ([Popang & Hendarman, 2024](#_ENREF_23)).

**Knowledge Sharing to Prevent Knowledge Loss**

Knowledge loss resulting from employee retirements is largely avoidable through the implementation of knowledge sharing practices ([Burmeister & Deller, 2016](#_ENREF_3); [Cox & Overbey, 2022](#_ENREF_6); [Sanz & Hovell, 2021](#_ENREF_25)). Establishing knowledge sharing practices is important for employee development ([Serenko, 2022](#_ENREF_27)) and continued organizational success ([Burmeister & Deller, 2016](#_ENREF_3)). The specific knowledge possessed by tenured tradespeople is often complex and difficult to transfer without formal methods.

[Sanz and Hovell (2021)](#_ENREF_25) introduced a knowledge retention framework which “provides a consistent methodology for establishing and maintaining a knowledge retention ecosystem beyond ad-hoc activities” ([p. 14](#_ENREF_25)). Their framework has three parts: 1) raising awareness and comprehension as to why knowledge sharing should occur, 2) establishing objectives and identifying stakeholders to engage the appropriate employees and ensure the organization is set up to meet the needs of the program, and 3) enhancing, understanding, and evaluating the organization’s processes and systems and whether they support the knowledge sharing program ([Sanz & Hovell, 2021](#_ENREF_25)). By implementing this framework, organizations can begin the process of retaining valuable institutional knowledge before their business is drastically impacted.

According to [Serenko (2022)](#_ENREF_27), it is essential for organizations to fully understand the importance of a knowledge sharing program in sustaining their ongoing success. A report completed by the Industrial Development Corporation (IDC) showed that organizations spent over $12 billion on work that was completed more than once ([Stovel & Bontis, 2002](#_ENREF_29)). The duplication of work is indicative of an organization lacking a robust knowledge sharing program. Knowledge sharing is vital for employees to grow their skills and knowledge, along with creating succession planning programs to prepare for attrition due to retirement ([Stovel & Bontis, 2002](#_ENREF_29)).

Employees at all levels within an organization possess knowledge that is crucial to retain ([Serenko, 2022](#_ENREF_27)). Tradespeople's knowledge of the maintenance projects they have completed and the systems in use, along with the technical skills required to complete their work, must be passed along to newer employees to ensure that an organization's tacit knowledge does not become fully depleted when employees retire ([Serenko, 2022](#_ENREF_27)). Organizations should consider implementing a knowledge sharing program to facilitate the transfer of knowledge from experienced employees to new employees.

**CONCLUSION**

When employees retire, they take the institutional knowledge they have gained over their tenure with them. To prevent the loss of vital intellectual capital, organizations should focus on implementing a knowledge transfer framework that facilitates knowledge sharing among employees. Organizations should also strongly consider focusing on developing the skills of their tradespeople to enhance their ability to work at the same level as retirement-eligible employees. Creating professional and leadership development opportunities for younger, less experienced employees will, over time, offset the loss of tacit knowledge that organizations will experience due to attrition resulting from retirement.

Organizations in the facilities management industry should prioritize encouraging their tradespeople to share knowledge to prevent the loss of critical information related to the maintenance and repair of essential equipment and systems, ensuring buildings and spaces remain operational. To do this, employers need to ensure there is a culture of trust among their tradespeople ([Serenko, 2022](#_ENREF_27)), there is support from supervisors for employees to participate in knowledge sharing ([Burmeister & Deller, 2016](#_ENREF_3)), and establish succession planning to grow and maintain the skills ([Stovel & Bontis, 2002](#_ENREF_29)) needed to prepare for the coming retirement boom. If Facilities Services administrators implement a knowledge sharing program, they will enhance the success of their department and the operations and maintenance of all systems at UTK.

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