

# Leveraging the Metaverse in Knowledge Management

## The Evolution of Knowledge Management

Knowledge Management is the process of creating, organizing, sharing, and using collective knowledge within an organization that improves organizational agility, helps in quicker problem solving, effective decision making, increased rate of innovation and many more advantages.

According to Global Newswire, the global market for Knowledge Management was estimated at US\$381.5 Billion in the year 2020, is projected to reach a revised size of **US\$1.1 Trillion by 2026**, growing at a **CAGR of 19.8%** over the analysis period.

Knowledge management has evolved in leaps and bounds over the last decade and more so in the last two years in this work from home / hybrid work model. The way an individual share, seek and consume knowledge has changed drastically with the emergence of new technologies and also with everyone having to work virtually. **The need to have a strong KM system and processes hasn't changed but rather has been reinforced.** The balance or the **synergies between People, Processes, and Technologies will continue to play a major role** in the field of Knowledge Management. The technology and collaboration tools will enable knowledge transfer, and at the same time will help virtual teams stay collected. But the need for **RIGHT KNOWLEDGE at the Right Time will never go away**; Nor is the fact that People are key to share their 'insights or 'Approach'- the tacit dimension! The human factor in the knowledge management process has become even more critical in the current times. One can build great technology or platform to support knowledge sharing, but without right knowledge processes and knowledge sharing culture, the KM program will fail.

The biggest challenge in KM is to ensure participation by the people or employees in knowledge sharing, collaboration, and re-use to achieve business results. Leadership will continue to be key in setting the tone and demonstrating values. Engagement and involvement will also be vital. Knowledge sharing should be seamless and be integrated into the organizational process or workflow. **It should not be an obligation.** If People are not equipped with the right resources, trainings, they will not be able to build on and create new knowledge. Similarly, if culture is not enforcing collaboration, then the synergy of connecting minds will be lost, and thus the organization will be left behind. **Content is king, but context is God.** Apart from collecting and hosting good content, it is imperative that the content has a context of scenario and the business situations. If context is ignored, then the content can fall flat.

It is also **important that an intrinsic motivation is created amongst the users** — when an user engage or share knowledge not for external reward but because they find the activity itself interesting and gratifying — they become more likely to contribute and engage.

The Power of recognition/incentives – Everyone has good and bad qualities, but a right integrated flexible incentive/recognition program can make the organization utilize the best out of its employees. A key to success in Knowledge Management is to provide people visibility, recognition, and credit as "experts" in their respective areas of specialization—while leveraging their expertise for business success.

Another key focus area is how Knowledge Management will manage availability or filtration of critical knowledge from the mass of information that companies produce. Spending hours looking for information, which turns out to be obsolete or outdated, will lead to loss of trust among employees in knowledge seeking or consumption process. Technology can cut through clutter. KM groups can leverage next-generation tools like **Natural language processing and AI to enable interactions with company knowledge. Proper categorization of content, review of metadata used, auto-archival system, cognitive Search, Algorithms and AI can sort the** overflowing information base to provide most relevant search results. Organizations must also make knowledge transfer a priority and come up with ways to **integrate knowledge creation and collection processes into the daily flow. Knowledge contributions should be easy and seamless.**

Technology may have taken up a much bigger role in the pandemic era or WFH set-up, people centricity which is the core of knowledge management hasn't changed and will probably never change.

### [Implications of Metaverse for Knowledge Management](#)

Metaverse seems to have as many definitions as its proponents. The Metaverse is a virtual space that allows digital representations of people, avatars, to interact with each other in a variety of settings, using virtual reality (VR) headsets, augmented reality (AR) glasses, smartphone apps, or other devices.

Researchers also define it as a continuum in a spectrum of realities between virtual reality and augmented reality inside of a mixed reality environment. Whereas virtual reality generates synthetic stimuli and blocks out the real world; and, augmented reality superimposes a synthetic environment over the real world; a user in the Metaverse can comfortably navigate at will, in the continuum between the real world, an augmented reality experience and a virtual reality environment.

While academicians, researchers and practitioners may come up with their own definitions and interpretations of the metaverse, what they all agree is that it presents

disruptive opportunities from both customer experience and commerce perspective for brands and industries in the foreseeable future. In fact, Goldman Sachs expects a \$8 trillion opportunity from metaverse on the revenue monetization while Gartner reckons that 25% of people will spend at least one hour a day in metaverse by 2026.

With the younger tech-savvy population, the emphasis has shifted from mere product availability to delivering superlative customer experience. This is a key determinant that differentiates the winning brands from their competitors. Metaverse, with its rich set of usecases, provides that 'X-Factor' that not only brings to life the life-like representations for brands and consumers alike but also solve complex problems through advance techniques like Digital Twinning and 3D Modeling at competitive price points.

Significant reduction in the price point for entry will be critical for mass adoption of Metaverse. The early trend is encouraging, as can be seen in the continuous drop in prices of off-the-shelf consumer VR equipment and industry pundits predicting augmented reality experiences enabled by mobile or web-first technologies to lead the trend going forward.

Capturing and transferring tacit knowledge has always been one of the key challenges of knowledge management. The use of the Metaverse might help addressing these challenges. When you ask experts to explain how they perform a particular advanced task, they might not be able to explain/articulate in detail all the steps (tacit/embodied knowledge) or they may omit to mention some of the steps that are obvious/unconscious to them. Having an expert performing a task or making a series of decisions in the metaverse allows to collect a multitude of data regarding contextual information, human behavior, technical gesture/movement, ...The expert can be equipped with head gear, video camera, VR gloves, be speaking out loud describing what he/she is doing while doing it, being recorded at the same time, and actions/steps be converted into text in real time. These multitude sources of data will help better understanding, better capturing, better modeling, and better transferring experiential knowledge.

In term of knowledge dissemination, the Metaverse has the potential to be a powerful tool in Knowledge Management by enabling education and training of teams across industries irrespective of time, place, and available resources. In a sense, we can anticipate that what the internet did for information, the Metaverse will do for revolutionizing education and training by supporting a shared experience across space and distance. Particularly noteworthy is that the Metaverse does not dispense with the instructor as part of the learning experience. Rather, the instructor remains an essential participant in the synchronous learning experience, behaving as a true "guide on the side."

Educational and training experiences in the Metaverse can span from teaching elementary school children the intricacies of the life cycle of the butterfly, to familiarizing orthopedic surgery residents the correct sequence of steps for a total hip arthroplasty, to training machinists how to correctly weld components together.

## Applications of the Metaverse in Knowledge Management

There are several use cases of Metaverse in the Knowledge Management space as outlined below:

*Online Learning*– Imagine Medical Students of a college ‘teleporting’ in a virtual human heart and viewing interiors of a heart’s chamber and vessels with circulation of blood. This can only be possible through a mixed reality experience powered by the metaverse.

Universities have been using online platforms such as Minecraft and Second Life for improving learning experiences of students. In addition, VR simulations in the metaverse could help students in architecture and medicine practice their skills.

*Virtual Trainings / Upskilling* - Metaverse is going to provide more opportunities to organizations to create new ways of learning for their employees. 3D simulations, remote trainings by subject matter experts from across geographies will enable the employees to benefit from near-reality experiences and best-in-class knowledge.

*Gamification of Learning Programs* – In an organization, several immersive, gamified scenarios can be provided to help employees further hone their soft skills like negotiation, decision making, employee engagement, sales skills and so on. Metaverse based immersive learning can significantly enhance the willingness of the participants to contribute and thereby enhance the learning quotient.

*Knowledge Workplace* - Companies can already unlock some of the potential of the metaverse through the analysis of data from connected environments, using this to evaluate outcomes, while harnessing AI to improve and automate tasks. This can be extremely useful for manufacturing industries as predictive maintenance and knowledge sharing through virtual collaboration can help predict failures in advance.

In essence, metaverse is increasingly seeing widespread adoption as a tool that improves virtual collaboration, real-time information sharing and enabling faster and more effective decision making while ensuring enhanced security.

## Key Tools in Knowledge Management

Knowledge management tools store and retrieve knowledge, information or data and aggregate content from across diverse stakeholders and thereby enable streamlined information and data flow. Effective knowledge management tools improve collaboration, save time and resources, and help employees and executives make better business decisions. Some of the key tools of Knowledge Management include:

- *Laboratory Information Management System (LMIS)*: Software based solution with features that support a modern laboratory's operations. Key features include workflow and data tracking support, flexible architecture, and data exchange interfaces
- *Massive Open Online Course (MOOCs)*: MOOCs integrate social networking, accessible online resources, and are facilitated by leading practitioners in the field of study. MOOCs build on the engagement of learners according to learning goals, prior knowledge and skills, and common interests.
- *Content Repository*: It is a collective database of the digital documents & content created through data management processes
- *Knowledge Base*: It is a central database for sharing information and data both externally and internally within businesses
- *Knowledge Visualization*: It aims to make visual portrayals of the information to work on understanding and providing clarity regarding content and design elements
- *Elves*: An elf is an advanced version of a Bot running in the metaverse. Elves are powered by AI and can become your best assistant/coach. One of the main goals of KM has always be to provide the right information, to the right person, at the right time in the right format. Metaverse elves will be able to make this dream come true. Since they will follow on a daily basis someone activities, behaviors and preferences in both Physical world and Digital world, they will understand your needs, preferences, mood, and will be able to answer any question you might have based on information available on your corporate knowledge repositories, from the Internet and from advanced neural networks like GPT-3.

While these Knowledge Management tools contain all the required information, but Metaverse will power these tools through closer collaboration, detailed simulations and remote expert collaboration across diverse stakeholders. This, in effect, leads to richer customized learning experiences, improved decision making and better outcomes.