

a measure of innovation

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At last Innovation is really on the senior management agenda – now it is time for companies to gain competitive advantage through the deployment of innovation tools and adoption of innovation measures. GGI's study into the body of knowledge on innovation tools has identified over 50 'accessible tools' – but which ones are the best? There is no 'one-size-fits-all' but the imperative is to adopt now, don't wait until your competitors have mastered innovation before you.

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Since the 1970s, when US and Europe first felt the impact of long standing industries moving offshore, and found that some of the most innovative products were now coming out of Japan, there has been a fundamental concern that the traditional, sequential, innovation model was no longer the most competitive or efficient.

Yet, rather than meeting this challenge of 'better, faster, cheaper' products by tackling the innovation process head on, US and European companies spent the best part of the past three decades 'fixing' and eliminating the 'fat' from first distribution and then manufacturing. Undoubtedly, these efforts have been generally successful with businesses typically seeing massive improvements, often by a factor of 10, in reducing delivery and manufacturing lead times. But, during this same period, progress on 'fixing' the far more complex task of rapid and effective innovation has been far less impressive, with most companies seeing little improvement.

In fact, despite the long standing concerns, until relatively recently there has been plenty of re-labelling and buzzwords, but very little has changed.

However, at last, Innovation now appears to be a clear priority for US and European businesses. The reason why this can now be declared with such certainty has nothing to do with yet another survey reporting managers' wishful thinking, but recent research undertaken by Goldense Group Inc (GGI).

The basic market economy laws of supply and demand exist in all areas, and this states that supply increases when there is a growing demand. Well, there is obviously now a real demand for products and services that help companies to innovate, as there has been a massive growth in the creation of tools, invention of methods, development of software programmes, and consultancy aimed at helping companies improve their ability to innovate.

GGI's study into the body of knowledge of 'innovation' found that before 1970 there were only essentially three tools available on the subject on innovation; Mediation, Yoga and De Bono's Lateral thinking (Six Thinking Hats). While TRIZ existed, this only really became readily available in the mid 1990s outside of Russia.

This overall situation did not change greatly until the late 1990s. But, by 2001, a re-inventory of the world found 63 readily accessible innovation tools. The most recent inventory, carried out in 2006, has found 52 readily accessible tools. The key words here are readily accessible. There are many more tools around, but these are not really available for companies to access and implement.

The movement already seen in the market between 2001 and 2006 further confirms the recent growth in demand for innovation knowledge and tools 'that work'. As always when people start inventing products to meet a real demand, there is a large fall out, and some consolidation, and it was found that between 2001 and 2006, some 36 innovation tools were discontinued, dead on arrival, because they obviously had no application. Whilst, during those 5 years, 17 new tools were invented, with the jury still out on these.

tools for innovation

However, the research has gone much further than just counting available tools, and in the process proving that there is now a real demand for Innovation knowledge and change.

GGI believe that the population of innovation tools fall into four categories;

- 1) Tools for self-help - these would include Yoga and Mediation, which enable people to make personal breakthroughs.
- 2) Tools with an emphasis on sharing domain knowledge - for instance, if someone thinks of something, the tool enables the individual to share that thought with others (such as De Bono's Six Thinking Hats).
- 3) Tools with an emphasis on sharing and structuring domain knowledge - for instance, a simple example of this is the KJ method, whereby people put their ideas on post-it-notes, which are then placed on a board and arranged into logical groups. This can also be done through software, where individuals have their own innovation brainstorm, and all ideas are then typed in. Then once collected these ideas are sorted and organised by the group as a whole.
- 4) Tools with an emphasis on sharing, structuring and increasing domain knowledge - TRIZ is a prime example of this. Another example of an innovation method in this category is Lead User analysis.

Moreover, as well as gathering this body of knowledge on the tools available, the research findings have also been analysed in a number of ways; in order to provide the sort of information that senior management need when deciding whether to bring a tool into a company. For example;

The 56 tools have been assessed in terms of cost of ownership; from meditation, which requires just a few dollars to 'buy a rug', all the way up to TRIZ which can cost \$300K - \$1 million.

They have been analysed by what shape they come in, for instance;

- the 'manual,' options that require cards (or post-it-notes), with minimal support (no consulting required, just a manual or book – or the rug!)
- stand alone, personally based, software application on a machine; such as outliners, sketchpads and text manipulators and brainstormer applications)
- tools that are web or server based and enable group thinking. These include tools such as TRIZ or the Invention Machine.

Another parameter that the 56 tools have been analysed on is the length of time it takes for them to be taught to an organisation. By multiplying this time, by the number being trained and the cost of the consultant, this helps provide a ballpark people cost – as opposed to the initial cash cost for the tool or software.

Basically, in this context there are three groups;

- 1) The tools that can be learnt within 5 working days: These run from sketchpads all the way up to De Bono's lateral thinking tools.
- 2) Tools that require up to 15 working days to learn: These include one of the most interesting tools that discovered, which is from Creax.
- 3) Tools that require more than 15 days to learn: As well as TRIZ, and similar complex innovation products, Lead User Analysis has also been put in this final grouping. While this is a relatively simple concept to understand, it tends to be counter intuitive to how everyone thinks customer requirements should be gathered. Therefore, the time required to 'un-brainwash' people and figured out how to successfully apply the approach can easily stretch beyond 15 days.

At this point, the most obvious next question, which always gets asked, is which tools give the best results? There are a number of answers to this.

First, it is clear that some tools have stood the test of time, such as De Bono, TRIZ and Meditation, and so these have to work and provide value. But equally, they are not the right or complete solution for everyone, and every situation, otherwise there would not be any other tools around.

Secondly, most of the other 56 tools analysed are leading edge and have not been around long enough (in terms of 3 year product development cycle times) to enable anyone to determine how effective these are. Although, as a step towards improving the understanding of who and where these tools are being deployed, GGI's next bi-annual New Product Development survey will ask respondents about their usage, and frequency of use, of any of the 56 tools.

Now, neither of these is the direct answer that most managers want. Naturally, what is wanted is a list of the 'five tools that produce the best results in terms of improving innovation'.

Yet, the fact that this is not yet possible to provide, due to the lack of data, should be recognised as the opportunity it is. If there was a straight forward 'use these five tools and you can not go wrong', then every company would simply adopt them and the chance of using them to gain competitive advantage over others would be lost.

Whereas, at present, the real benefit of the research (and the innovation workshop that details the research findings) is that it makes it far easier and less risky for managers to act now. They can gain a clear starting point of what tools exist and major costs and application indicators, and while there may be some false starts, there is also the potential of being an early adopter of a major innovation tool, and so gain the huge advantage that comes from applying effective tools that few others have.

measures for innovation

However, as well as the rapid growth in tools and methods, there is another major 'innovation' change taking place that managers need to be equally aware of.

There is one hurdle that has typically stood in the way of innovation's importance being fully recognised, and a key reason why for much of the last 30 years there has not been the right level of focus. This is the lack of financially accepted measures of innovation.

Even today, the vast majority of US and European countries are still financially driven – through the balance sheet – in terms of property, plant and equipment and physical inventory. Whereas Innovation, in terms of intellectual property, patents, trade marks, is not financially valued.

However, thanks in part to the growth of the software industry, and the growing appreciation of intangible assets (with companies now paying huge multiples of earnings for companies, such as Google, that have few physical assets, only intellectual assets) there is a big change starting to take place in relation to innovation metrics.

What is going to happen in the next few decades – it will be slow as accountants do not do anything rapidly – is that the laws for presenting corporate assets in financial statements and to financial institutions will start to change, and this will lead to line items in financial statements that will value patents, patent portfolios, trade marks, copyright, even trade secrets (un-registered intellectual property). In fact, it is predicted by many that if today's balance sheets are 90% physical assets, then in 20 to 30 years this will flip completely to be 90% intellectual assets.

This is a major area of metrics that senior managers must understand and be aware of; not only the ability of the company to innovate and generate intangible assets, but also the ability to measure these assets accurately.

At present, sales due to new products is a good short term measure of an ability to innovate, as can be number of patents, although this can be far from accurate if a company does not want to patent its ideas. But, these are not the refined measures that will be needed on the balance sheet in the long run. What will be needed is a new level of measures; for instance companies will need to be able to view invention and innovations differently and have a common benchmarking term for each.

In conclusion, trying to match the companies in Japan, Korea and now India and China, and their ability to innovate faster, has already taken 30 years. It may take another thirty years for US and European companies to complete the task. But, just as they now need to be thinking about the

innovation tools that may give them some competitive edge over the next 5-10 years, they must also start thinking about the innovation measures that will be required to establish their long-term success.

about the author

Bradford L. Goldense is Founder and CEO of Goldense Group, Inc. [GGI], a twenty-year old Needham, Massachusetts consulting and education firm concentrating in advanced business and technology management practices for line management functions. Mr. Goldense has consulted to over 200 of the Fortune 1000 and has worked on productivity improvement and automation projects in over 500 manufacturing locations.

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