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Factors of Knowledge Economic Development

There is plenty of hype about knowledge economy, saying how it is the 4th evolution to previous generations (agrarian, industrialized, and post-industrial economies), how innovation is basically the currency nowadays, how human capital is the dominant capital in this economy. However, there are very few sources on how to actually develop this knowledge economy. There seems to be no consensus as to how a knowledge economy is developed. Perhaps, it is because there are too many aspects to deal with, too many starting points to begin, too many possibilities to decide. Still, the answer to this question is needed in order for developed countries to evolve, and developing countries to catch up. So, how do we actually develop knowledge economy? The thesis consists of 2 parts, one, is innovation, two, is integration between innovation and business. The 2 ingredients are going to transform any previous economy to knowledge economy. How? First, innovation is needed to have new ideas, then, integration between innovation and business can apply and bank on these ideas. This is, however, still very vague.

Innovation is an interesting beast, because there is no certain formula to create innovation, yet, there are some cities continuously innovate. It may be a black box operation, but there are a few points to pay attention to. First, it is resources. What does that mean? Well, there is no desired results when put in the resource, more accurately, there is no aim. It seems like just blowing money, but if these findings are substantial, there should be no difficulty in finding usages for these results. When doing research on these “useless” projects, you have an abundance knowledge no known to the outside world, which gives you an edge eventually. Second, there is talent. The hiring practice would be rather unconventional, when there is a talent, he should be hired regardless if he can provide any immediate contributions. These people can be consultants to various projects at first, they can “stick their noses” in everyone’s business so to speak to perhaps provide a different point of view. By hiring such talents, the organization would have a stockpile of them while others have one or two, which again, gives the organization an edge. Third, is the culture. The culture should promote long-term thinking, each researcher should know that his research right now may not be important, but ten or twenty years down the road, it will be. Which is very interesting, because when researchers adopt this long-term thinking, there is no pressure to produce research in a very short period of time, which minimizes the bad research due to deadlines approaching.

Integration between innovation and business, on the other hand, is also very interesting, because it is really difficult to replicate, there aren’t too many places where there is such integration. But again, there are some pointers to look at. First, there is a focus on users’ actual needs. Now these needs can be both spoken and unspoken. Spoken needs are pretty direct, but there are also unspoken needs. The reason why there are both spoken and unspoken needs is because there are some needs that can be vocalize, while others are either too difficult or uncomfortable to. Second, how to meet those needs. Simply know these needs is not enough, there has to be a way to fulfill in order to capitalize. While it is not a guarantee, having ideas to the solution is much better than the alternative. Third, once there are ideas as to meeting needs, produce the product or service as soon as possible. Business is all about profit, and one of the ways to maximize profit is to dominate the market share early on. Others might have the same ideas as you do, so you better get your product out fast to take the market share.

As the first paragraph as stated, there isn’t much on how to develop the knowledge economy. The closest is a government’s approach on developing it, later it will be talked about why it is not a favorable approach. In this case, Singapore is the subject. There are in total 4 strategies, build bridges through international trade agreements, broaden the industry base and develop new growth clusters, improve service and manufacturing industries, build a vibrant enterprise ecosystem.

The first strategy is building bridges through international trade agreements. The agreements are made to make Singapore a key connection to the rest of the world, and also allow Singaporean companies to have some market share in the international market. This is very important because it let Singaporean companies to have access to international market, thus, allowing them to compete.

The second strategy is broadening the type of industries by developing new technologies. To broaden the types, there needs to be new tools, in this case, it is technology. Since new industries at this point has to be something new, this is where technology comes in. When users first come across to products and services from such industries, they might be hesitant to buy, as they don’t see it as necessary. However, their selling point is that the product or service is not something you need, but it is something that would greatly enhance your life.

The third strategy is improving current service and manufacturing industries with technology. To do that, there needs to be brand new technologies that don’t have any obvious usage and are no related to the industry itself, and try to apply them as much as possible. This way, industries can get leaps and bounds ahead than their competitions, because their competitions would have never thought of using such technologies on their own products and services.

The fourth strategy is creating a vibrant enterprise ecosystem. In order to do that, Singapore develops its venture capital industry, increases tax incentives for R&D, and provides a platform for new users to test on newly developed technologies. By doing all of this, it encourages to investors to invest, inventors to invent, adopters to adopt all kinds of new technologies.

In order to test the thesis, case study analysis is recommended, as it can be difficult to quantify innovation. There are two countries getting compared, US and India, considering they are both very technologically involved.

For US’s innovation, Bell Labs often comes to mind. In terms of resources, Bell Labs has an abundance of resources, it is because it was a subsidiary of AT&T, which at a time was government sponsored monopoly. The resources used in Bell Labs are not always on “urgent” projects. Many of them don’t come to fruition until decades later, thus showing the amount of resources there is in Bell Labs. In terms of talents, they hire the best, regardless if he is “useful” at the moment or not. They can do that because one, they have abundance of resources as stated previously, but two, that truly give Bell Labs an edge as there are plenty of talented people in every field, waiting to work on the next grand project. In other words, there is no scarcity in finding a crew to work on a project when needed. In terms of culture, long-term thinking is Bell Labs philosophy. Researchers all know that almost nothing good can come to completion without putting in the time. Based on that, they can do a much more through job when researching their own projects, thus giving much better research results to Bell Labs.

For US’s integration between innovation and business, Silicon Valley would be the best example. In terms of finding out users’ needs, they use all kinds of ways to do so. Traction, which is asking people in the public what do they think of the product/service. This serves as finding out what the users’ spoken needs are, however, unspoken needs are not so easy to detect here. There is also product review, which is asking people to do beta testing on the new product/service. This can potential find out the users’ spoken and unspoken needs, however, product review might ignore certain environment variable, thus making the needs potentially not accurate. Finally, there is sign up. Which is presenting an idea out on a website, then have people automatically sign up for it. This allows a clear look as to whether or not the idea is popular, potentially fulfilling users’ needs. In terms of actually meeting those needs and producing the product/service as soon as possible, Silicon Valley has recruited people from all around the world to do that. They clearly understand that US alone is not creating enough technical people, thus recruiting from the world is absolutely necessary. By recruiting all these people, they can actually plan out how projects can fulfill these needs, and also implement the solutions themselves.

For India’s innovation, there isn’t very much unfortunately. In terms of resources, there is a scarcity to develop on any new research projects. This is because there is no immediate capital return in research. Outsourcing, on the other hand, provides the fastest capital return out of all the technological related activities. So it is really difficult to allocate resources from outsourcing to researching. In terms of talents, India doesn’t recruit people from all around the world, instead they hire their own mostly, and they are educated by the Indian education system. This has proven problematic as Indians themselves have complained that the Indian education system is too focused on test scores, and not enough on actual process of learning knowledges and thinking about solutions. In terms of culture, short-term thinking is much more prevalent, as demonstrated in the first point. They would go for the fastest capital return (also the least), outsourcing, rather than the slowest capital return (also the most), researching.

For India’s integration between innovation and business, again there is very little actually. As the outsourcing capital of the world, India does mostly Business-to-Business deals, not Business-to-Customers deals. And so, there is very little thought given what users actually like, usually it is other businesses that tell them what the users want. Same for figuring out how to meet those needs, it is other businesses tell them the plan, they don’t have to plan themselves. This put India in a very weak spot as it doesn’t have too many experience on either figuring out the needs and meeting the needs. The only advantage India has is that it can produce the software quickly. Some might argue there is not too much quality, but the first edition of a software can get a little sloppy, further editions however, don’t have as much leeway. But at least on the first edition there is an advantage.

In summary, developing knowledge economy has two main prerequisites, innovation and integration between innovation and business. Within innovation, there are resources, talents, and culture. Within integration between innovation and business, there are focusing on users’ needs, figuring out how to meet those needs, and producing the product/service as fast as possible. Based on these requirements, the US has done quite a good job as it has achieved quite a bit of both during its lifetime. India, however, lacks advantage in every area except for producing the product/service really fast.

A question that be further discussed later on is how can countries like India get on the US’s level in developing knowledge economy? Based on the discussion here, there are already some basic ideas. In innovation, companies should adopt a more long-term thinking culture, thus allocating resources from outsourcing to researching, thus having resources to hire talents. In integration, India must learn from the US on knowing what the customers’ needs, and reform its education system.