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Who needs knowledge?
Advances in Project Management
by Prof Darren Dalcher

Advances in Project Management [1]

Who needs knowledge?
The never-ending pursuit of understanding [2]

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Introduction

The relentless pursuit of proven recipes for success appears to inflict many occupations, professions and specialisms. One of the main questions asked in numerous conferences and masterclasses around the world often probes for magic answers and secret recipes that can be dutifully replicated. Some disciplines such as IT and software development actively boast a long-established and steady succession of adopted innovative solutions and trends, each promising transformed capabilities and consistently outstanding results. These disciplines seem ready and willing to fall in love with and embrace whatever magic solution comes next. Yet, the constant quest for a new 'best' solution betrays an ultimate inability to address the fundamental concerns, resolve the essential aspects and uncover the ever-elusive silver bullet (Brooks 1987). This article looks at the nature of the never-ending quest for knowledge with a view to developing a different interpretation of knowledge and understanding and subsequently repositioning the main focus and perspective related to how we understand, process and execute knowledge and insights.

Starting with knowledge

From a very tender age, humans are encouraged to engage with knowledge. School children are asked to collect a handful of facts about frogs, oranges, the rain, or a faraway country. Ideas, poems, verses and even model answers are frequently learned by rote. Indeed, schooling, as opposed to learning, venerates the ability to repeat replicate and recall lists, passages or facts. In a published article, Dalcher observes how the quest for knowledge has played a major part in the evolution of individuals, societies and cultures tracing the impact of three main different knowledge revolutions. However, a defining feature and characteristic has remained fixated around the ability to repeat knowledge. The early recall techniques

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developed by the Greeks, were admired and replicated by the Romans and were ultimately descended to and embedded into many European traditions.

"Other cultures and religions also celebrated the ability of trained clergy and intellectuals to precisely recount and retell stories, lessons, and facts. Over time, accuracy and repetition became the accepted measures of the goodness and quality of acquired and retold knowledge." (Dalcher 2014: p. 6)

Knowledge and its pursuit are thus regarded as a worthwhile endeavour, reflecting ancient Greek values and traditions. This can be discerned, for instance, from Socrates viewing knowledge as a virtue, denigrating ignorance to an evil; whilst Aristotle proclaims that all men (sic), by nature, desired knowledge. The long-term retention value of regurgitation of morsels of knowledge may have been challenged, but the prevalence of knowledge acquisition in the classroom as taught to previous generations still persists in many educational settings (see, for example, Conway et al., 1992; Semb & Ellis, 1994; Deng, 2022).

However, book learning, especially in sterile classroom settings, can seem disconnected and devoid of practical meaning or even real value. Abbott (2010) recalls leading an expedition of seventeen-year-old English boys from a leading UK school, to spend six weeks living with nomads in the Zagros mountains of Iran as part of a geography trip, which led him to start questioning the value of book-based learning. Sitting around the fire one night, the tribal chief said that they were deeply honoured to have the fine young men visit them, but were confused as to why they were not helping their parents with their work, and learning from them what it means to become a man. All around the campsite all members of the tribe tended to their duties and responsibilities. The Tribal Chief explained that the only way to pass his wisdom and his father's, and their survival skills to his children was by working together and discussing things with them, to ensure the knowledge acquired through his life time would continue to be shared down the line. On the Zagros mountain range, the ability to recount facts and repeat passages away from the classroom, seemed less relevant and compelling, as other skills and capabilities required for immediate survival assumed greater importance, urgency and criticality.

The problem with knowledge and the need for action

Knowledge is an intriguing concept. It is often taken as a familiarity with something, such as facts or skills acquired through experience, thought and reflection. In addition to the more explicit knowledge codified as facts, we therefore also have *know-how* related to the more practical or technical methods and techniques required for doing something or achieving some kind of effect. Know-how is more pragmatic in nature, requiring an element of judgement to determine whether our actions achieve their aims. Knowing what know-how works in practice, can lead to near-automatic replication or to further improvement in pursuit of improved adherence to our goals and objectives. Inability to obtain the desired results should lead to abandoning action or to changing our mind about how things work in practice including a practical understanding of what works and why it works and under what

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circumstances (Cavaleri & Seivert, 2005). In general terms, this equates with the lifetime of wisdom and knowledge that the tribe elders seek to impart to the younger generation through interaction and discourse.

Knowledge is clearly not enough. Philosophers have long grappled with the nature of knowledge and the act of knowing (Ayer 1956). According to Ayer, the three necessary and sufficient conditions for *knowing* are: that a given proposition is true; that the perceiver is sure of that fact; and that she has the right to be sure of the fact. In other words, knowing is presented as having the right to be sure. Speaking philosophically, knowing with certainty should therefore suffice and offer an informed basis for improved decisions.

In contested organisational settings knowledge incorporates a flux of facts, framed opinions, contextual information, espoused values, experiences and even shards of judgement and justification intermingled with explicit rules, procedures, imported practices documented artefacts and insights. A common distinction invoked between the different types of knowledge divides it into: know-what; know-why; know-how; and, know-who, reflecting a greater degree of diversity and plurality in the types and natures of knowledge. Knowledge can thus combine aspects of facts, skills, capabilities, principles, interests, connections, relationships and other forms and types of socially constructed capital.

Given that knowledge is socially constructed and embedded in practice, the act of *knowing* is a social and highly contextual phenomenon especially in organisational or team settings. It also implies the adoption of a practice-based perspective as we reconsider the meaning of knowing and learning in the wider organisational context and in communities of practitioners and actors. However, there is a significant gap between knowing and taking action, known as the *knowing-doing gap* (Pfeffer & Sutton, 1999; 2000), which seems to materialise even in organisations which spend enormous amounts of resource on collecting knowledge. Simply put, many organisations know too much and do too little, failing to take the vital step of transforming their knowledge into action. Indeed, Aristotle preached that "*the purpose of knowledge is action, not knowledge*" and Khalil Gibran observed in *The Prophet*, that "*A little knowledge that acts is worth more than much knowledge that is idle*"

> "*I have been impressed with the urgency of doing. Knowing is not enough; we must apply. Being willing is not enough; we must do.*"
> -   Leonardo de Vinchi

Action is key – knowing is not enough. Pfeffer and Sutton (2000) conclude that an organisation's culture plays an important part in sustaining or exacerbating the gap between knowledge and action. Their message is that executives must use plans, analysis, meetings and presentations to inspire deeds, rather than allowing them to act as substitutes for action. Moreover, there appears to be an even bigger and fast-growing gap between knowledge discovered through research and putting it to effective use in both practice and policy (Ball, 2012; Hulme, 2014). Hulme (2014) maintains that the failure of researchers to translate and consider tacit knowledge may be behind the lack of implementation of their research.

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Meanwhile, practitioners often apply their own tacit knowledge as discovered and honed through use; such know-how tends to be intuitive, personal, experience-based and highly context dependent, creating a widening gap between different collections and sources of knowledge (Sternberg & Horvath 1999; Nonaka, 2007; Dalcher, 2016), and thereby leading to increasingly diverging interpretations and actions.

The obsession with collecting knowledge

Human fixation with knowledge is not new. Humans have developed a long-standing habit of collecting knowledge and creating repositories of insights and other tidbits, arranged as bodies of knowledge; however, the purpose and use of such collections needs to be well understood. The purpose of collecting knowledge is to leverage it in learning, responding adapting and innovating. Yet it is important to remember that knowledge is not something which exists and grows in the abstract. This implies limited applicability out of context: Knowledge is deeply bound to its original context, which enables contextual understanding and utilisation. It is probably also strongly coupled to the time-frame when it was discovered, and hence, to the prevailing mindset. Know-how and tacit knowledge are even more situated, contextual and personal, requiring greater attention to detail.

The era of developing all-encompassing, comprehensive and encyclopaedic bodies of knowledge that need to be digested seems to be behind us. Encyclopaedia Britannica is a case in point. Britannica offered the standard knowledge repository in paper format. Printed since 1768, the 15th edition released in 2010 was the last printed edition, spanning 32 hard-bound volumes and 32,640 pages. Travelling encyclopaedia salespersons travelled around, hawking cases full of the volumes available for the scrutiny of potential buyers. Owning a copy and buying the updates, became a status symbol for any serious library and for some homes with significant personal libraries. Britannica was printed for 244 years, making it the longest running in-print encyclopaedia in the English language, whilst expanding from the initial three volumes to 32. But ask yourself, when is the last time you consulted Encyclopaedia Britannica? What has replaced it and where do you go to for new information?

Organising large bodies of knowledge provides a further challenge. The 15th edition of Britannica adopted a three-part structure. A 12-volume Micropaedia encompassing short articles of around 750 words each; a 17-volume Macropaedia of long articles ranging between two and 310 pages each; a single volume Propaedia offering a hierarchical outline of knowledge; and a two-volume index. Maintaining the structure of the resource became an architectural and logical challenge. Keeping up with digital alternatives (such as Microsoft Encarta), and later with on-line competition made it impossible to maintain the business model.

Knowledge and how we engage with it is changing: Wikipedia, a commons-developed and free-content online encyclopaedia became the encyclopaedic resource of choice due to its global accessibility, immediate relevance and navigational capability. An army of volunteers beavers away maintaining and updating the resource, which now can be marketed as an

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always-on, always-available service or enterprise. The result is that Wikipedia is now recognised as the largest and most read reference work in history and one of the most popular web resources. The encyclopaedia currently offers more than 61 million articles available in 336 languages, with around 290,000 editors. It covers breaking news and is often updated momentarily, without a need to print and bind 32 volumes offering constant and continuing relevance beyond the snapshot perspective typically associated with printed editions. Wikipedia has benefited from new capabilities and organisational models, such as online collaboration, collective intelligence, open source and community engagement to speed up and upscale innovation and open up and democratise knowledge (Dalcher, 2019a). Ultimately, it has enabled new uses and empowered users who have never accessed encyclopaedias to make it their first port of call, proving that how we organise and structure our knowledge, our purpose in using it and our expectations can dramatically change with the emergence, adoption and utilisation of new technologies and ways of working.

From knowledge to principles?

The problems with fixed bodies of fact or knowledge is that their production (especially in hard bound copies and volumes) represents a significant investment, thereby making knowledge related to a snapshot in time albeit with a rather old fashion structure and architecture that relate to the long-established constraints of publishing. It also helps to perpetuate certain ways of engaging with such static bodies of knowledge, which have proved to be extremely resistant to major transformation, encouraging instead steady development that chimes with the existing structures. However, with the demise of the leather-bound encyclopaedias, what does the future hold for other encyclopaedic, or comprehensive, bodies of knowledge?

The field and discipline of project management have been dominated and defined by explicit bodies of knowledge, often accompanied by matching certification schemes for practitioners. Much like encyclopaedias, the obsession with recording all knowledge has resulted in extensive and extremely detailed organised bodies of knowledge. Existing bodies of knowledge, such as the ones utilised by the project management profession, tend to emphasise the collective assortment of all known knowledge, hence displaying an emphasis on growing and expanding akin to that shown by Encyclopaedia Britannica whilst lacking contextual and situated relevance. Whilst they can also be used to challenge existing knowledge encouraging professional practice to reflect in new ways (see for example, (Murray-Webster & Dalcher, 2018), and the emphasis that is offered on uncertainty, stewardship, the delivery of value sustainability and extended life cycles); they still tend to be used in more traditional ways and tend to be organised, approached and read, from left to right.

Might we be able to do better? Where next for knowledge? Have some things simply become too big to know? Rather than encompass all knowledge in disciplinary silos that are carefully curated and maintained by small communities, it is possible to try to develop new ways of thinking about and engaging with knowledge and knowing. Dalcher (2016: 802) observes that

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practice is changing and becoming more attuned to contextual and situated boundaries and constraints, with greater emphasis placed on developing and supporting deliberative and reflective professionals capable of dealing with permeable boundaries, and unstructured situations characterised by increasing levels of volatility, uncertainty, complexity and ambiguity. He concludes that ultimately, the shift in practitioner development seems to be moving from reliance on fixed expectations, standards and models in pre-understood and pre-defined contexts, towards a more dynamic and reflective approach informed by the relevant context and situational needs and therefore more capable of coping with inherent complexity and uncertainty. In other words, professionals can become more comfortable with developing reflective skills related to their know-how.

Projects are unique and unprecedented by their very nature. Rather than following rules and prescription and seeing knowledge as graspable and permanent, informed practitioners seek patterns and use interpretation as they consider knowledge to be temporary dynamic and problematic. They adopt a pragmatic approach that enables them to make sense of their contexts, experiment and rely on their professional judgement (Dalcher, 2019b). This offers a perfect fit with the nature of projects.

What are the implications for bodies of knowledge? Using the Encyclopaedia Britannica analogy is instructive. Professionals do not need to regurgitate the entire leather-bound encyclopaedia. They need support in making situated and highly contextual decisions and deliberations and in order to do so, require useful principles and guidance. The guest article this month, penned by Robert Buttrick (2023), offers some insight regarding enduring lessons.

Instead of searching for prescriptions, tools and methods that one could copy, irrespective of their specific constraints, context and objectives, the set of enduring lessons encompasses ten important aspects to consider that can contribute to project success. Buttrick reflects on the enduring relevance of lessons over the past 25 years as reflected in successive editions of his book, *the Project Workout*, published by Routledge (Buttrick, 2019). The lessons are also compared to a set of enduring project management principles derived and distilled from a host of international standards and bodies of knowledge. Rather than feature large volumes of content, the enduring principles address a dozen key issues. Interestingly, there is also an apparent alignment between the ten lessons and the dozen principles, something that would not have appeared obvious from simply perusing multiple volumes of encyclopaedic text.

Focusing on principles enables discourse to extend beyond overriding key values by empowering agents to utilise the core ideas whilst deliberating and reflecting on potential courses of action, without the excess weight of every fact ever recorded in encyclopaedic tomes. Principles offer a better-organised way to consider the specific concerns typical to the project, whilst being informed by more universal insights and lessons. They also make it easier to identify and appreciate shifts in perspective and understanding that is allowed to develop over time. They can therefore underpin improved decision making and enable better-informed action.

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Trends related to working with knowledge

Knowledge has played a central part in defining society, so it would be instructive to consider the direction of travel related to its use and to identify leading trends and expectations. Knowledge presented as facts has always been highly desired, resulting in growing collections of agreed facts recorded in ever-growing volumes forming bodies of knowledge, stored in special structures dedicated to preserving the shape of such resources. But the demise of encyclopaedias, and libraries negates the rush from facts to artefacts, and suggests that the "body" of knowledge may need to become more flexible and dynamic. Moreover, in a more contentious and disputed world there is a need for alternative formats and positions – something that becomes possible through new technologies and capabilities and a growing realisation that everything is miscellaneous (Weinberger, 2007). In other words, the human obsession with collecting, classifying, labelling and organising all nuggets of information may finally be unnecessary, given what can now be achieved through digital technology and AI. Indeed, processing large volumes of insights without preconceived and imposed structures and assumptions, may allow new patterns and interpretations to emerge. Whilst we will ignore technological and capability revolutions in the rest of this article, nonetheless certain trends regarding knowledge and knowing can be discerned from both the research and the practical application and engagement with knowledge and expertise. These will be explored below with an emphasis on shifting from our long-term obsession with knowledge to more active forms of knowing, understanding and enabling action:

Radical uncertainty: Many of us recognise a more uncertain and complex world around us, which requires new ways of adjusting, adapting, thinking, organising and acting (Dalcher, 2017). Yet, our society and institutions continue to resist change. Perhaps it is time to reflect on why our structures and institutions continue to function just as they did in bygone eras. Our schools, our media, our financial structures and economic systems, our governments and our religious institutions remain unchanged. If our most classic encyclopaedia can be overhauled and replaced by Wikipedia, could we do the same for other structures and societal artefacts and discover new ways to collaborate, create and thrive?

To know is not enough: Knowledge is a beginning, but not an end in itself. Knowledge is deeply entwined with meaning, understanding and interpretation (Dalcher, 2019b), requiring new ways of reasoning about and making use of knowledge, including greater consideration of deploying dynamic capabilities (Sandhawalia & Dalcher 2011) and knowledge integration capability (Dietrich et al., 2010). Yet, if knowledge is the accumulation of relevant information and skills, and knowing is the actualisation, or instantiation, of that knowledge (Radford, 2013), *understanding* requires a deeper level of insight and engagement. You can own books of knowledge, bodies of insights and volumes of encyclopaedias; however, understanding requires the ability to see through the reams of knowledge and the understanding of where the relevant knowledge may be lacking (Pritchard, 2014), misleading or irrelevant. In other words, it is not about the blind adoption of received recipes, but the understanding of their context, limitations and applicability.

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From knowing to doing to being: Dalcher positions experimentation as a fundamental tool for innovation and learning in unknown settings (Dalcher, 2021a). The early philosophers talked about knowledge for action, implying an element of doing and learning. Major acts, such as changing the culture of an organisation require definitive action beyond knowing. Recent work on knowledge introduces a distinction between the states of knowing, doing and being in various domains and types of social practices (see for example, Snook et al., 2012; Boudreau & Fuks 2015; Clarke, 2015; Geilinger et al 2016), implying a progression from understanding, to action taking, to self-scrutiny and understanding the limitations and onto becoming. Whilst there are some differences in how the terms are ordered and applied, depending on context and philosophy, the ideas resonate with the different states of agile, namely, thinking agile, acting agile, being agile, introduced in a recent article in this series in order to continue to improve, adapt and innovate in demanding and uncertain contexts (Dalcher 2021a).

Knowledge in context: Multiple articles in the series encourage thinking in fresh ways whilst also invoking the limitations of models (Dalcher, 2023) and standards (Dalcher 2021b) in conveying and representing knowledge. Both perspectives recognise that all and any snapshots of knowledge are limited in their fidelity and representativeness and require situated understanding of the context and recognition of the limitations of such representation.

Where next for knowledge? Emerging strengths and limitations

What then are the key implications of the trends on knowledge and knowing, and how they are used?

Critical asset: Peter Drucker concluded in 1999, that a 21st Century manager would be someone who makes knowledge productive. Knowledge offers a unique resource with the potential to radically transform human endeavours. In doing so, knowledge has become increasingly more valuable to organisations, enabling a shift from counting and financing physical assets, towards commissioning, purchasing, allocating and harvesting *intellectual assets*. However, that implies a shift of focus which recognises the useful life span of valuable chunks of knowledge. Benefitting from this rearrangement requires the adoption of a more pragmatic and creative stance regarding knowledge and its potential value. More critically, knowing rather than knowledge, is a more active capability that can be usefully deployed in supporting strategic activities and progressing from knowledge to action.

Mobilising knowledge is challenging: Whilst recognising that knowledge assets are rapidly becoming the most precious source of competitive advantage, many organisations are attempting to transfer "best practices", only to discover that such practices remain stubbornly immobile and subject to a multitude of barriers to knowing (Szulanski, 2002). Such 'stickiness' implies that information used in technical problem setting is costly to acquire, transfer and utilise in a new location (von Hippel, 1994). Indeed, drawing on previously acquired or validated sources requires fresh local contextualisation and integration. In essence, utilising

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what we know requires challenging the remaining validity of our insights, assumptions and perceived applicability of both knowledge and knowing. The shift from knowledge to knowing and understanding is not simple especially at the organisational level.

Knowledge decays: Most forms of knowledge degrade and decay over time, losing relevance and fidelity. This has led Peter Drucker to observe that "*Knowledge is different from all other resources. It makes itself constantly obsolete, so that today's advanced knowledge is tomorrow's ignorance*". Knowing may similarly deteriorate with time, unless active connections and resources are employed and experimentation is utilised to continuously refresh, revalidate and make sense of our ongoing experiences and encounters with an ever-changing and increasingly fragile, uncertain and turbulent reality.

Recognising that knowledge is a valued asset should be understood as a fundamental prime principle, central to the effective delivery of services and the development of organisational capability. Recognising the half-life of such a resource is indicative of strategic and timing sensitivities in organisational settings. In positioning knowledge as a strategic intellectual asset, we must therefore undertake to question, experiment, preserve and enhance its value over time, in order to enable organisations to continue to engage with the radical uncertainty and turbulence that they encounter. Rather than seek to idolise the bound leather volumes that adorn and decorate our institutional walls and create permanent boundaries, we must instead learn to deploy and act on knowledge, know-how and understanding in a timely, deliberative and strategic fashion that will allow us to continually experiment, learn and adapt to an ever-changing context. Therein lies the real value of knowledge, knowing and understanding that can empower action and sustain achievement.

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