Indonesia Now:
Business Opportunities and Success Strategies
- Featuring Singapore Case Studies -

20th May 2010   *Register NOW at www.ebis.sg*

Contents

Productivity & Innovation

Disclaimer

The contents of this Report, including news, quotes, data and other information, is provided by EBIS and its third party content providers for your personal information only, and is not intended for trading purposes. Contents stated in this Report are not appropriate for the purposes of making a decision to carry out a transaction or trade. Nor does it provide any form of advice (investment, tax, legal) amounting to investment advice, or make any recommendations regarding particular financial instruments, investments or products.

Neither EBIS nor its third party content providers shall be liable for any errors, inaccuracies or delays in content, or for any actions taken in reliance thereon. EBIS EXPRESSLY DISCLAIMS ALL WARRANTIES, EXPRESSED OR IMPLIED, AS TO THE ACCURACY OF ANY CONTENT PROVIDED, OR AS TO THE FITNESS OF THE INFORMATION FOR ANY PURPOSE. Although the EBIS makes reasonable efforts to obtain reliable content from third parties, EBIS does not guarantee the accuracy of or endorse the views or opinions given by any third party content provider. This Report may point to other Internet sites that may be of interest to you, however EBIS does not endorse or take responsibility for the content on such other sites.

What is Productivity?

Productivity is a ratio to measure how well a company, individual, industry or country converts input resources such as labour, materials, machinery, etc., into goods and services. Generally, productivity can be measured in ratios of the various factors put into the production process (inputs) to the products obtained through this process (outputs), with the most efficient use of available resources without wastage.

Productivity can be illustrated by using the productivity conceptual model below. The model takes the form of a 'productivity tree' – input resources are denoted by the roots of the tree, while the leaves, flowers and fruits are the outputs of production.

Productivity does not equate to working longer hours or sacrificing rest and recreation time to meet increasingly demanding targets. It should also not compromise the quality of goods and services. Productivity is about working smarter, in shorter hours, yet yielding results that exceed expectations. Hence, the successful management of this process is ultimately the key survival for companies, and should be among their top most priority.

Productivity Conceptual Model

Increased Volume
Able to reach wider market

Improved Services
Better delivery, better quality, better output.
Better benefits to customer.

Reduced Costs
Lower unit cost.
More profit or more sales.

OUTPUTS

CONVERSION PROCESS

INPUTS

Materials
Quality, quantity of input materials

People
Correct skill levels, age, mix.

Systems
Procedures to ensure organization can undertake conversion process efficiently

Tools
To undertake the work efficiently

Knowledge
People with experience and expertise in the appropriate areas of the business

Management
Skill, ability and leadership style.
Right calibre and competence.

Equipment
Up to date and fit for purpose

Processes
Processes adopted, the technology employed, the systems used.

Skill
Trained and developed for the purpose

Attitudes
Ability to adapt, cooperate, change.
Resourcefulness and motivation.

Source: Productivity improvement. (2010). Retrieved May 3, 2010, from http://www.accel-team.com/productivity/productivity_01_what.html
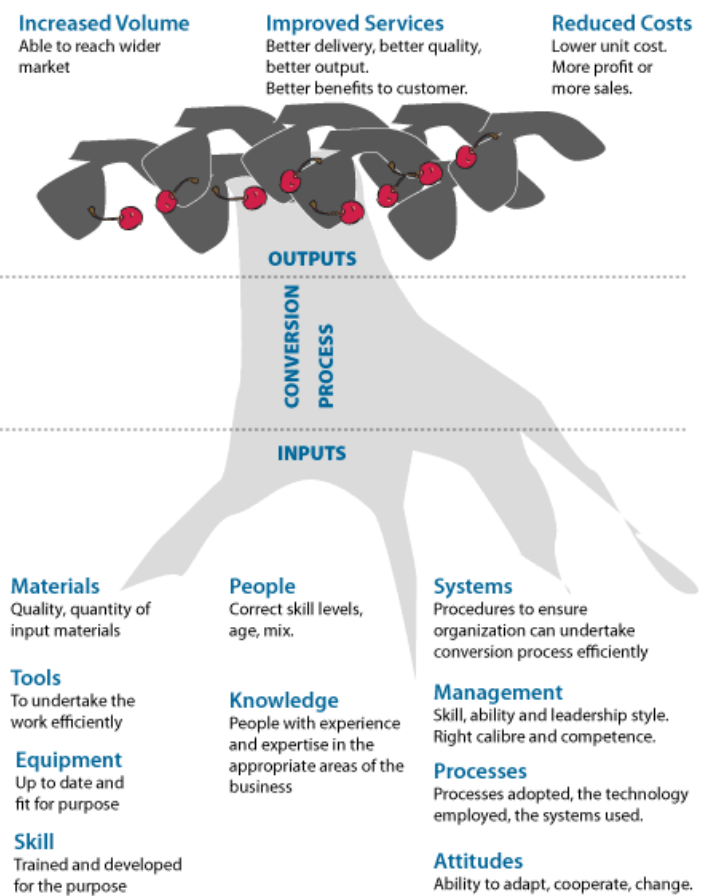
Improving Productivity

Productivity level can be improved by reviewing the design and composition of the products and services that are offered regularly, and modified according to the needs assessed. If such modifications are deemed to make production easier, costs should be lowered and the production process should be accelerated. Productivity will then increase, in shorter time with lesser amount of input at lower costs.

Meanwhile, technological innovations generally find their way into amelioration in the production methods and techniques, hence influencing productivity. Therefore, it is also necessary to keep abreast of the scientific and technical developments to avoid lagging behind in the race for productivity improvement.

Productivity level can also be raised through improving the company and management. Companies can rapidly increase its productivity level by efficiently determine the objectives and tools to be used to reach to them, in the layout plan, materials handling, production planning, management of active and passive assets and of human resources. It is also important to note that efficient manpower is also one of the most critical factors, which directly impacts productivity. Well-trained and well-fed labour force, "duly-protected from work accidents and vocational illnesses and trained to a capability level to individually solve problems" guarantees high level of productivity.

Productivity can be realised by;

- Achieving more output for the same input
- Achieving the same output from less input
- Achieving much more output for slightly more input
- Getting slightly less output for much less input

Productivity improvement can be achieved by;

- Improving basic process by research and development (long term)
- Improving and providing new plant, equipment, machinery (long term)
- Simplifying product and reducing variety (medium term)
- Improving existing methods and procedures (short term)
- Improving the planning of work and the use of manpower (short term)
- Increasing the overall effectiveness of employees (short term)

Productivity Tools and Methodologies

There are a variety of productivity tools that can be adopted by companies. Productivity tools can be softwares that help companies to increase their business productivity, such as the project management software or the adoption of methodologies such as 5S methodology. Listed below are some examples of productivity tools and methodologies.

Tool	About the Tool
5 S	A methodology for organising, cleaning, developing, and sustaining a productive work environment. Improved safety, ownership of workspace, improved productivity and improved maintenance is some of the benefits of 5S program.
Error Proofing	Error Proofing is a structured approach to ensure quality and error free manufacturing environment. Error proofing assures that defects will never be passed to next operation.
Current Reality Trees	Is a problem-analysis tool, aids to examine cause and effect logic behind our current situation.
Conflict Resolution Diagram	Is used to resolve hidden conflicts that usually perpetuate chronic problems.
Future Reality Diagram	Is a sufficiency based logic structure designed to reveal how changes to the status quo would affect reality - specifically to produce desired effects.
Inventory Turnover Rate	The number of times an inventory cycles or turns over during the year. A frequently used method to compute inventory turnover is to divide average inventory level into annual cost of sales.
JIT	A philosophy of manufacturing based on planned elimination of all waste and continuous improvement of productivity. It encompasses the successful execution of all manufacturing activities required to produce a final product.
Kaizen	The Japanese term for improvement; continuing improvement involving everyone - managers and workers. In manufacturing kaizen relates to finding and eliminating waste in machinery, labour or production methods.

Tool	About the Tool
Kanban	Kanban is a simple parts-movement system that depends on cards and boxes/containers to take parts from one workstation to another on a production line. The essence of the Kanban concept is that a supplier or the warehouse should only deliver components to the production line as and when they are needed, so that there is no storage in the production area.
Lean Metric	Lean metrics allow companies to measure, evaluate and respond to their performance in a balanced way, without sacrificing the quality to meet quantity objectives, or increasing inventory levels to achieve machine efficiencies. The type of the lean metric depends on the organisation and can be of following categories; Financial performance, behavioural performance and core process performance.
LPI	Lean Performance Indicator is a consistent method to measure lean implementation effectiveness.
	A Key Core Value Metric for Motivating Performance and Rewarding Team Performance Through the PIP Plus Incentive Program. Indicator: Real Time Performance, Continuous Improvement Implementation, Lean Sustainment, Waste Elimination and Profitability.
	Goal: An LPI Monthly Goal of 100 - Equates to 116.3% Value-Added Output Performance at Level C Lean Performance.
	Formula: Value Added Sales (Total Sales Minus Raw Materials, Sub-Contracting and Components) divided by Shop Rate Per Hour () Divided by Number of Hourly Shop Floor Personnel Divided by 2.
One-piece Flow	One-piece flow or continuous flow processing is a concept means that items are processed and moved directly from one processing step to the next, one piece at a time. One-piece flow helps to maximum utilisation of resources, shorten lead times, identify problems and communication between operations.
Overall Equipment Effectiveness	Measures the availability, performance efficiency, and quality rate of equipment - it is especially important to calculate OEE for the constrained operations.
Prerequisite Tree	Is a logical structure designed to identify all obstacles and the responses needed to overcome them in realising an objective? It identifies minimum necessary conditions without which the objective cannot be met.
Process Route Table	Shows what machines and equipment are needed for processing a component or assembly. These tables aid in creating ordinary lines and grouping work pieces into work cells.
Quick Changeover	Quick changeover is a technique to analyse and reduce resources needed for equipment setup, including exchange of tools and dies. Single Minute Exchange of Dies (SMED) is an approach to reduce output and quality losses due to changeovers.
Standard Rate or Work	The length of time that should be required to set up a given machine or operation and run one part, assembly, batch, or end product through that operation. This time is used in determining machine requirements and labour requirements.

| Tool	About the Tool
Takt Time	The time required between completions of successive units of end product. Tact time is used to pace lines in the production environments.
Theory of Constraints	A management philosophy that can be viewed as three separate but interrelated areas - logistics, performance measurement, and logical thinking. TOC focuses the organisations scarce resources on improving the performance of the true constraint, and therefore the bottom line of the organisation.
Total Productive Maintenance	Total Productive Maintenance (TPM) is a maintenance program concept, which brings maintenance into focus in order to minimise downtimes and maximise equipment usage. The goal of TPM is to avoid emergency repairs and keep unscheduled maintenance to a minimum.
Toyota Production System	The Toyota production system is a technology of comprehensive production management. The basic idea of this system is to maintain a continuous flow of products in factories in order to flexibly adapt to demand changes. The realisation of such production flow is called Just-in-time production, which means producing only necessary units in a necessary quantity at a necessary time. As a result, the excess inventories and the excess work force will be naturally diminished, thereby achieving the purposes of increased productivity and cost reduction.
Transition Tree	Is a cause and effect logic tree designed to provide step-by-step progress from initiation to completion of a course of action or change? It is an implementation tool.
Value added to Non-value added Lead time ratio	Provides insight on how many value added activities are performed compared to non-value added activities, using time as a unit of measure.
Value Stream Mapping	Value stream mapping is a graphical tool that helps you to see and understand the flow of the material and information as a product makes its way through the value stream. It ties together lean concepts and techniques.
Value Stream Costing	Value Stream Costing methodology simplifies the accounting process to give everyone real information in a basic understandable format. By isolating all fixed costs along with direct labour we can easily apply manufacturing resources as a value per square footage utilised by a particular cell or value stream. This methodology of factoring gives a true picture of cellular consumption to value-added throughput for each value stream company wide. Now you can easily focus improvement kaizen events where actual problems exist for faster calculated benefits and sustainability.
Visual Management	Is a set of techniques that makes operation standards visible so that workers can follow them more easily? These techniques expose waste so that it can be prevented and eliminated.
Workflow Diagram	Shows the movement of material, identifying areas of waste. Aids teams to plan future improvements, such as one piece flow and work cells.

Source: Glossary of lean tools. (n.d.). Retrieved November 5, 2009, from http://www.shopwerkssoftware.com/lean_glossary.aspx

What is Innovation?

Innovation is the application of new ideas to products, processes or other aspects of organisation activities, which lead to increased value. It is a continuous process of discovery, learning and the application of new technologies and techniques. Innovation comprises of two main types; product and process. A product innovation involves introducing something new to the market, or a "significant qualitative change in an existing product", which improves the range and quality of products on offer. Process innovation on the other hand, involves the introduction of a new innovative process of making or delivering goods or services.

Innovation is vital for businesses, which allow them to gain a significant competitive advantage. Innovation is also seen as a "company's ticket for the markets of tomorrow", apart from increasing the attractiveness of its products or service offerings, which would increase the value of a business in comparison to its competition.

The Innovation Process
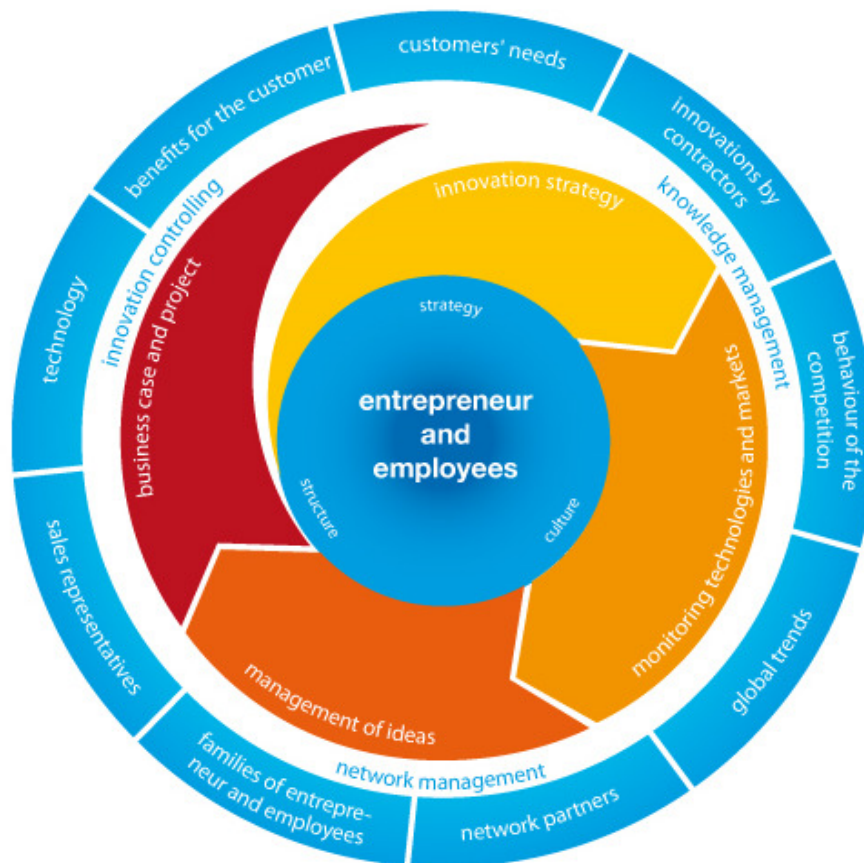
Source: The Swiss Research Institute of Small Business and Entrepreneurship, University of St. Gallen. (n.d.). *Innovationen im kleinunternehmen.* Retrieved May 3, 2010, from http://www.kmu.admin.ch/themen/01254/01262/01283/index.html?lang=en

The company and its employees, coupled with the corporate culture, strategy and structure, form the core of the innovation process. The innovation process is an "iterative, step-by-step process", which is supported by innovation controlling, knowledge management and network management.

It is also important to note that there is feedback between the various phases, and vital to understand that innovation is "rarely a linear progression through the phases". Feedback is gathered to further

improve and refine the products or processes, and often very important as the initial product or process is rarely perfect.

Key Elements of an Innovative Company

Company "Fitness"
The engine and fundamental element of the innovation process is the company itself, above all its manager and its employees. A company with a culture that is averse to innovations would negatively affect the innovation process.

It is important for entrepreneurs to ask themselves the following questions;

- How fit and agile is the company?
- What are the positive and negative trends within the company?

Entrepreneurs, who listen to their employees, understand their clients, anticipate market trends and have a stable network and connections within the industry are on the right path. Entrepreneurs can use the "How fit is your company" checklist as a tool to determine the "fitness" of their company. The checklist is appended in Appendix I.

Agility and Leadership in the Company

Often, small businesses are subjected to a certain pressure to adapt, and having to continually adjust and re-adjust to new conditions. Such ongoing processes of adaptation require strong leadership by example of the people in charge. Hence, it is crucial for leaders to act as a role mode. Leaders should know and be aware of their personal and company's strengths and weaknesses.

Developing an Innovation Strategy

Innovations are not miracles, but product of a systematic process. Innovation is imperative to establish and maintain a competitive advantage, which requires a continuous commitment to maintain. One key element of innovation is creativity, hence infusing a creative environment where allowing employees to break the rules and push the limits is crucial.

Developing an innovation strategy gives the innovation process a place within the strategic orientation of a business. An innovation strategy incorporates "insights about the dynamics of the market as well as current and future customers' needs".

An innovation strategy comprises;

1. Creating a culture of innovation
2. Encouraging employee innovation
3. Building innovation into business practices
4. Innovation and staff skills
5. Innovation and customers, clients and suppliers
6. Researching innovation elsewhere
7. Implementing innovative ideas
8. Monitoring the level and success of internal innovation

Checkbox: How to Develop an Innovation Strategy

1. Only a systematic innovation process is helpful in creating competitive advantages and products, services or processes, which are also accepted and demanded by the market.
2. The innovation strategy is formulated in writing and takes into account market insights, future customer needs, technological developments as well as the company's competitive conduct.
3. The strategy is transformed into a matrix and areas of innovation (so-called search areas) are identified and evaluated.
4. These search areas are adjusted according to the feedback given by the most important (established or potential) customers.
5. The search areas are analyzed with the explicit aim of finding new technologies, services and product ideas.
6. A competitive advantage can only be gained with ideas, products and services, which result in lasting advantages for the customers, i.e. the benefits of sustainable services of noticeably superior quality.

Source: The Swiss Research Institute of Small Business and Entrepreneurship.

Monitoring Technologies and Markets

With the constantly evolving markets and emerging technologies, it is essential to keep an eye and keep up on relevant developments and trends. Vigilant observation, analysis and adoption are of decisive importance. One suggestion is to include "emerging technologies and market trends" in the agenda of regular company meetings with the employees.

It is advantageous to visualise and assess the gained insights, focussing on the following three aspects;

1. Technology trends: Which trends are of essential importance to the business?
2. Market and customer trends: What is the market sentiment? How about customer satisfaction and customer needs?
3. Competition: Which strategic innovations are in the focus of the competition? Which new products, services or procedures do the competitors offer? How does the market appreciate their services?

Checkbox: Monitoring Technologies and Markets

1. Continual monitoring presupposes the systematic development and maintenance of the relevant sources.
2. Constant observation of the relevant technologies, markets and competitors has to be second nature for all employees. However, making sure that the insights gained are also implemented in the business processes is the responsibility of the entrepreneur.
3. Information gathering systems should be as simple and transparent as possible. The most important point is that they are regularly used.
4. With the help of matrices, information can easily be visualized in several dimensions. Furthermore, the strategic impact of these results on the enterprise should be evaluated. This may result in important insights for ideas management.

Source: The Swiss Research Institute of Small Business and Entrepreneurship.

Management of Ideas

Ideas without a systematic approach and proper classification tend to "fall by the wayside". Thus, managing ideas form a central part of the innovation process. Ideas are shaped, developed and

channelled. Ideas should also be developed in a goal-oriented way. "A useful basis for this task if formed by the insights concerning search areas which were gained from the innovation strategy and the strategic impact of technology and market trends". These insights form the framework, guiding the selection of ideas.

The following questions need to be considered;

1. Who comes up with ideas?
   Ideas often come from three groups of people; the entrepreneur (leader), employees or external persons such as customers, vendors, business partners, or public institutions such as universities, polytechnics, etc.

   Some times, collaborations with external parties such as the universities may be beneficial as it promotes the transfer of knowledge between the two parties and is conducive to the innovation process.

2. How can creativity be encouraged?
   Human creativity is influenced by three main factors;
   (i)   Individual abilities and self-motivation
   (ii)   Atmosphere
   (iii) Influence of minorities within the business

3. What tools for the creation of ideas are out there and how useful are they?
   There are various creativity techniques that can be adopted such as; brainstorming, mind mapping, etc. All of these techniques are suitable to collecting, weighting and consolidating ideas.

Checkbox: Management of Ideas

1. The management of ideas and the integration of customers go hand in hand (customers are able to evaluate the value of a product or a service according to its usefulness). For this reason it is important that you activate company internal as well as company external suppliers of ideas.
2. Monitor your customers. Regularly interview them about their requirements. Take note of your insights on ideas cards.
3. Next to customer input, other criteria (innovation strategy, available resources, expertise and knowledge, risk tolerance, etc.) are also important.
4. Systematically managing ideas helps react quickly to new customer needs.
5. Matrices help visualising and selecting ideas. The best ideas are given priority and included in the activities chart to be evaluated and implemented.

Source: The Swiss Research Institute of Small Business and Entrepreneurship.

Business Case and Project

"An innovation is only successfully completed once it has been introduced profitably into the market. Thus, ideas for innovations – developed by means of innovation strategy, technology and market observation as well as ideas management – have to be prioritised, their technology has to be described and their profitability has to be evaluated, all in light of the actual business case".

A crucial step in the development process of an innovation is to evaluate it with the help of a business case.

The following points are the evaluation criterias;

- **Aims**: What is the basic aim and what are the customer benefits of the innovation?
- **Status quo**: What is new about the idea? Which components exist already? How about trademark rights?
- **Strategy**: Does the implementation strategy correspond to the general corporate strategy?
- **Risk**: Which risks have been identified? What are the consequences for the project? How likely is that any of the risks will occur?
- **Resources**: What staff resources as well as technological, financial, structural and knowledge-/experienced-based resources will be used and bound by the project?
- **Economic importance**: What is the market potential? What is the effect on liquidity planning? How are distribution and sales organised?
- **Perspectives**: What perspectives does the innovation open up for the company, the customers, the competition?
- **Project plan**: What is the course of action, what are the responsibilities and what is the time frame necessary for the realisation of the innovation?
- **Summary**: Summary of all findings on one page, possibly in the form of an analysis of strong versus weak points.

Checkbox: Business Case and Project

1. The business case together with the project management is the central step in the innovation process.
2. First the business case, then the project launch.
3. SME tend to skip the business case - this is a mistake.
4. The business case helps evaluate and structure ideas. The impact of the idea on the company and on the benefits for the customers takes centre stage.

Source: The Swiss Research Institute of Small Business and Entrepreneurship.

Development and Realisation

The approval of an innovation project marks the start of the actual development and realisation. For this phase, "classic" instruments of project management are used.

The following factors are specific to the project management of innovations and therefore need to be given special attention;

- Establish competences and responsibilities clearly and unambiguously. Nominate a project manager and project participants.
- Carefully plan the project and update it regularly. Planning means designing the future. Especially because innovations are marked by a high degree of uncertainty, planning is particularly important. Using so called "continuous planning" allows the inclusion of aspects that were not yet known at the beginning of the project.
- Draw up a work breakdown structure (WBS), which records the project in its entirety. Break it down into individual work packages and structure them clearly. For every individual work package, a responsible person is appointed and a task description is created.

Supporting Processes

The four central components of the innovation process as mentioned above; innovation strategy, monitoring of technologies and markets, management of ideas, and business case and project, are accompanied by three supporting processes; innovation controlling, knowledge and network management.

Innovation Controlling

Innovation controlling serves as an early warning system. Entrepreneurs and employees have to be informed promptly on the progress, intermediary stages, tests, customer polls, costs, deviations from the time and budget, etc. The controlling elements "should not be complex and full of formulas, but simple, helpful, relevant and true". The most important decisive question to ask is; "Is the current state of innovation process in line with the innovation strategy?". It is also crucial to communicate regularly with all stakeholders such as the marketing team, distribution team, customers and companies. Feedback should also be actively gathered from project participants.

Knowledge Management

Companies need to have "in-depth information" about their customers, providers and products available at the right place and time. As such, knowledge management helps them to achieve that goal. Knowledge management would also manage the rights and access to confidential documents and information, ensuring that no knowledge barriers exist within the company.

The following checklist highlights the important aspects of knowledge management in a company.

Checklist: Knowledge Management in a Company

1. All employees have access to all knowledge concerning projects, processes, products, services, customers and providers, and this knowledge is constantly developed.
2. There is adequate instrument to manage the knowledge.
3. The knowledge is found on the intranet of the company and can be accessed by all employees (irrespective of place or time).
4. Access and entry of knowledge is efficient and easy to handle.
5. Knowledge is stored directly during the process (e.g. after a meeting with a customer, the account manager enters the data and not the secretary).
6. Employees leaving the company pass on their specific knowledge to the remaining staff.
7. An "overseer" within the company makes sure that the knowledge is acquired promptly and recorded as true to the original as possible.
8. Constant training is mandatory within the company.
9. Employees are motivated to pass on their knowledge to their colleagues within the company.
10. Thanks to the knowledge accessible to all employees, the company is "ahead by a nose".

Source: The Swiss Research Institute of Small Business and Entrepreneurship.

Network Management

Network management comprises the active support of different interest groups. A good network management supports the promotion of innovation. For example, one interest group can be used to evaluate or test the innovation.

Checklist: Network Management – Co-operation with Network Partners

The following checklist helps analyse your networks and use them systematically.

Network		Co-operation			Need for change? Yes/No
	Groups	Loose	Regular	Close	
Internal Networks	Creative workshops				
	Project teams for innovation projects				
	Ad hoc groups				
	Entrepreneurs and closest employees				
External Networks	Customer groups				
	Competitors				
	Chamber of Commerce and Industry				
	Employers' associations				
	Associations				
	Providers, supply chains				
	Authorities				
	Universities/Polytechnics				
	Private research institutes				

Source: The Swiss Research Institute of Small Business and Entrepreneurship.

The Importance of Productivity and Innovation

Innovation is widely recognised as the fundamental element of productivity success, where productivity growth is increasingly dependent upon innovations. Meanwhile, productivity is the key ingredient in achieving higher standards of living and enhancing the economic competitiveness of a country.

Why productivity?

- Higher productivity enables the workers to get higher wages in less working hours under better working conditions.
- Productivity allows employers obtain resources for new investments.
- Productivity allows producers to acquire higher profits at lower costs.
- Productivity ensures consumers are thereby offered cheaper goods in greater quantities.
- Productivity allows the country to seize a sound economic growth that leads to rapid development.

Why Innovation?

- Innovation is becoming a major factor in influencing strategic planning.
- Innovation leads to wealth creation.
- Innovation sustains business growth.
- Innovation keeps up with the changing environment and evolving society.
- Innovation helps to satisfy the evolving customer desires, needs and wants.

Singapore's 2010 Budget

During its budget 2010 release, the Singapore government renewed its emphasis on productivity and innovation. The government hopes to transform low-productivity sectors such as the construction and non-financial services.

National Productivity and Continuing Education Council

The National Productivity and Continuing Education Council (NPCEC) is a high-level council, which will be chaired by DPM Teo Chee Hean, and will include members from the Government, business community and the labour movement. NPEC will "prioritise and champion national productivity initiatives at the sectoral and enterprise levels, develop a comprehensive first-class national Continuing Education and Training (CET) system, and foster a culture of productivity and continuos learning and upgrading in Singapore". Government agencies that will work with the industry partners and the unions to develop strategies and solution to raise productivity in each individual sector will be identified. The Council will also set aside a budget to fund the development of infrastructure and tools that can be used by enterprises to support their productivity efforts.

The Council is expected to;

- Galvanise the major national effort to boost skills and enterprise productivity.
- Develop a comprehensive system for continuing education and training (CET).
- Oversee the work of the different government agencies and promote close collaboration among the business sector, workers and unions, and the public sector.

Two main focus areas of the new Council are;

- Drive efforts to raise productivity at the individual, enterprise and sector-levels.
- Oversee efforts to develop a world-class national Continuing Education and Training or CET system, and entrench a culture of continuous learning and upgrading among Singaporeans.

Supporting Enterprise Investments in Innovation and Productivity

The Singapore government announced that it would set up a Productivity and Innovation Credit, which would last for 5 years, and create a National Productivity Fund, promoting industry-wide productivity improvements with the construction sector being the initial focus.

Productivity and Innovation Credit

The Productivity and Innovation Credit provides significant tax deductions for investments in a broad range of activities along the innovation value chain.

The Credit allows 250% deduction for expenditures on innovation focuses activities such as the following;

- Research and development
- Registration of intellectual property rights (inclusive of patents, trademarks and designs, and plant variety)
- Acquisition of intellectual property rights (for e.g. when a company buys a patent or copyright for use in its business)
- Investments in automation

- Training of employees
- Investments in design

More information on eligibility and the amount of credit qualified can be obtained from the following website: http://www.iras.gov.sg/irashome/PIcredit.aspx

National Productivity Fund

The SGD$2 billion fund will provide "grants to help enterprises in all sectors, with special emphasis initially on sectors where there is potential for large gains in productivity". The fund can also be used to "develop centres of expertise for a range of industries, that will provide a knowledge base for enterprises to tap on to develop productivity solutions".

World's Most Innovative Countries

Top 15 Most Innovative Countries 2009-2010

2010 Rank	Country
1	Iceland
2	Sweden
3	Hong Kong
4	Switzerland
5	Denmark
6	Finland
7	Singapore
8	Netherlands
9	New Zealand
10	Norway
11	United States of America
12	Canada
13	Japan
14	United Kingdom
15	Luxembourg

Source: INSEAD. (2010). Global innovation index 2009-2010. Retrieved May 5, 2010, from
http://www.globalinnovationindex.org/gii/main/reports/2009-10/FullReport_09-10.pdf

One interesting point to note in the ranking is that all the top ten nations are "relatively small countries with each having less than 0.3 per cent of the world population". Iceland is ranked first in the Global Innovation Index, with Singapore coming in at the seventh position. Iceland topping the list of innovative nations was a major surprise, considering its financial crisis. It's number one position, however, is partly attributed to its top ranking in the infrastructure and ICT pillar, and scoring well for "Human Capacity", "Innovation Potential and Investment in Education". Iceland also ranked highly for both "Scientific Outputs and Creative Outputs" and "Well-Being".

The full Global Innovation Index 2009-2010 can be downloaded from the following website: http://www.globalinnovationindex.org/gii/main/reports/2009-10/FullReport_09-10.pdf

World's Most Innovative Companies

Apple reigns as world's number one in innovation for six consecutive years, trailed by Google and software giant, Microsoft. Interestingly, 15 of the top 50 companies are Asian, with China seeing the biggest rise.

Top 20 Most Innovative Companies 2010

2010 Rank	2009 Rank	Company	HQ Country	HQ Continent
1	1	Apple	US	North America
2	2	Google	US	North America
3	4	Microsoft	US	North America
4	6	IBM	US	North America
5	3	Toyota Motor	Japan	Asia
6	11	Amazon.com	US	North America
7	27	LG Electronics	South Korea	Asia
8	NR	BYD	China	Asia
9	17	General Electric	US	North America
10	14	Sony	Japan	Asia
11	16	Samsung Electronics	South Korea	Asia
12	33	Intel	US	North America
13	31	Ford Motor	US	North America
14	8	Research in Motion	Canada	North America
15	18	Volkswagen	Germany	Europe
16	7	Hewlett-Packard	US	North America
17	13	Tata Group	India	Asia
18	20	BMW	Germany	Europe
19	24	Coca-Cola	US	North America
20	5	Nintendo	Japan	Asia

Source: Bloomberg Businessweek. (2010). *The 50 most innovative companies 2010*. Retrieved May 5, 2010, from
http://bwnt.businessweek.com/interactive_reports/innovative_companies_2010/

Top 15 Most Innovative Asian Companies 2010

2010 Rank	Company	HQ Country
1	Toyota Motor	Japan
2	LG Electronics	South Korea
3	BYD	China
4	Sony	Japan
5	Samsung Electronics	South Korea
6	Tata Group	India
7	Nintendo	Japan
8	Hyundai Motor	South Korea
9	Honda Motor	Japan
10	Fast Retailing	Japan
11	Haier Electronics	China
12	Lenovo	China
13	Reliance Industries	India
14	China Mobile	China
15	HTC	Taiwan

Source: Bloomberg Businessweek. (2010). *The 50 most innovative companies 2010*. Retrieved May 5, 2010, from
http://bwnt.businessweek.com/interactive_reports/innovative_companies_2010/

References

Bloomberg Businessweek. (2010). *The 50 most innovative companies 2010*. Retrieved May 5, 2010, from
http://bwnt.businessweek.com/interactive_reports/innovative_companies_2010/
http://www.businessweek.com/magazine/content/10_17/b4175034779697.htm?chan=magazine+channel_special+report

Budget 2010 key budget initiatives 1: Raising productivity. (2010). Retrieved May 4, 2010, from
http://www.news.gov.sg/public/sgpc/en/media_releases/agencies/mof/press_release/P-20100222-1/AttachmentPar/00/file/Budget%202010%20Key%20Budget%20Initiative%201%20-%20Raising%20Productivity.pdf

Budget 2010: $2 billion in National Productivity Fund. (2010, February 22). Retrieved May 4, 2010, from
http://www.asiaone.com/Business/News/My+Money/Story/A1Story20100222-200184.html

Growing globally competitive companies. (2010). Retrieved May 4, 2010, from
http://www.mof.gov.sg/budget_2010/key_initiatives/competitive_companies.html

Inland Revenue Authority of Singapore. (2010). *Productivity and Innovation Credit*. Retrieved May 4, 2010, from
http://www.iras.gov.sg/irashome/PIcredit.aspx

INSEAD. (2010). Global innovation index 2009-2010. Retrieved May 5, 2010, from
http://www.globalinnovationindex.org/gii/main/reports/2009-10/FullReport_09-10.pdf

Koh, J. (2010, March 3). *DPM Teo lists out two focus areas for National Productivity and Continuing Education Council*. Retrieved May 4, 2010, from
http://www.938live.sg/News/Singapore/EDC100304-0000162/DPM_Teo_lists_out_two_focus_areas_for_National_Productivity_and_Continuing_Education_Council

National Productivity and Continuing Education Council. (2010, April). Retrieved May 4, 2010, from
http://www.news.gov.sg/public/sgpc/en/media_releases/agencies/mti/press_release/P-20100430-1/AttachmentPar/0/file/NPCEC-Press%20Release.pdf

National Productivity Centre of Türkiye. (n.d.). *What is productivity?*. Retrieved May 3, 2010, from
http://www.mpm.org.tr/en/productivity/

New Zealand Trade & Enterprise. (n.d.). *Chapter 6: Developing an innovation strategy*. Retrieved May 3, 2010, from
http://www.tsbc.co.nz/common/planningforsuccess/plan-ch6.pdf

Productivity improvement. (2010). Retrieved May 3, 2010, from
http://www.accel-team.com/productivity/productivity_01_what.html

Rao, S., Ashfaq Ahmad, Horsman, W., & Kaptein-Russell, P. (2001). The importance of innovation for productivity. *International Productivity Monitor*. (*2*).Retrieved May 4, 2010, from
http://www.csls.ca/ipm/2/rao-e.pdf

Singapore Workforce Development Agency. (2010, March 29). *Igniting the productivity landscape for services and logistics sectors.* Retrieved May 4, 2010, from
http://app2.wda.gov.sg/web/Contents/Contents.aspx?ContId=1067

Singapore's 2010 budget sets high bar for productivity gains. (2010, February 28). Retrieved May 4, 2010, from
http://www.worldsentinel.com/articles/view/143739

Shukla, A. (2009, May 30). *What is innovation? Why is innovation important?*. Retrieved May 3, 2010, from
http://www.paggu.com/getting-into-roots/what-is-innovation-why-innovation-is-important/

Talisayon, S. D. (ed). (2009). *From productivity to innovation: Proceedings from the Second International Conference on Technology and Innovation for Knowledge Management.* Japan: Asian Productivity Organization. Retrieved May 4, 2010, from
http://www.apo-tokyo.org/00e-books/IS-34_FromProdToInnovation/IS-34_FromProdToInnovation.pdf

The nature and importance of innovation. (n.d.). Retrieved May 4, 2010, from
http://press.princeton.edu/chapters/s9221.pdf

The Swiss Research Institute of Small Business and Entrepreneurship, University of St. Gallen. (n.d.). *Innovationen im kleinunternehmen.* Retrieved May 3, 2010, from
http://www.kmu.admin.ch/themen/01254/01262/01283/index.html?lang=en

Appendix I

Checklist: How Fit is Your Company?

Answer the following questions to gain an overview of the "fitness" of your company. You should differentiate between questions you can answer with a clear "yes" and those you are unsure about or have to answer with a clear "no".

	Yes/No/Partly
Can you describe your company as basically fit?	
Is there at least one area in your markets in which you are ahead of your competition?	
Does this area offer a major growth potential for your company?	
Do your employees keep your company fit (motivation/skills/experience/customer-orientation)?	
Is your company fit thanks to its consistent orientation towards customers' needs?	
Is your company fit thanks to its position within a network with partner companies?	
Are you member of an experience exchange group (ExEx group) with similar-minded colleagues?	
Is your company fit thanks to high-quality products?	
Is your company fit thanks to the good price-performance ratio of its products?	
Is your company fit thanks to the quick availability of your products?	
Is your company fit thanks to its customer-oriented services?	
Is your company fit thanks to its process-oriented structures?	
Do you distinctively perceive customers' needs?	
Do you systematically record information on customers and processes?	
Do you have a perceptible corporate culture?	
Do your employees know what is important to you as a company owner/manager?	
Is your company innovative?	
Is your company tradition-conscious?	
Do you ensure further training in professional and managerial skills for yourself and your employees?	
Do you take time for yourself and your ideas in order to create innovations?	
Do you give your employees freedom and time for creative moments?	
Do you consciously take care of a good atmosphere within your company?	

Now arrange the Yes, No and Partly answers according to their importance for your company. Use the following matrix:

Positive aspects	Negative aspects
very important (aspects to be strengthened)	very important for the future (aspects to be improved)
less important	less important

Source: "Innovationen im Kleinunternehmen", Swiss Research Institute of Small Business and Entrepreneurship, University of St. Gallen

Appendix II

Checklist: How Agile is My Business?

In order to gain an overview of the agility of your business, consider the following statements. Distinguish between points which apply to you completely and those that only apply partially, or not at all.

	Yes/No/Partly
Customers' desires and needs are appreciated by a) the entrepreneur and b) the employees.	
Our employees are agile and capable of putting themselves in the position of our customers and of anticipating their needs.	
Innovation projects in collaboration with customers are a matter of course for our enterprise.	
When it comes to the development of products and services, our company easily anticipates customers' needs.	
We have our ears to the ground; i.e. we have well-developed early warning instruments.	
In our company, there are central members of staff who deal with the improvement of the company's agility.	
All kinds of ideas are discussed within the business.	
The enterprise quickly adapts to new conditions.	
Good ideas by employees are appreciated and recognized – financially and/or by publicly announcing them.	
Good ideas inspired by employees are quickly realized.	
We often act (internally as well as externally); i.e. we do not just react.	
Our organization adapts to the requirements of the market according to our innovation strategy.	
Our employees discuss the needs of customers and markets (also in their time off).	

Source: "Innovationen im Kleinunternehmen", Swiss Research Institute of Small Business and Entrepreneurship, University of St. Gallen

Appendix III

Checklist: Leadership From the Inside Out

The following list of questions is designed to help you gain a better perspective of yourself. There are no right or wrong answers. It is mainly designed to help you evaluate how true you are to yourself.

	Findings
Am I, as the boss, predictable for my employees?	
Do my employees perceive me as a role model?	
Do I realize that my employees model their behaviour in difficult situations (e.g. customer complaints, differences of opinions, etc.) according to my values?	
Am I aware that I am constantly watched by employees and customers alike?	
Have there been situations in which I acted courageously in the interest of my business? Do my employees talk about them?	
Do I remember situations of obvious dispiritedness?	
Do my employees talk about me?	
Is there laughter in my company?	
Do I have a "mentor" who points out jargon to me and gives me language advice?	
Do I have the opportunity to discuss my management style with other entrepreneurs? Do they give me any advice?	
Are suppliers, customers, colleagues spoken about politely, also in my absence?	
Am I predominantly on first name or last name terms (Du/Sie culture)?	
Do I delegate responsibility to my employees?	
Do I consciously encourage the advancement of my team?	
Do I hand out praise in a spontaneous and conscious way?	
Do I give criticism in an unambiguous and direct way while avoiding loss of face for my partner?	
Are factual challenges discussed with the employees?	
Do I encourage my employees' innovative power and spirit?	
Do I pay attention to my intuition?	
Is my management style authentic?	
Do I have enough time for my employees and their concerns?	
Do I consciously try to be aware of my employees' intents and worries?	

Source: "Innovationen im Kleinunternehmen", Swiss Research Institute of Small Business and Entrepreneurship, University of St. Gallen