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Accessing finance: intellectual capital readiness of entrepreneurs and MSMEs

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Introduction

This contribution was initially focused on the general problem of accessing finance for entrepreneurs and start-up businesses based on knowledge and in particular based on intellectual property. A later request was to draw on my work in a wide range of countries at different stages of development to redirect the emphasis towards the particular challenges of the IP and entrepreneurship finance questions in developing countries, especially in those where there is little established experience of IP and knowledge based start-up enterprises. To provide a broad context the general challenge of financing MSMEs with intellectual capital is described briefly together with three hypotheses that indicate particular facets of the challenge for the innovation system for most countries.

The distinct challenges that arise within the developing countries are then described with a strong theme of heterogeneity of context found in these often very different countries. Two common challenges – linking those who generate knowledge to the users and stimulating interest among MSMEs in knowledge as a key competitive tool – are then described more fully through examples of specific interventions in particular countries.

The finance challenge

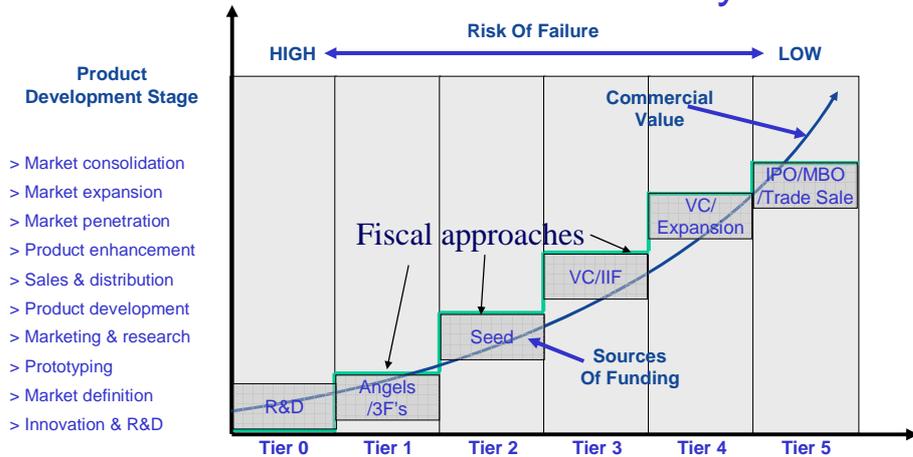
Raising finance for MSMEs is a generic problem because of the reluctance of lenders to engage with small entities that lack asset backing and that apparently enjoy only fragile revenue streams and have a dependence on a management team that is sometimes solely the driving entrepreneur. For businesses where the product or service base is intangible intellectual capital, and the entrepreneur comes from a technical or academic background with only very limited commercial experience, the generic problem becomes an order of magnitude deeper. This is the finance challenge of knowledge based MSMEs who, because of their lack of commercial experience, usually, have a less developed appreciation of the needs and expectations of finance providers either for business information to substantiate the case for making funds available or the criteria they will use in judging the investment readiness or attractiveness of the investment opportunity.

The frequent public policy response to this challenge contains two common elements:

- ◆ first, the creation of some venture funding entity that provides, often with public sector participation, risk capital for new knowledge based businesses; and
- ◆ second, coaching and/or mentoring and training to knowledge based entrepreneurs in how to prepare their ideas to be investment ready and so able to attract funding by the right presentation of evidence on the opportunity and potential rewards to those looking to make investments.

A rich venture funding provision requires much more than this, as shown in the following diagram, but these two elements of policy response are a good start.

The Commercialisation Cycle



Business Development Tiers			
Tiers 0/1 - Pre-incubation	Tier 2 - Incubation	Tier 3 - Post-incubation	Tiers 4/5 - Commercial Maturity
<ul style="list-style-type: none"> ▪ Direction ▪ Collaboration ▪ Guidance ▪ Resources etc ▪ Pre-Seed funding 	<ul style="list-style-type: none"> ▪ Mentoring ▪ Seed funding ▪ Contacts ▪ Consulting ▪ Clients 	<ul style="list-style-type: none"> ▪ Funding ▪ Structuring ▪ Relationships etc 	

In the diagram the range of finance instruments is shown as an articulate set of steps that start in the R&D phase – referred to as Tier 0 – where grants are often found, through the provision of angel finance (Tier 1) and early stage seed funding (Tier 2) and then into formal venture capital (Tier 3) and later stages of expansion capital (Tier 4) before moving to an initial public offering of equity on a stock exchange (Tier 5) or some form of trade sale or management buy out. Additionally, there is indicated at each tier the sort of advisory input needed to complement the offer of finance to fit the enterprise with the right skills and information to progress along the commercialisation cycle.

The two main messages that need to be emphasized are, first, that “money” does not create good ideas but is good at finding them and then very selective in investing in them. Most publicly funded early stage seed capital interventions have struggled to stimulate an early stage risk capital market because of the lack of quality deals – the Israeli Yosema initiative is the exception where the underlying conditions were favourable. Analysis of this initiative shows the significant contribution of the existing mass of technology based companies and the associated richness of the deal flow to take advantage of the availability of funds.

And, second, that to stimulate successfully enterprises based on intellectual capital requires the provision of articulate finance linked through all the tiers shown in the diagram. New firms have multiple funding needs as they progress through their growth to commercial maturity and are liable to be held up in their growth if appropriate funding is not readily available. Policies need to address this articulation not merely to focus on the starting point.

It is also worth bearing in mind the full range of finance sources available to firms with the real challenge for any intellectual capital based business being how to combine them to sustain and grow successfully their business. Finance, therefore, most significantly includes:

- ◆ cash flow management – the cheapest money available to any business if through its own treasury from sales and these need to be emphasised alongside any external funding sources – help to find customers becomes central here

- ◆ equity injections – provide the longest term form of funds and funds that take the largest risk but does so at the cost of introducing additional shareholders to the enterprise and diluting control which often raises issues with the original entrepreneurs
- ◆ loans – are the most frequent form of business finance and often require significant collateral to insure the finance provider against loss as well as a credit history and standing for the new firm, all of which can be difficult to achieve for new enterprises with predominantly intangible assets
- ◆ financial guarantees – can be provided by private or public programmes to overcome the collateral shortfall and so enable access to borrowing to allow the enterprise without sufficient, or the right kind, of collateral to succeed
- ◆ strategic alliances – are sometimes an alternative where a larger partner enterprise can bring the security to access other funds sources as well as on occasions providing the finance directly to entrepreneurs or new innovative businesses.

Three commercialization hypotheses

When analyzing the situation of accelerating the development of new knowledge based enterprises in different countries there are challenges identified in both the supply side community that is generating new ideas and the finance community of funding sources as well as in the area of interaction between them. Three commonly found scenarios are summed up in the following three hypotheses of problem and policy response.

Hypothesis 1: build a venture funding industry

Here the common description used is that the nation has a strong S&T community with lots of ideas that are suitable for commercial application BUT there is a lack of available risk finance to take them forward SO we need to build a Venture Capital industry that will provide the risk capital to utilize better our innovative ideas. This hypothesis is almost ubiquitous as in most countries the venture funding industry is still at an embryo stage at best. It applies to much of Europe as well as most middle income countries and several less well developed countries where there is a strong academic tradition such as India and China.

Hypothesis 2: reorient the science base

Here the common description used is that the nation has plenty of money available which is prepared to invest in new business ideas BUT that there are not enough ideas coming forward from the knowledge base SO what is needed is a reorientation of the science base to generate a larger proportion of commercialisable ideas. This hypothesis is commonly found in middle income countries following the European tradition of “Humbolt” universities and where applied technical competence is mostly found in publicly funded R&D institutions that have a bureaucratic rather than an entrepreneurial character. Changing the culture of these institutions to adopt a commercialization mission is often a parallel component to adjusting the funding mechanisms to target the right research and to incentivize commercialization of emerging ideas.

Hypothesis 3: develop a vision and learn a common language

Here the common description used is that the nation has lots of great R&D which is generating good ideas AND that there is a willing finance community that is prepared to invest in these commercialisable ideas BUT the two communities have opposite perspectives and find it impossible to communicate successfully with each other and as a consequence most of the opportunities are lost SO deliberate efforts need to be made to build a shared vision of purpose and to learn a common language with which the different

communities can communicate. Again this hypothesis is found almost universally no matter how well developed the finance and academic communities are and follows from the traditional separation of these two distinct worlds.

In most countries where I have worked on these topics – now approaching 50 – an element of all three of these hypothetical positions is found with the consequence that all three areas need to have action taken to improve the likelihood of accelerating the formation rate and growth of intellectual capital ready businesses. Of course there is a fourth hypothesis – the country has neither a research community generating commercialisable ideas nor investors willing to consider them. This is a more challenging case and requires a good deal of groundwork to change the underlying conditions but even here through pragmatic efforts and working with the willing there is lots that is being and more that can be done.

Particular challenges of developing countries

Within these broad and frequently found challenges there are additional particular challenges found in developing countries. While there are some universal problems for this category of countries there is also considerable heterogeneity in their circumstances and so one size fits all solutions are neither helpful or desirable. So the following examples are given as illustrations of some of the challenges that I have found in several countries and where it is possible to draw lessons that might have some more general applications.

Challenge 1: momentum and scale

In many places there is some good activity with a small number of enterprises based on intellectual capital and a small community of researchers and financiers willing to work together to accelerate the development of the knowledge economy. But the smallness of all three elements, irrespective of their quality, is a major constraint on development as it lacks the critical mass to succeed. Critical mass is a tricky concept to define but there are many examples of this lack of scale and the fragility of efforts where the momentum and visibility associated with large and well known centres of knowledge based research and economic activity are missing. An example of this situation is world class research efforts in Antofagasta in Northern Chile where a very small research team is working on identifying microbes that are responsible for eating the metal pipes that transport copper ores from the mines to the coast but the availability of all the tools to commercialise the work is close to zero. Contrast that with the critical mass built in Israel around the knowledge economy with a sufficient critical mass to play on a global scale even though the country is small and the domestic market is limited. Maurice Tuelal and colleagues at the Hebrew University in Jerusalem has done interesting work to identify a staged approach to building the critical mass based on an analysis of the Israeli successes.

Challenge 2: critical component versus pragmatic stimulus

One of the approaches that have many adherents in the development industry is that there are a number of critical components that have to be put in place before systematic progress can be made in developing the knowledge economy. Only when these components are present will there be the conditions to proceed – and the corollary of the argument any efforts in the absence of these components is wasteful. The opposite camp offers a pragmatic solution by pointing out significant and sustained success in parts of national innovation systems even in the absence of the critical components and demonstrates that much can be achieved by working with success. Charles Sabel at Columbia Law School has done some interesting work on this with a particular focus on the agricultural sector in Argentina (including contrasting the performance of national development agencies in agriculture INTA and industry INTI) but also pointing out the scale of variance between leading and lagging firms in any sector of the national economy as a proxy for variable capacities to address knowledge strategies.

Challenge 3: clusters and aggregation

The cluster approach and the creation of aggregations of activity around priority sectors is a widely used approach to policy and program definition and has been associated with successes in many different places. A deliberate strategy to focus efforts of the innovation system including attracting mobile investment, investing in advanced human capital and in backward linked R&D activities has, for example, underpinned Singapore's rise and has been mirrored in many other countries looking to achieve a similar leap in development.

Challenge 4: reorientation of capabilities

The reorientation of national capabilities, particularly in R&D efforts that have been conducted in public institutes, has been a component in many strategies to develop the knowledge economy but in some it has taken on a broader shape. In Armenia, for example, the acknowledged national strength in mathematics and complex analytic skills – indicated by the disproportionate number of world class chess players – meant that Yerevan was a crucial centre under the former USSR for computation and informatics. This has been reoriented to develop a well linked international cluster of ICT companies using the Armenian diaspora and is now being generalised into a broader range of knowledge economy developments in spite of the lack of advanced communications infrastructure.

Moving both mountains

Much of the literature on intellectual capital readiness deals with the challenge of stimulating the interest of the research and finance communities in any country to play their role in stimulating the growth of the knowledge economy. This is the first mountain that needs to be moved!

The second mountain occurs on the demand side among enterprises that do not consider knowledge and intellectual property as relevant to their businesses. The mass of existing businesses in all economies fall into the MSME groupings and lack of interest in knowledge based competitiveness is rife, especially in traditional sectors. Here the challenge is not the availability of finance, but it is the persuasion of the entrepreneurs that knowledge strategies are essential to their business success in the future.

Policy programs need to be built that tackle this challenge at three levels:

- ◆ first, a broadcast strategy that promotes innovation, productivity enhancement and knowledge based business improvement to the mass of the MSME population. This is the missionary work that is ongoing and needs to be persistent and insistent to get the message across
- ◆ second, working with the willing, which are those firms that have become aware of the need to enhance productivity and adopt innovations but typically lack the skills, experience and know how to achieve the desired change. They are willing partners of productivity enhancement programs where shared cost grant schemes, often with accredited expert advice alongside the grant, are the most common types of successful intervention
- ◆ third, long term investment in national priority sectors or clusters including leading contributions from private sector with both knowledge and funds making a strong contribution but working in partnership with public agencies and research communities to achieve agreed goals.

CORFO, the economic development agency of Chile, has launched just such a three pronged program with the assistance of World Bank funds and drawing on the experience of manufacturing advisory programs in the USA and UK.