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Improving Technology Acceptance and Adoption with Frontline Workers

The idea of change management comes up with any new implementation of a process or tool. Leaders must determine the best methods for anticipating resistance to the change and properly communicate the change to ensure a smooth roll out. However, there are many variables that are specific to technology and frontline workers.

Who are frontline workers?

They are people who work out in the field helping to keep communities running. Frontline workers are less likely to be at a desk and more likely to be outside or on their feet. They include oil, gas, energy, utility, telco, and manufacturing workers. This group has a varied background of education and geography. But many do share similarities in age and experience. The average age of frontline workers is over 50, making them nearing retirement age, also called a greying workforce. (Energy Central).

What technology?

Frontline workers are being introduced to new ways of handling work, from scheduling technicians and work orders to maintaining assets. In addition, technology including GIS, Machine Learning, and Augmented Reality are beginning to become essential parts of keeping these industries competitive, relevant, and safe.

Why is this a concern?

Suppose companies invest in these innovative technologies, but their workers leave devices on the passenger seat and do not use them. In that case, there is a loss of profits and a reduction in all the expected benefits of the technology. The technology is not only cool but is meant to make work easier to do and workers more successful.
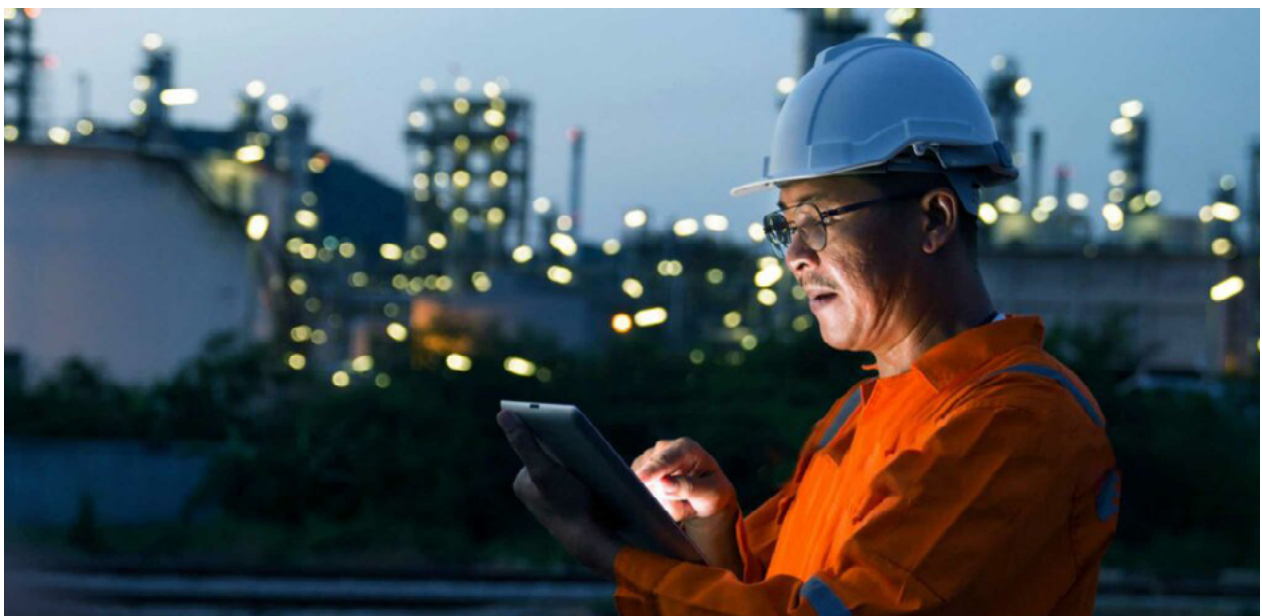
How do we improve technology acceptance and adoption?

1. Educate

One way to encourage technology adoption is by providing education and sharing information with employees. The more a person understands the technology tool, the more familiar it becomes, helping to reduce the anxiety around the change. To achieve this, management must define the new technology and explain how it will be used in the employees' daily tasks.

A great tool to reference for help to educate the workforce on the new technology is the Technology Acceptance Model (TAM).

The Technology Acceptance Model is an easy-to-follow and widely-used tool to understand the "why" in why workers are resistant to change and will accept or reject the technology and know the best ways to address it. The important aspects of this model are perceived usefulness and ease of use regarding whether or not an individual will accept new technology and whether or not it is more efficient. The reasoning between these two concepts is essential in adopting the technology, so informing staff why it is valid and easy to use is vital for getting them on board.

2. Simplify

When defining and presenting research that helps to support the usefulness and ease of use arguments, it is necessary to simplify. Taking information that is available and just spewing it at workers is not always effective; the information needs to be translated into easy-to-understand segments that are not difficult to consume mentally. Particularly in the fields of science, technology, engineering, and math, research is not easily accessible both to find as well as to read. In these fields, researchers write in a way that utilizes complicated academic jargon that is not easily understood without a significant background in that topic. One way to bridge the divide of understanding is to adapt (or "accommodate") the communication style to fit the audience. Although the Communication Accommodation Theory (CAT) has typically been used to help facilitate increased understanding in cultural settings, it is also used in organizational communication.

3. Visualize

Visual materials are another valuable tool that management can use to help improve technology acceptance and adoption. Photos, videos, and infographics are all beneficial in illustrating information in an easy-to-understand style. A method with research supporting its use is infographics. An infographic is an information graphic that includes text, graphs, charts, icons, and images.

Infographics help "concisely communicate messages to an audience" (Smiciklas, 2012, 3). Studies show that our brains can process images faster than text. Infographics communicate research in a visually more straightforward way to audiences. Infographics are an effective way to share statistics or research findings.

4. Influence

Diffusion of Innovations (DOI) is a concept that works alongside TAM. DOI "details the process by which an innovation or product diffuses through a social system" (Vishwanath & Barnett, 2011, 2). In the theory Diffusion of Innovations, influencers are discussed as catalysts that prompt technology adoption. These authorities begin a trend in new technology in different social circles. In the workplace, they can be supervisors or just respected team members. When the influencer recommends or approves a technology, their peers are more likely to follow suit. Employers should identify who their influencers are and plan to incorporate that person's opinion in the decision-making process for buying and utilizing a new technology. If they are in from the beginning, there is a higher chance they will get their peers excited about it, thus improving the technology acceptance and adoption after the roll out occurs. Utilizing influencers is a great way to encourage staff to be involved and have their peers feel they are advocated for when one of their own is a part of the decision-making process—having a technology evangelist in the workplace who their colleagues respect will prove to be a valuable asset that employers should recognize.

5. Demonstrate

Doing demonstrations and hands-on training should be an integral part of introducing the technology to workers. Allowing for kinesthetic learning makes sure that all learning modalities are supported with verbal, visual, and now hands-on information being presented. Some technologies like software can be challenging to comprehend or imagine if the person has not experienced it first-hand before being brought to the workplace.

Connecting personal examples and prior experiences to the physical tool will help make the transition for the use of AR in the workplace more manageable and less intimidating. The more prior expertise a person has, the more likely they will accept the new technology. Many researchers cite previous experience as a major factor in technology acceptance.

Therefore, providing opportunities before the official roll out of the new technology for the staff to try it out and experience it in person will help reduce

the anxiety of the change and improve acceptance and adoption. In addition, by viewing the tool as worthwhile, the individuals may be more likely to view it as applicable, increasing the likelihood of technology adoption. Showing tools and having demo days before deciding to implement them will also help get workers interested, possibly excited, and more exposed to the new technology.

6. Encourage

The fear of failure and embarrassment when learning a new skill and working with a new tool is a reality for many. Therefore, it is important to encourage staff and support them to keep them discouraged and feeling defeated when taking on this new change. If people worry, they will embarrass themselves even trying the new tool; they may avoid it and not use it entirely. This will then reflect poorly on the investment management made in the new tool.

A way to show staff that they are heard and supported is by offering ways for employees to provide feedback, share suggestions, and get more help learning on the job. Some individuals will be slower than others at learning the new technology due to their experience with similar tools, or lack thereof. Even if workers provide feedback during the demonstration, it is helpful to continue listening and providing opportunities for worker feedback. It not only makes the workers feel safer and more supported but can be beneficial for quality assurance and information that may be needed when renewing a subscription, license, or lease with devices. If there is a significant issue or recurring problem, it can be helpful for management to know. Documenting the comments from staff is useful for all parties. Furthermore, taking their comments and concerns seriously may improve upward organizational communication in the future; as a result, the organizational climate is improved.

Conclusion

When introducing new technology to frontline workers, multiple techniques should be used to help improve the team's acceptance and adoption of the tool. By properly informing the workers about the technology, how it is helpful to their job, and how easy it is to use, they will better understand the why of the technology—making sure that the technology is explained in laymen's terms and avoiding technical jargon helps everyone to understand the facts around the new tool. Furthermore, allowing hands-on interactions using the equipment or solution prior to the roll out in the organization may help create a more positive understanding of the use of improving the acceptance later. Finally, being patient with employees and listening to their feedback may not only encourage technology adoption but may move the organizational culture forward towards innovation.

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Vishwanath, A., & Barnett, G. A. (2011). The diffusion of innovations: A communication science perspective. New York: Peter Lang. develop a "concerns" lists and publish it so items can be addressed and users will see that they're being heard [GM1]