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Innovation Systems
Opportunities, Readiness Assessment and Measurement
by
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Governmental Programs

Innovation Systems

Opportunities, Readiness Assessment and Measurement.

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Innovation—on every leader's agenda

- Innovation in the 21st century:
 - Open
 - Collaborative
 - Multi-disciplinary
 - Global
- Key factors driving change:
 - The dynamics of a flattening world
 - The emergence of new capabilities
 - The evolution of information technology
 - The march of commoditization
 - The massive shift in demographics
 - The unpredictability and impact of change



Innovation Policy

- USA: National Innovation Initiative, Legislation in Congress, President's Innovation Agenda.
- Korea: Minister for Innovation – Office of Science and Technology Innovation, National Innovation Strategy.
- Australia: Backing Australia's Ability – National Innovation Program \$3.2 billion in funding.
- Malaysia: Minister for Innovation – National ICT and Innovation Roadmap.
- India: CII and S&T Ministry - Innovation Review.
- Thailand: National Innovation Agency, InnovAsia, Developing National Innovation Roadmap.

Foundation for Innovation

- Infrastructure and Networks
- Innovation Public Policy
- Collaboration
- Open Systems and Process
- New Frontiers for IP Development and Protection
- Skilling for the Future
- Metrix

Enlightened Governments are Driving Change

- Requiring ICT architectures that enable service to the citizen and provide competition and choice
- Insisting on interoperability of ICT systems
- Working to foster collaborative innovation, across industries and society
- Using public policy to enable economic opportunity and growth for domestic industries, citizens
- Investing in new skills and global integration

Innovation Readiness Self Assessment

Conduct a full innovation readiness “self assessment” focusing on several key variables for innovation success, some of which are outlined below.

Innovation Readiness Guide

- Stage 1: Nations with Innovation-driven growth potential.
- Stage 2: Nations that have taken substantial steps to realise their innovation potential.
- Stage 3: Nations that have a well established and globally competitive innovation industry and government sector.

Innovation Readiness Guide

Stage	Assessment	HR & Education
1	<ul style="list-style-type: none"> ▪ Conduct initial innovation preparedness review in country. 	<ul style="list-style-type: none"> ▪ Relatively high level of literacy and a critical mass of skilled ICT and S&T labour. ▪ Established higher education system and sufficient access to higher education for future IT, business and scientific professionals. ▪ Government support for some level of international travel and education abroad for labour force.
2	<ul style="list-style-type: none"> ▪ Conduct a matching exercise of innovation policies and resources against the creation of a national coordinated innovation strategy. 	<ul style="list-style-type: none"> ▪ Stage 1 target met and the existence of substantial groups of highly trained SSME professionals. ▪ Active repatriation program underway with a net inflow of intellectual capital.
3	<ul style="list-style-type: none"> ▪ Undertake strategy evaluation and review and develop greater innovation focused policy settings. 	<ul style="list-style-type: none"> ▪ Presence of independent and globally recognised thought leader among local community of innovation and SSME professionals. ▪ Free international movement of labour force.

Innovation Readiness Guide

Stage	Open & Collaborative	Intellectual Property
1	<ul style="list-style-type: none"> ▪ Government understanding of the value of open standards and support the development of open source sector. 	<ul style="list-style-type: none"> ▪ Adoption of basic internationally accepted IP protection principles specified by the WTO.
2	<ul style="list-style-type: none"> ▪ Balanced open source policies in procurement and support for OSS development and open standards in public procurement. 	<ul style="list-style-type: none"> ▪ Stage 1 and a well functioning patent review and enforcement mechanism.
3	<ul style="list-style-type: none"> ▪ Market based and balanced OSS procurement policies. Mandated policies for open standards and Open Document Formate in all public procurement. Leading international advocate for open standards development and adoption. 	<ul style="list-style-type: none"> ▪ Stage 1&2 plus an IP and patent regulations that balance the need to reward entrepreneurialism with the need to drive value from maximising intellectual capital based on shared ownership, investment and capitalization.

Innovation Readiness Guide

Stage	Market Access	Research and Development
1	<ul style="list-style-type: none"> ▪ The existence of simple, transparent and consistent market regulations. 	<ul style="list-style-type: none"> ▪ Government support for fundamental scientific freedoms: <ul style="list-style-type: none"> – Publication – Access to global publication and research – Framework supporting government research funding is driven by scientific needs and priorities rather than government/politically directed priorities.
2	<ul style="list-style-type: none"> ▪ Regulatory approval frameworks based on sound and internationally recognised criteria as opposed to economic or political interests. 	<ul style="list-style-type: none"> ▪ Framework supporting government research funding is driven by scientific needs and priorities rather than government/politically directed priorities.
3	<ul style="list-style-type: none"> ▪ Regulatory frameworks are based on a sophisticated cost-benefit analysis such that regulatory costs do not deter or limit new investments. 	<ul style="list-style-type: none"> ▪ An established scientific environment that supports/honours basic and pure scientific research.

Innovation Readiness Guide

Stage	Competition/Business Conduct	International Innovation Linkages
1	<ul style="list-style-type: none"> ▪ Basic corporate governance principles apply in country, .i.e use and enforcement of internationally accepted corporate governance principles. 	<ul style="list-style-type: none"> ▪ Simple and productive IT and Science and Technology research partnerships established.
2	<ul style="list-style-type: none"> ▪ Increased investment transparency, high levels of investment security and probity. 	<ul style="list-style-type: none"> ▪ The formation of and support for international innovation focused alliances both within and across public and private sectors.
3	<ul style="list-style-type: none"> ▪ Internationally recognised and accepted anti-trust and fair-trading laws in place. 	<ul style="list-style-type: none"> ▪ Substantial and globally significant international business alliances across the entire innovation ecosystem from basic research, services development and manufacturing.

Measuring Innovation

- **Innovation is critical to global integration and competitiveness.**
- **No single model of innovation exists.**
- **Innovation is difficult to measure and so it can be undervalued:**
 - **If you can't measure it → people won't value it and won't invest in it.**
- **Or if you have made an investment, there is always pressure to justify the investment. That applies across all segments the economy.**
- **Innovation extends beyond product innovation. There is real value taking place in process transformation, business model innovation, management and culture, and policy and society related innovation.**

Measuring Innovation

- **Quest for Relevant Data:** Consider available data and examine whether it's a good and accurate representation of innovation (particularly since data often lags). Similarly, we need to consider other possible data that could be of use, e.g., services related data or intangible assets.
- **Governments, businesses, academia are working to develop metrics or benchmarks to measure innovation.**
 - **Examples:** OECD, US Department of Commerce, UK, Japan, China, Brazil, Thailand, etc.
 - **IBM initiatives:**
 - *IBM-Melbourne Institute, Innovation Index of Australian Industry*
 - IBM, American Productivity and Quality Council (APQC), and Innosight, sponsoring *Open Innovation Research Study* to help organizations measure innovative capabilities that matter most to performance.
- **Innovation is occurring globally and countries/organization should share insights and work to develop common metrics to facilitate comparison.**

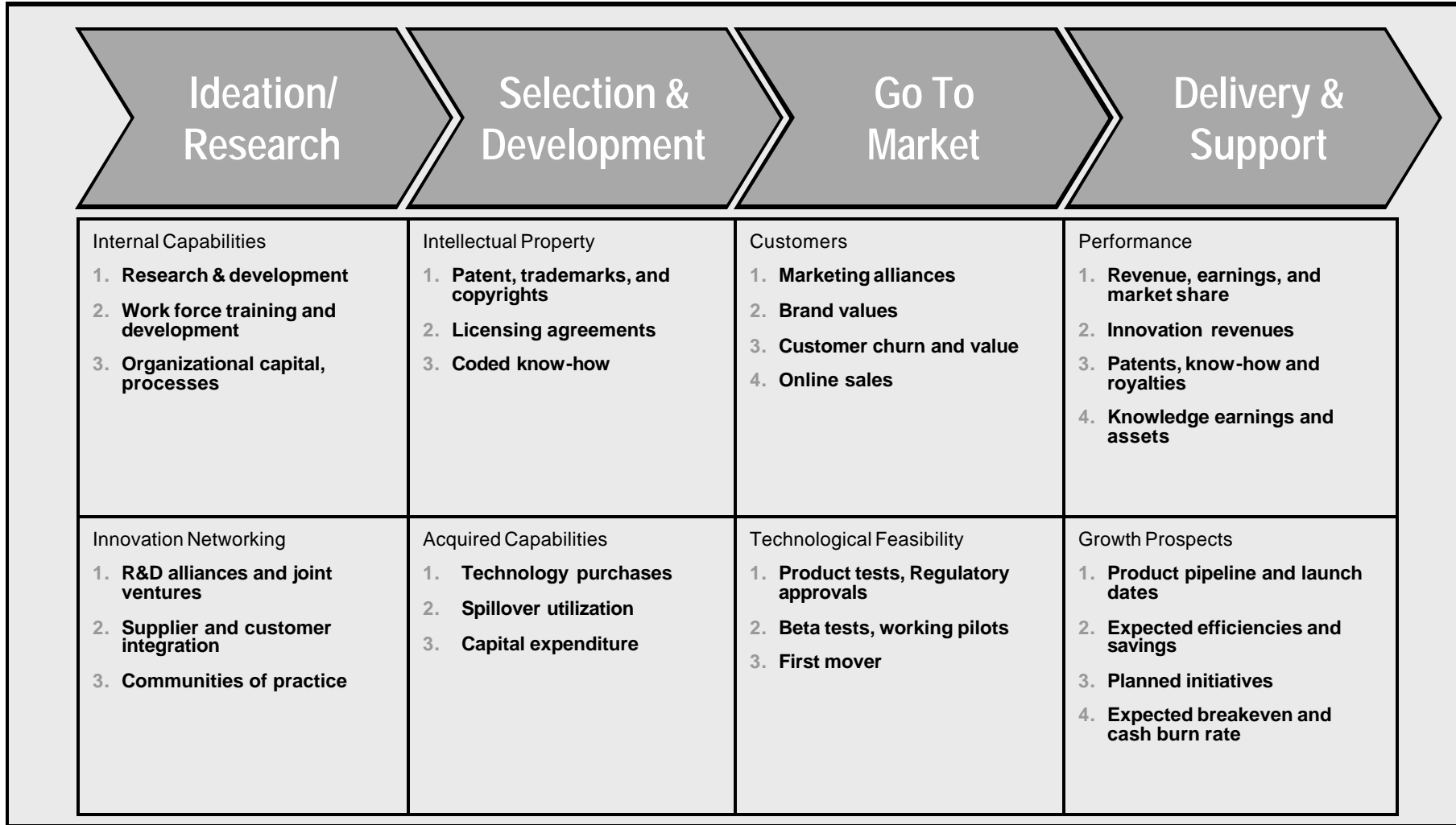
Key Considerations

- ***A Survey of Innovative Activity Should be Developed and Implemented*** - Innovation is dynamic and occurring in the marketplace. While quantitative metrics do exist, they should be supplemented by innovation-related data that is not currently being captured, e.g., services and intangible assets.
 - Survey should include all areas where innovation is occurring, e.g., product innovation, process transformation, business model innovation, management and culture, and policy and society related innovation.
 - Measurement across the value chain is necessary for successful innovation
 - Ideation/Research > Selection/Dev > Go to Market > Delivery/Support
- ***Qualitative Measurements are a Key Innovation Component*** - There needs to be tolerance of qualitative and even subjective measures if enterprises are going to manage innovation, learn about it, and continuously improve it.
- ***Innovation Measurement should not be Static*** - It is important to have a robust and continuing dialogue around the measurement of innovation. There is learning and improvement from measuring, especially from the dialogue that is involved in defining and relating existing and new measures.

Key Considerations

Services Related Data is Critically Needed – Service sector accounts for over two-thirds of world Gross Domestic Product (GDP), and has surpassed agriculture as the largest source of jobs in the global economy. A significant amount of innovation, resulting in increased productivity and efficiencies occurs in the service sector. There is a dearth of relevant and accurate data statistics and performance measurements relating to services.

Measurement across the value chain is necessary for successful innovation



Source: Baruch Lev; *Intangibles: Management, Measurement and Reporting*; pp 111, (Brookings Institution, Washington, D.C. , 2001)



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Thank You!

Foundations for Innovation