New business tool reveals star products

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Making every decision smarter: Dr Alessio Ishizaka. Credit: University of Portsmouth

Expert decision analysts have turned one of the ABC's of business on its head and devised a brilliant new tool to help improve the bottom line.

The tool takes a novel approach to problem-solving by switching the focus away from the conventional ranking of products according to an

ABC ranking based only on turnover, and instead looking at products against multiple factors.

The MACBETHSort tool cuts the time companies need to spend making major product decisions; helps ensure the decisions taken are better; makes decisions easy to communicate to staff; and, critically, improves the bottom line.

Professor of Decision Analysis Alessio Ishizaka and Maynard Gordon, both of the University of Portsmouth, published their research in the Journal of Operational Research Society.

Professor Ishizaka said: "Decisions in business are often of huge importance and the first step needs to be to define the problem. Traditional decision-making tools rely on giving products a grade, from A, B, or C.

"You can understand why such a simple tool might be popular with busy managing directors, but it's too simplistic to be very useful in the end.

"MACBETHSort supports decisions, rather than makes decisions, so the quality of the result will always depends on the quality of what you tell it. If a decision-maker has no idea about the business, then no tool can make miracles or give good advice. But if the decision-maker has a sound grasp of the business and a clear vision about its future, the MACBETHSort tool can make an enormous difference to the [company](#)'s bottom line."

The researchers tested their sorting tool on a medium-sized company which manufactures and sells worldwide a small range of doors.

The company's products ranged from the simple turnstile to a high-end bespoke break-out door for panic rooms.

In common with many SMEs, it had not used a decision-making tool before and had relied more on instinct and understanding of the market, than on science of classifying products according to their strategic importance.

To test the new tool, the managing director was asked first to list their key criteria for a successful product and decided they were:

- Speed – how quickly can it be manufactured;
- Flexibility – how easily can it reconfigured to meet the needs and laws of different countries;
- Return on Investment – profit margin;
- Market share – how competitive is it;
- Dependency – how dependent is it on specialist versus generic components;
- Production – how complicated is it
- Skill – how skilled does the workforce need to be
- Labour- how many people are needed to produce it.

He was then asked a series of questions, including which criteria were most likely to move a product from good to excellent.

By going through a relatively complex set of ratings, it emerged that staff skill and labour were of least importance because of the abundance of workforce at all skill levels; that the humble turnstile was a middle-league product for the company, not as predicted a lower league one; and that although the all-glass door was ranked in the middle league, it was lifted into the top league – the products most worthy of the company's time and attention – because it has a high market share and is the company's cash cow.

The rating, sorting and adjusting took a few hours, with specialist decision-making analyst's help.

The result, for the company, was excellent.

Professor Ishizaka said: "We discussed the outcome with the company later and it was clear they were impressed. They'd noticed a significant reduction in time and effort in their decision process, they felt the quality of their decisions was improved, partly because they had a clear and consistent benchmark, and the decisions about production were clear and easy to communicate across the company."

More information: Alessio Ishizaka et al. MACBETHSort: a multiple criteria decision aid procedure for sorting strategic products, *Journal of the Operational Research Society* (2016). DOI: 10.1057/s41274-016-0002-9

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