

Negative Knowledge
By: David J. Teece

Definition:

Negative knowledge is awareness of what not to do or of paths to avoid. Such knowledge often results from direct experience.

Cross-References:

tacit knowledge, knowledge assets, learning by doing, learning from failure, organizational knowledge

Keywords:

knowledge, experience, learning, failure

Classifications: knowledge aspects of strategy; organizational theory

negative knowledge

Negative knowledge is one of the two types of learning that an individual or organization acquires from experience. Whereas the focus of most experiential learning is typically on discerning “what to do” (positive knowledge), it can be heuristically valuable to take note of what not to do (Minsky, 1994; Gartmeier et al., 2008). Negative knowledge is thus a

form of learning about actions and paths to avoid, typically learned from one's own (or from others') mistakes.¹

Negative knowledge is a type of metacognition involving knowledge *about* strategies and about the conditions under which they will be effective (Pintrich, 2002). The possession of negative knowledge reduces the uncertainty surrounding the choice and execution of a strategy.

Knowledge of a strategic or technological “dead end” can be a valuable asset, allowing one to economize on future efforts in innovation or strategy formulation by eliminating those that include the known blind alley. Knowledge of past failures (“this approach doesn't work”) can help steer resource allocation into more promising avenues (Teece, 1998; 2000). For this reason, issues of embarrassment aside, firms often find it desirable to keep their failures as well as their successes secret.

Negative knowledge is initially accumulated by individuals. Studies suggest that how organizations manage the negative knowledge of their employees affects performance. In particular, organizational “error management cultures” that encourage communication about errors and their rapid detection, analysis, and correction are associated with better outcomes (van Dyck et al., 2005).

¹ Negative knowledge is sometimes defined more broadly. Parviainen and Eriksson (2006) identify four features of “negative knowing”: to know what one does not know; to know what not to do; unlearning and bracketing knowledge; and failures and mistakes. The second and fourth are clearly linked to the definition used in this entry. The other two add an understanding of the scope of the knowledge needed by individuals or organizations to achieve their goals.

Likewise, the steps needed to steer groups away from erroneous paths may need to be conceived and implemented at a group, rather than an individual, level (Edmondson, 2004). This is particularly important in circumstances of interactive complexity that have multiple, nonlinear causal linkages (Perrow, 1984).

References

- Gartmeier, M., Bauer, J., Gruber, H., & Heid, H. (2008). Negative Knowledge: Understanding Professional Learning and Expertise. Vocations and Learning 1 (2), 87-103
- Minsky, M. 1994. Negative Expertise. International Journal of Expert Systems, 7 (1), 13-19.
- Parviainen, J., and Eriksson, M. 2006. Negative Knowledge, Expertise and Organisations. International Journal of Management Concepts and Philosophy 2 (2), 140-153.
- Perrow, C. 1984. Normal Accidents. New York: Basic Books.
- Pintrich, P. R. 2002. The Role of Metacognitive Knowledge in Learning, Teaching and Assessing. Theory Into Practice 41 (4), 219–225.
- Teece, D. J. 1998. Capturing Value from Knowledge Assets: The New Economy, Markets for Know-how, and Intangible Assets. California Management Review 40 (3), 55–79.
- Teece, D. J. 2000. Managing Intellectual Capital: Organizational, Strategic, and Policy Dimensions. Oxford: Oxford University Press.
- van Dyck, C., Frese, M., Baer, M., & Sonnentag, S. (2005). Organizational Error Management Culture and its Impact on Performance: A Two-Study Replication. Journal of Applied Psychology, 90 (6), 1228–1240.
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