
Practical Knowledge is an Undervalued Asset

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"Practice makes perfect" is a well-known saying. Practical experience or *experiential knowledge* is continuously acquired by human beings as a series of direct and indirect occurrences. We experience, undergo and feel things; in other words, something happens to us. This is a holistic sensation whereby something is received or perceived by all of our senses. We experience an abundance of impressions; not only intellectual, but also emotional. This becomes the experience-based or experiential knowledge that is acquired by humans analogically. It differs fundamentally from the digital knowledge that is acquired by machines.

Human experiences are contextual and relate to time and place, people and situations. They are initially *systemic* and not *selective* – also systemic when stored in our memory, the bedrock of our knowledge. Over time, countless experiences are accumulated – both good and bad – and leave impressions on us, and a lasting imprint on the human character.

This 'evolutionary' aggregation of experiential knowledge is fused with theoretical or textbook knowledge. In this way, abstract knowledge is subjected to a reality test and, so to speak, validated. In the world of work such an entity of empirical knowledge can be embodied in a person with seniority or professional experience. This enables practical experience to be passed on to others. This technique has been successfully practiced for hundreds if not thousands of years in crafts and trades. The master craftsman, an experienced senior, passes on their experiential knowledge to the apprentice.(1) This ensures the cross-generational transfer of professional knowledge.

JACKS AND JILLS OF ALL TRADES, MASTERS OF NONE

Today, this tried and tested cultural technique is being turned on its head. In fact, it becomes absurd when so-called *management consultants*, often juniors without any practical experience and only instilled or textbook knowledge, are let loose on corporate clients. These clients are often qualified seniors with appropriate professional experience. Whereas the junior, self-styled expert, more appearance than substance, a purveyor of slogans and buzzwords, deigns to impress with over-simplified, one-sided concepts, and exaggerated promises to justify exorbitant fees.

In order for an experience to be fruitful, the recipient needs to be alert, receptive, open-minded, willing to learn, be appreciative, respect the situation, its substance and the people

involved. Critical reflection is essential because it is responsible for coordinating our experiences within a framework of personal values. Humans process those experiences as part of their personal development, which enables us to establish subjective truths and draw conclusions.

FORMATIVE EXPERIENCES ARE POSITIVE OR NEGATIVE

Unfortunately, formative experiences may also be negative ones. In fact, anyone who has experienced the ruthless and reckless 'leadership culture' of some modern corporations can testify to that fact. Cumulative negative traits (egoism, back-stabbing, scheming) are regarded by some as the key to a 'successful' career. This attitude can spread as cliques and cabals evolve and self-proclaimed elites emerge. And when such negative traits spread, corrective action is needed: a paradigm change in the learning culture. This can be achieved, for example, by consciously choosing positive role models (ethical and successful leaders). Some can be found among the business leaders of the *mittelstand* (small to mid-size enterprises).

Whenever contextual knowledge is passed on as practical experience by the master to the apprentice, a wealth of knowledge is retained within the business, and is continuously enriched by further experiential knowledge.

Although organization knowledge may not be accounted as an asset, it can be more valuable than registered patents or intellectual property. This also applies to those employees who embody such knowledge. And that is precisely why it is vital that experienced specialists are appreciated and valued by corporate managements. After all, they are the ones who embody the intelligence and competence and reflect the inherent worth of the business, not the CEO or the share price.

WHAT GOOD ARE OLDER EMPLOYEES?

In spite of the lip-service paid to the shortage of skilled workers, it is still a farce how badly the true bearers of professional knowledge are treated. Driven by the short-term profit motive, corporate executives and human resource managers are still pushing thousands of older (most experienced) employees into early retirement. Apart from the desire to cut payroll costs, another motive is the fact that younger employees are more malleable. At the same time, managers don't like older subordinates who know more about the business than they do. Early retirement often has the dubious support of trade unions and is encouraged by governments who offer tax and pension privileges. Early retirement programs are neither wealth creating nor wealth extracting – they are wealth destroying. They destruct human resources (a commercial asset) and economic wealth that is worth billions.

The short-term consequences are also dramatic. A lack of acquired practical knowledge can financially turn a promising major project into a bottomless pit. Practical experience is essential for commercial success, especially in projects of a multi-disciplinary or international nature. Experiential knowledge is also the systemic linchpin without which everything can easily fall apart. It becomes all the more urgent as the training of young graduates from universities and technical colleges becomes increasingly specialized and thus more

fragmented. In reality, the tasks and problems of multi-dimensional projects cannot be solved by collecting facts; complex problems often require solutions based upon sound judgement, intuitive and emotional intelligence – and, above all, experience.

WHAT GOOD IS COMMON SENSE?

On a cross-border international railway project, experienced project engineers will know that it makes common sense to make contact at the beginning of the project with the foreign regulatory authorities. Making first contact when delivering the completed project, although formally correct, will almost certainly result in subsequent lengthy and costly delays. This is a good example of the benefit that can be gained when practical experience and common sense go hand-in-hand.

Experienced project engineers will also know that in a hot summer, when a train enters a naturally cooler tunnel, condensation water will form and can result in an electrical short-circuit, which will bring trains to a standstill. However, if those experienced engineers are retired early, that experiential knowledge is lost and their learning curve will have to be repeated by others, which causes unnecessary delay, great expense, and considerable annoyance.

EXPERIENCE IS HOLISTIC

Interpersonal communication is the key to sharing experiences. Unlike knowledge which can be conveyed, experience cannot be transferred unless it can be implanted, assimilated and rooted. Synchronous practical knowledge, formulas, and social behavior that relate to tasks and situations can only be properly conveyed to others unless against the background of the complete experience.

APPS CANNOT CONVEY PRACTICAL EXPERIENCE

The traditional techniques of passing on practical knowledge to others have, for some time, been in competition with 'modern' methods of knowledge processing and knowledge transfer. In addition to lexicographical tools, so-called corporate wikis (based on Wikipedia) are increasingly being used.

In the name of supposed process-efficiency, many corporations have dissolved organizational hubs where knowledge was exchanged. However, recently these corporate managers have realized that something essential has been lost. They are instead introducing IT systems for the exchange of practical business knowledge, which they call a 'corporate memory' – a sad attempt to replace the earlier generic, organic and proven traditional processes for exchanging knowledge. It is an attempt to replace people by technical systems with programmed 'analytic' capabilities – which are fed with a mass of retrieved knowledge.

The negative consequences of this modern method can be demonstrated by an exemplar from the workshop of a premium automotive manufacturer. An experienced master mechanic, who listens to an unsuccessful attempt to start a luxury car, hears a clicking sound and concludes:

"The starter motor is broken". The younger newly qualified mechatronics fitter, connects the car to a diagnostic system. A whole 36 (!) hours later, the diagnostic system reports on the display: "Possible starter motor fault." The final score is 1:0 for experience and common sense. Using the computerized method disadvantages not only the customer, who has to pay extra for the diagnosis, but also disadvantages the 'expert' mechatronic technician, who becomes increasingly distant from their profession, and are denied access to systemic experiential knowledge and opportunities to gain practical experience.

THE COMPUTER SAYS ...

As helpful as computer-aided systems can be, nothing can replace the personal transfer of knowledge based on practical experience that has passed a litmus test. That is why practical knowledge should be a criterion for the appointment of university lecturers; from the academy into the academy is a short-cut which is damaging in the long-term. Early years working in "industry" and real-world professional practice were once an enrichment and still are.

It is sometimes said that experience is outdated knowledge. However, that is only partially true. If you have the right attitude, you will subject practical experience to a continual process of regeneration in a sequence of life-long learning. That knowledge will be updated and synchronized with new experiences. In that sense, experiential knowledge is dynamic and includes the experience of processes as such, and in particular, the experience of how to manage the new and unexpected.

EXPERIENTIAL HUMAN KNOWLEDGE VS MACHINE KNOWLEDGE

Ultimately, the question of whether we want to replace human knowledge by machine knowledge is also a question of what kind of future we want, intellectually and culturally.

Depending on cloud databases, algorithms and smart devices, also means depending on an oligopoly of business corporations (and their few owners) who control the way that knowledge is generated and distributed. That is not a promising option. Instead, we can continue to place value upon people with practical experience (real experts), and recognize the transference of knowledge within our society as a most valuable social act, and uphold the tradition of cross-generational, experienced-based learning, which is the true foundation of all advanced cultures and prosperity.

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(1) There is an old saying in German, which roughly translated means, "Master craftsmen are made, not born".