COLLECTION, STRUCTURING, AND REFINEMENT METHOD FOR MACHINISTS' TACIT KNOWLEDGE

Tacit knowledge is invisible expertise tied to a professional's actions. Tacit knowledge is usually noticed only when a person leaves their position, such as through retirement or changing jobs. In fact, this knowledge is a company's most valuable asset and a significant risk if it is not identified in a timely manner.

TACIT KNOWLEDGE AS A COMPETITIVE ADVANTAGE FOR THE COMPANY

Productivity is the foundation measured by the ratio of actual machine hours used to potential hours (OEE metric). The breadth/depth of expertise becomes evident in how well an individual operates a machine or cell and, especially, how they handle disturbance situations and recover from them. The OEE metric shows where the hours were lost, but the role of expertise remains hidden in tacit knowledge. The more automated the manufacturing, the more critical it is to manage professional performance. Different individuals in the machine shop have different levels of expertise, and by identifying them in detail, performance can be improved. Even the pricing and costs of a company's products depend on the distribution of expertise among the entire staff.

WHERE DO THE TOP PERFORMERS ALREADY SHOW? HOW DO YOU BRING ROOTS INTO VIEW?

In almost every machine shop, a group of top professionals stands out, solving various problems every day to keep production running smoothly. When something is stuck somewhere, progress is slow, settings are challenging, or demanding new parts are put into production, or investments are made in a new production cell, or how to keep all machines running smoothly. New employees are also brought in. Many things are routine for top professionals, so it's difficult for them to transfer knowledge. The competence map offers a transfer system for this.

HOW TO MAP AND APPLY TACIT KNOWLEDGE?

Mapping of expertise requires a structured template that makes knowledge visible around a specific theme or expertise element through discussion. Mapping provides a detailed overview of the strengths of different expertise areas for an individual, but from the machine shop's perspective, it is most important to understand the distribution of professional competence across the entire staff. Mapping identifies invisible productivity bottlenecks, the roles of different employees in problem-solving capabilities, and the company's ability to cope with change. The method is learned through practice, for which we have a trainable process and the tools it requires.

A large number of top professionals are retiring from the industry, and significantly fewer new professionals are entering. Companies are already bringing in foreign labor, whose expertise needs to be adjusted to the country's own working methods. The identification of tacit knowledge is a lifeline for companies in constant change. The potential of the production machinery remains untapped if tacit knowledge is not identified. Tacit knowledge is part of cost competitiveness.

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Planning of the Competence Mapping program

STAGE 1

Identify current situation by mapping the pilot group

STAGE 2

Conclusions and learning from pilot
+Planning the next steps

STAGE 3

Implementation of extended competence mapping and transfer the mapping process to the firm

STAGE 4

Applying competence relations to productivity and innovation

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Our Offering for Transferring Tacit Knowledge

Kick-off Meeting

- Preliminary Planning
- Agreement on the Pilot Group
- Agreement on Further Actions and Costs

Phase 1 – Current State Mapping with the Pilot Group

- Current State Analysis
- Pilot Group's Competence Mapping
- Company's Identified Needs
- Operating Model (Machine Shop's Investment Mass, Personnel/Roles in Production, Product Complexity)
- Systems (CAM, NC Controls, Operations Control, ADV, ...)

Phase 2 - Handling of Competence Information and Expansion Plan

- Action Proposals Based on the Pilot – Sharing Experience
- Analysis of Competence (Strengths, Training Needs, Risks)
- Acquisition of Tools for Competence Management (Minimum: Competence Map, SW License)

Phase 3 – Expansion of Mapping and Transfer of the Operating Model to the Company

- Mapping of the Skills of the Extended Group
- Statistical Utilization of Mapping Data (Company, Instructors)
- Linking Competence to Competence Areas Through a Pricing Model
- Transfer of the Method to the Company's Use

Phase 4 – Competence Result Management

- Planning of Individual Training Paths
- Making the Automation Specification Capability Visible Through Transformed Tacit Knowledge
- Needs for Company's System Development and Operating Model
- Benchmarking of Statistical Data for Parallel Manufacturing Companies
- Technological Development According to the Company's Needs