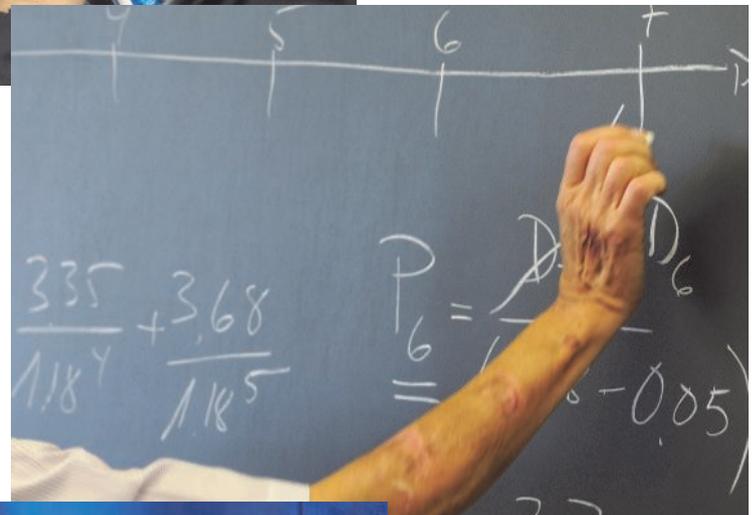
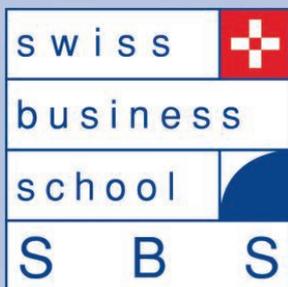


Vol. 1

September 2012





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Introduction to the SBS-JABR

At SBS Swiss Business School we believe that managerial success in the XXIst Century will be related to the capacity to apply business knowledge into practice in a way that can be understood and shared by all the stakeholders of the organization.

In order support this idea and contribute to excellence in management skills, SBS Swiss Business School has developed the SBS Journal of Applied Business Research (SBS-JABR).

The Journal contributes to the creation of “State of the Art” academic and professional knowledge under a fully international dimension.

The Journal is based in a “peer to peer” revision process according to the traditional academic practices.

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As a first priority the SBS Journal welcomes high quality papers originated at Universities and Colleges offering D.B.A. Programs, articles can be signed by Professors, lecturers, DBA students, executives, policy makers and administrators in private and public sector, strategists, management consultants and others interested in the field of first class management of postgraduate education.

The SBS JOURNAL OF APPLIED BUSINESS RESEARCH publishes original research works that deal with any of the specialties relating to the field of Business Management.

The Editorial Board has the final responsibility in accepting works, subject to the reviews of two anonymous evaluators with knowledge and interest in the topics submitted to review.

The Reviewers Committee is formed by professionals belonging to European, American, African and Asian Universities and B-Schools of well known prestige in their areas of knowledge.

All originals should be sent to the Editor in Chief, Dr. Jorge Mongay, jorge.mongay@sbs.edu Articles should be unpublished and should not be in process or be approved for publication by any other magazine or journal.

The works submitted will be independently reviewed by anonymous evaluators. The reviews will be of blind nature in both senses (peer review double blind).

The work will be gone through them in such a way that reviewers and authors won't know each other identity at the time of reviewing. For further information on editorial policies or the preparation of manuscripts, you should contact the Editor in Chief.

All work must abide by the following technical specifications <http://jabr.sbs.edu/guidelines.pdf>



Aim and Goals

The primary goal of The SBS Journal of Applied Research is to highlight those business practices based under action and applied research which sustain business excellence. It is a refereed, multidisciplinary Journal which targets to academics, business managers, CEOs and Doctor of Business Administration (D.B.A.) candidates and graduates.

The SBS Journal wants to create a new formal channel of communication between universities and business schools and management practitioners such as policy makers, government agencies, academic and research institutions and persons concerned with the complex role of business.

It also aims to promote academic discussion and strategic analysis for practitioners on managing global competition in products and services for all sectors in a worldwide basis.

The publication of at SBS Journal of high-quality empirical and research applied papers that advance knowledge and its application in a complex global world helps to expand business systems thinking and business modeling issues.

Finally the Journal offers an international dimension accepting papers from any corner of the globe, it develops and increases a network of contributors and editors from many different universities and B-Schools in all continents, fostering the interrelationship of structures and processes in a global arena.

The Journal will cover areas for applied research papers and case studies in the fields of General Business, Human Resources, Marketing and Sales Management, Finance, International Business.

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Academics, researchers and students, especially graduate students in Doctor of Business Administration (DBA) and similar programs; executives, policy makers and administrators in private and public sector, strategists, management consultants and others interested in the field of first class management of postgraduate education.

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The SBS-JABR launches 2 Volumes each year. Spring and Fall. The 1st Volume appears in September 2012 and so on. The Journal welcomes papers up to 2 months before launching each volume. You can have access to the last volumes and link to each article at:

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Volume 2 will be issued in March 2013.

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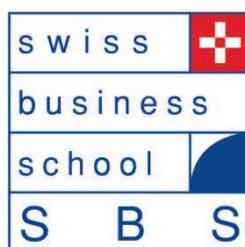
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Journal Website: <http://jabr.sbs.edu>



ISSN SBS-JABR:
2235-7742 (print)
2235-7750 (online)

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8302 Kloten-Zurich | Switzerland

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How IT Can Contribute to Human Affairs

Dr. Kurt Weiss, SBS Swiss Business School

We spend billions of dollars trying to understand the universe, while we still don't understand the conditions of a stable society, a working economy, or peace [1].

1. Introduction

Nothing gets old as fast as the future.

From its beginnings life on earth was driven by the adaptation to changing environments and the survival of the best adapted [2] The result we see today is an overwhelming variety of species, not counting the ones vanished during the last century or hundreds of millions of years ago [3], not counting the ones discovered recently in extremely improbable niches such as deep water volcanic environments at temperatures of 8000 C in total darkness under extreme pressures up to 60 MPa (600 atmospheres) [4], below Vostok in the Antarctica, the coldest spot on earth, in a lake covered by 3.7 km of ice disconnected from the rest of the world for the last 15 million years [5] in remote and all but inaccessible parts of rain forests [6], or in oxygen free, poisonous environments [7], not to speak of the untold species added continuously to the living world. A variety it is as incredibly diverse and rich to defy any conceivable master plan pretending to have (had) all this in "mind" [8]. Accidental variation, coincidences, and survival of the fittest is the name of the game.

Or is it? When Homo erectus entered the stage more than a million years ago [9] he had a very hard time to establish himself in a world full of possibilities on the one hand, but full of deadly threats on the other. On first sight nature equipped him badly for survival. He cannot fly nor swim. He cannot run very fast. He is not very strong or very tall. He is very sensitive to temperature changes. He has no claws, no fangs, and no stings. He is barely resistant to poison. His eyesight is comparatively poor, his hearing bandwidth is narrow, his sense of taste is unreliable, his tactile discrimination spectrum is very limited, and his smelling capacity is short ranged at best. His reproduction is complex and expensive, the production rate is low, and the natural loss rate is high. There is no warranty. Man is prone to all kind of accidents and diseases. He is difficult to repair.

His life is short if he does not take countermeasures which have been at his disposal only in the very recent past. But man became a possibility. He survived, as yet, the merciless battle called evolution, because he engineered all kind of technical devices and clever tricks to fight the obstacles nature has been putting up against him in ever changing shapes.

He began to compensate his natural weaknesses by tools and prostheses. He began to dominate his competition. He survived his gradual birth. In addition his relative successes made him think that his ability to adapt the environment to his needs instead of adapting himself to the environment gave him the tools to beat the Darwinian rules (inventing warm underwear instead of waiting for a fortuitous genetic variation luckily providing him with a thick fur).

A lot of tools he invented indeed, but still all his achievements and innovations always will be overpowered by many orders of magnitude by the sheer force of nature. There is no conceivable technical trick to stop an earthquake, a tsunami, a volcano outbreak, a celestial body on a collision trajectory, or to slow down the continental drift. Nature's power will overrule any trick in the long run, and Humans better try to adapt to this fact, if they want to stay in the game.

How? Homo erectus lives predominantly in societies which need a certain amount of organization. Of course this is also true for ants, bees, and many other species that cannot survive without rules and structures. Rules in ant societies are relatively simple. As an example consider their strategy for finding food. Specialized ants (an adaptive success by itself) walk out to find places where food is available.

If successful, they eat and walk back to their home anthill all the way depositing olfactory clues along their path. Other ants smell it, follow it, deposit clues again, and enhance the scent. The rules are very simple: (i) always mark your path and (ii) always follow the path with the strongest scent [10]. Another, somewhat more sophisticated, example is the well known dance of the bees directing other bees the way to blooming flowers where nectar is available [11].

These are certainly clever rules, but simple they are in comparison with the rules needed for the survival of human societies. According to the available records they were already quite complex in historical times. And then look how involved, varied, and entangled they have become in our developed technological world where technology itself has become indispensable to maintain and improve the organization of human society. It is here that IT enters the stage. IT has become an indispensable tool to keep the machinery of human activities running. The implications of this fact are the topic of this essay. One should, however, keep in mind that many societies on our globe are still living on the basis of the older, simpler rules. One might even ask (and that is what concerned people do) which kind of societies in the long run will be better off. The ones adapting to nature or the ones trying to overcome its constraints?

The essay is structured as follows: The next three Sections discuss on a rather general level the interplay of IT with people, change, and the state. After an interlude about IT as a global commodity a more specified Section addresses the interaction of IT with business (the engine powering human affairs). Future work will cover the interaction of IT with society, and learning (the driver of everything). A summary and an outlook conclude the essay not without soliciting further work.

Concluding this introduction a disclaimer is in order. This is a positive, overoptimistic view. (Quoting David Ben Gurion: One must try the impossible to reach the possible.)

Furthermore the eminent role of the arts and the humanities is not considered, neither are ethical, moral or religious considerations. Artists, poets, musicians, adventurers, philosophers, scientists, psychologists, medical doctors and many others clearly should be part of a more complete picture. Here we concentrate on Homo Economicus where we are aware of the fact that humans in general do not behave rationally [12]. The deep and wide gap in wealth, health, education, training, and so on across the world is another dramatically influential factor that is not considered in any detail. And then: If this essay will be of any use it might perhaps help to increase the stability of societies, contribute to a working economy, and increase the chances for peace (remember Ben Gurion).

And if this happens, slowly and small step by small step, we will be able to spend more money for efforts beyond the horizon of Homo Economicus and to send forth some of us as dedicated servants, to forward the search into the mysteries and marvelous simplicities of this strange and beautiful universe, our home [13].

2. Homo Economicus and IT

Man survived by developing skills. He now needs help to survive his skills.

How can Homo Economicus thrive in the complex environment of our globe? What kind of organization does he need to survive the brutal, relentless, and never sleeping competition that surrounds him? How can he manage efficiently and effectively the technology and supply chain logistics driven processes from the resources to the ever growing number and diversity of products and services he needs or wants to keep him nourished, sheltered, healthy, sociable, reproductive, and prepared to adapt to the ever changing challenges he encounters at an ever increasing pace?

Big questions. Too big for an essay dealing with the much more restricted question about the how the potential of IT can contribute to the answers. Old questions they are, as old as humanity itself. IT, in contrast, is by all measures an absolute newcomer. It's first signs of life date back to the 1930ies as a side branch of mathematics [14]. Its practical impact, barely noticed beyond a small circle of scientists and a few pioneering businesses, began in the 1970ies [15] to get a decisive boost with the conception and invention of the internet in 1989 [16]. A mere 10 years later it became a worldwide commodity. Today (2011), about a third of all people on earth are estimated to be involved in one sense or other with IT [17]. And counting. Never a technology has spread that fast.

Our questions therefore will be addressed keeping in mind the necessarily provisional and rapidly changing state of the present human affairs. Homo Economicus is in a state of revolution. And as it has happened so often in history, most people are not really aware of it. When they finally wake up to the facts, it may be too late for them to adapt. They will not be among the winners.

The future happens, even without them. Homo Economicus has many aspects. Let's try to summarize them somewhat frivolously with three terms: Homo Sapiens, Homo Faber, and Homo Ludens.

Homo Sapiens thinks, learns, and teaches. His field is data, information, knowledge, and perhaps wisdom. Homo Faber acquires skills, applies them, and coaches others to use them. His territory is craftsmanship and engineering. Homo Ludens generates ideas, shapes them, and enables others to put them into practice. His playground is creativity and innovation. Of course, no individual is in one category only. Every one is a mixture of all three aspects with weights attached that make up an important part of his or her specific personality.

IT plays a different role for each category. A rough sketch might include the following traits. For Homo Sapiens IT is a tool to collect and organize data, process information, and perform all kind of manipulations of numbers and mathematical symbols and graphs to discuss ideas and results. Homo Faber uses IT to equip his tools with all kind of sophisticated devices, steer his machinery, and to make the products and services he fabricates run smoothly in the hand of their users. Homo Ludens employs IT to model and simulate his innovations, find out how they are affected by changes in design or parameterization, and to support others to put his ideas into practice. In all cases a central aspect of IT is communication. Here the impact of the IT induced revolution is probably felt most radically and, at the same time, is grossly underappreciated. Yes, all the technical equipment and sophisticated services (including entertainment) that heavily depend on IT supported communication (or rather: which would not work at all without such support) are very impressive indeed and acknowledged accordingly. Yes, the communicational tools (internet, emails, handheld devices of all sorts, and so on) that enable all of these achievements are manifestly around. On the other hand, however, the impact of all this machinery on Homo Economicus during working hours and beyond is as yet neither really appreciated nor understood. In fact it is a sort of nervous system holding everything together.

Each industry and each kind of business will need a different kind of mix of the three types of Homo Economicus and accordingly will have to make different choices for their IT tools.

Some of them will be quite similar for all companies (every business needs bookkeeping) and therefore can be standardized to a high degree. Others will have to meet very specific needs (devising a precision watch or an airplane are quite different engineering tasks) so that the IT tools have to be adapted closely to the tasks at hand. (This does not mean that each piece of software has to be developed individually for each application, but it calls for a flexible standard that can be customized to map the specific business processes of a given industry or company [18])

Homo Economicus and IT are glued together for good. Business without IT has no future except in a few tiny niches. This is not to everybody's liking.

There are fears ranging from electro smog allegedly endangering health in many ways to data misuse reducing human beings to multidimensional data sets prone to be exploited by marketing strategists, or manipulated by political forces.

Clearly these dangers exist as every technological innovation has taught us during all of human history. There were no car accidents before there were cars. Cars, however, persisted and so did the accidents. Change always brings about benefits as well as dangers. As long as the former outweigh the latter, change is here to stay [19]. We better take up the positive side and try to reduce the negative (with the help of air bags, speed limits, and the like when talking about cars). Complaining will not help. The future happens. Even without you.

3. Change and IT

When you change the way you look at things, the things you look at change.

IT has a qualitative and a quantitative impact on human affairs. As for quality, many tasks have become routine that were extremely difficult and time consuming, or outright impossible to accomplish without IT. Quantity simply means that almost all business processes have accelerated often by orders of magnitude [20]. Change, of course, is an immediate consequence of these (linked) developments. In what follows we discuss a few typical interlinked, representative examples on the IT equipped stage where modern business is performed.

As always there are positive and negative aspects. The negative ones are by no means meant to stop or discredit the respective developments, but rather to help to avoid the inevitable traps inherent in all changes.

Communication is the first example and certainly one of the most influential one. It's hard to believe and difficult to appreciate how emails, SMS's, and so on have revolutionized communication as a whole. It's not only sheer speed which makes the difference, but also the contents which are exchanged much more informally, much more frequently, and between any numbers of correspondents. Language is affected too, orthography is, grammar is, and even manners, because politeness often is considered as too time consuming. Communication has become so overwhelmingly abounding that it threatens to end up next to impossible to handle. We might be heading towards an information catastrophe, where any piece of poignant news is irreversibly lost in a haystack of emails [21].

Knowledge is another issue experiencing a radical change through the workings of IT. Gone are the times of patiently (let alone scholarly) collecting data, connecting them to yield information, and eventually knowledge. Every item is available at a few clicks. Whatever the clicks produce is taken for granted because there is neither time nor the skills to establish the output's validity and because people (rightly?) think it cheaper to accept mistakes than to try to avoid them.

One wonders how long it will take until knowledge is so far detached from reality that we will be confronted with uncontrollable disasters. (Economy and global finance are "good" candidates for this to happen.)

The next example is diagnosis. Not only in the traditional medical world but also when it comes to analyze all kinds of food ingredients, environmental influences, psychological considerations in educational issues or human relations, or when we try judging the good and the evil of scientific results or research methods. Diagnostic tools have become so abundant and are applied so superficially that they yield a grotesque, panoptical landscape of interpretations beyond any serious scientific scrutiny. Soon everybody is hopelessly lost in a cacophony of opinions. The diagnosis catastrophe is around the corner, perhaps best exemplified by the not so funny

joke that only he is healthy who has not been medically examined thoroughly enough.

Another point in case is social and professional networks, IT driven developments which have changed the landscape of human interactions. The number of participants (February 2011) has passed 600 million people and counting [22]. On the social side (anonymous) exchanges around the clock wherever the internet is accessible, about anything of interest (or not) to anybody are established, maintained, or terminated at a click. Social contacts explode quantitatively and at the same time tend to get evermore superficial in inverse proportion to their number. Might the future be that everybody is connected to everybody with no contents other than being lonely together? On the business side networks are very efficient and effective global tools to connect offer and demand (e.g. via marketplaces), to start businesses, to organize projects, find people sharing ideas, and of course to recruit staff for your company [23]. And not to forget: networks may also have political implications to the better and to the worse.

As a last example consider what usually is called collective intelligence. We quoted in this context ants and bees in the introduction. Human beings rather tend to use their intelligence individually. It is difficult and an art in itself to train humans to think and act collectively (in team sports for instance). In addition collectiveness often comes along with negative associations [24]. But there are also visions of superior collective intelligences like Fred Hoyle's Black Cloud [25] being incomprehensible to the human mind, overloading it, and eventually even causing its destruction. Nevertheless, an IT based gradual build up of cooperative collective thinking may be a great opportunity for humanity. Perhaps the human brain itself, organized as an as yet poorly understood extremely sophisticated balance between localized and aggregate processes, is an excellent example of creative collectiveness.

Concluding this section we see that IT will bring about a tremendous load of change, open up uncountable options, and also developments people would rather not like see to happen. Whatever: if we want to end up among the ones fostering whatever negative aspects IT might bring about and the ones who push for its opportunities, we better address the challenge to be among the winners.

4. The State and IT

The state should serve the people. It's them who pick up the check.

How to govern a state? A question, of course, that is way beyond this essay. What we try here is to sketch a model based on three simple principles and to discuss a few ideas how IT can be used to make them work. In spirit with the disclaimer in the introduction many tasks the state should or could take care are left aside. We concentrate on the ones essential for economic success in a connected world.

The principles are [26]:

1. Each and every institution and all decisions of the state have to be democratically legitimated. The last word always is with the people (the sovereign).
2. The power within the state dilutes from the bottom to the top. Federalism and subsidiary task distribution are the key concepts.
3. The state intervenes as weakly as possible with the private sector. Its tasks are reduced to a pragmatic minimum.

The result is a state that is a trusted service provider to the citizen who pays for it. Competition between the various federal sub-units enhances the efficiency and effectiveness of these processes. The local needs of the people will be locally addressed with priorities and financing decided locally. By the stakeholders for the stakeholders. The monopoly of power, law enforcement, and services that are more easily or effectively provided on a larger scale (transport, communicational networks, management of currencies, and a few others) are provided by coalitions of the basic federalist communities.

These coalitions should be governed by bodies interfering as little as possible with the internal affairs of the smaller ones. In other words: Only tasks reaching beyond the local communities are organized by a coordinating institution whereby the latter should make sure to take recommendations received from below very seriously [27]. Certainly not an easy balance of power this requires, but one that has a fair chance to combine a maximum of individual freedom and general economic welfare with smoothly connected processes that empower the local federalist communities to fulfill their tasks in the larger framework of the state.

Economy of scale is a welcome asset and, at the same time, a quantitative criterion to assign them most efficiently and effectively. Entrepreneurship and competition will be the driving force for private businesses and the dwellings of state as well. The story does not end here of course. Different value systems, cultural idiosyncrasies, different languages, and many other disagreements and opinions set the various states apart from each other. Why not extrapolate the present model to agglomerates of states with the proviso that the larger it is, the less power is given to its governing body? Not more than what's needed to increase the efficiency and effectiveness of the communal services to the benefit of the agglomerate's citizens without interfering with their local interests [28].

All this may appear as a picture of Utopia (the nowhere land). What we propose here, however, is to pursue the idea that the impact of the radical technological change caused by IT, with its tools applied responsibly wherever appropriate, might help to pave the way towards Eutopia (the land of beauty).

Change is the essence. Not linear change as we perceive it, when we look at what we have learned from archeology and other sciences used to reconstruct the history of Homo erectus' development. Linear means that it took about double the time to double the number of people, the territory occupied by them, or whatever else one cares to measure.

The growth rate was constant. In the last centuries, however, it was definitely non linear. It was exponential. The growth rate itself was increasing. Computers not only got faster, they got faster faster as illustrated by Moore's law [29] (formulated in 1965 and still valid today after an astounding 47 years), that predicted the storage density of computer memories and their speed of calculation to double approximately every two years while the prize drops by a factor of two. Or look at Metcalf's law [30], formulated in 1980, telling us that the number of possible connections in a network does not grow linearly with the number of the network's nodes but proportional to the number of nodes squared. (Illustrated by networks such as the telephone system, fax, outlook, and Facebook.) The usefulness of networks does not grow at a constant rate in proportion to the increasing number of nodes, but at a much faster and accelerating rate.

Exponential growth (which in the beginning is deceptively indistinguishable from linear growth) cannot go on forever [31]. Physical limits like the speed of light or the size of an atom will put an end to the validity of Moore's law in the framework of the presently available technology. But new technologies like quantum computing will eventually start the game all over again. And on we go.

When everybody is connected by telephone or internet to everybody else new types of networks will be invented. Exponential growth, as long as it lasts, opens a plethora of mind boggling surprises. For instance Raymond Kurzweil [32] predicts, not undisputed of course, that in the year 2045 the computing power of Artificial Intelligence machines will surpass the brain power of all human brains combined (including creativity, and so on). He calls this moment in time The Singularity [33].

Here, we do not want to try to look that far in the future (nothing gets old as fast as predictions about the future). We are interested in the phase of exponential growth as caused and dictated by IT as we know it today. Difficult enough. Our minds are not used or trained to think in exponential terms. It's not intuitive. Our built-in predictors are linear. When we're trying to avoid an animal, we pick the linear prediction of where it's going to be in 20 seconds and what to do about it. That is actually hardwired in our brains [32].

Still worse, when talking about the state: it more often than not it is not even capable to cope with constant change rate [34]. (Population growth has come to stop in many countries in the last decennia but no one had reacted seriously to the easily predictable shortage of teachers, medical doctors, and so on.)

Here then is the challenge. The State stands in front of a bundle of pressing tasks: It should appreciate immediately all there is to know about IT, follow a crash course on how to handle linear change, study thoroughly all there is to know about exponential change, and the challenges connected with growth coming to a stop or may be even changing sign. If successful the state will have a chance to end up in a position where it is able to govern to the benefits of its multifaceted community of taxpaying citizens [35]. The State certainly needs not be afraid to run out of tasks. It will be very busy on a 24/7 schedule to reach in reasonable shape.

The Singularity or whatever else will happen. Or even to get there at all.

5. IT as a global commodity

Distribution is more important than quantity.

Water in history, arguably, was the primary commodity holding societies together. At a river, a lake, the sea, or near a source is where people settled. As the settlements grew, the water had to be collected at a well or was distributed by irrigation systems of all kinds to supply otherwise dry places. Water by now is a commodity taken for granted, although there are some warnings [36]. In large parts of the world the same is true for electricity as a power source which became available only much later in the 19th century. Water of course is indispensable for life. Electricity is not, but the ease with which it can be distributed over hundreds of kilometers at low cost and high speed made it all but vital.

Equally fast and by all standards at even much lower cost information can be distributed over any distance from nanometers (in chips) to light years (in space). Not surprisingly therefore IT is forcefully on its way to become a global commodity. If it has today (2012) not yet reached everybody on earth, the reason is neither technical nor cost, but rather the fact that many people are not trained to use it for the obvious reason that they (still) are analphabets. They will hopefully learn soon and then be taught (among others by IT supported tools) to use IT ever more efficiently. It is not risky to bet that IT shortly will be the number one commodity on earth as long as water and electrical power are available. The world will look very differently from what it was in the year 2000.

A few general remarks might be of interest at this point. The two arguably most important concepts in physics are energy and entropy. Energy is a familiar concept, entropy less so although it certainly is equally consequential (in and beyond physics). Loosely speaking it is a quantity that measures the amount of order (or organizational structure) within a system.

Consider as an example a closed box separated by an air tight wall into two compartments. One of them is filled with air, the other is evacuated. Pierce a hole in the wall and air will stream through the hole until the pressure on both sides is equal.

In the beginning of the experiment the gas was more ordered (it was on one side of the wall and not on the other) than at its end (when it was equally distributed to both sides).

If you had cared to install a tiny windmill in the hole, during the transition you would have had the possibility to exploit the wind power to do usable work. The transition from order (low entropy) to disorder (high entropy) yields useful power.

Other examples include temperature differences (representing order because heat is on one side and not on the other), water reservoirs in the mountains, or spatially separated electrical charges. Gradients like these allow producing useful power. Low entropy (a high degree of order meaning steep gradients) is the driver. If order is lost and entropy is high (all parameters are equal everywhere, no gradients) energy is needed to reestablish order. With other words: The availability of energy is necessary but by no means sufficient. In homogeneous systems its presence alone is of no help. Energy gradients (order and low entropy) make the difference.

Energy shortage is bad, but its availability alone will not help. The sun and – to a much smaller extent – the heat reservoir inside the earth provide us with orders or magnitude more energy per second than what we consume now or in the foreseeable future. There is no shortage of energy, no energy crisis. The problem is high entropy, not enough order, not enough structure, or organization. Resources other than energy display the same pattern. Notably, when speaking about economy or money. Not quantity, but distribution is the issue.

What does all this mean for information technology? Information is closely related to entropy [37]. If a system is highly ordered (low entropy) it stands for a lot of information. If everything is homogeneously distributed (maximum entropy) no information is available. The human society needs more than randomly distributed data to survive. It needs order, it needs information. IT is more than just a new useful and perhaps amusing technological gadget. IT is the essence of survival in complex systems like today's technology dependent human society. It is essential for life itself and of course business. Living beings need a nervous system and environment sensitive sensors to organize and coordinate the workings of its organisms. Muscles and bones will not suffice.

Business with money as its only resource will not survive either. Today's business needs IT. IT will tell the winners from the losers. We better make sure to take it seriously and to use it thoughtfully.

6. Business and IT

It takes all the running you can do to keep in the same place [38].

Introduction

Information Technology is ever more important for successful businesses. Its efficiency and effectiveness are in most cases nothing less than mandatory. Most companies which have not reacted to these developments in the past have vanished.

Those that will not react today will most likely experience severe difficulties to stay on the map. No board will want to see this happen. Here we describe the most likely IT-influenced developments to be expected on the basis of what we know and experience today. From this we will try to draw a rough (admittedly speculative) picture of The Future Company.

Five Steps for a Change

Five trends are already quite visible. All of them will influence business strongly. Any company of a certain size will have serious difficulties to grow profitably or even to survive in the years to come, if they close their eyes to these developments. Or to put it in a more positive way: Only companies who face these changes open mindedly will be rewarded with success in the next decade and beyond. Let us now proceed with sketching these developments.

a) Dealing with Complexity

There is no doubt: the world is complex, business is complex, and software is complex. This complexity is not only here to stay, it steadily increases. And there is no hope to get rid of it, if society, technology, business, and software continue to evolve at a pace comparable to what we have seen in the past. If nothing is done to prevent it, we are heading full steam into a complexity crisis [39].

What can we do about it? If we cannot get rid of complexity we must find means to tame it. We must learn to deal with it.

We must learn to deal with the contradictory requirements that things need to be complex to be really useful, while at the same time the more complex they are, the more difficult they are to handle. We must learn to navigate successfully between Scylla and Charybdis, to sail smoothly in troubled waters. For business this means to sort out a few key parameters from an incredibly vast number of variables. We must understand our businesses much more thoroughly and learn to measure, handle, and benchmark their complexity.

A few examples might be useful to elucidate what we mean. Consider for instance the origin of life which billions of years ago was born in the depth of the primordial soup by the simple mechanism Charles Darwin called [2] Survival of the Fittest.

The emerging biological systems' complexity is boggling the mind. Look at the brain (our soft disc). It counts about 10 billions of neurons, at least 10 times as many connections, and contact points (synapses). All this complexity enables us to handle astonishingly well and to survive in our environment which is, if anything, even more complex.

Or then: The physical world is extremely complex too, but scientists found a way to deal with it quite well so that engineers have been able to construct complicated machines such as the modern car whose more than 50'000 parts probably no single person understands in sufficient detail to be able to put it together from scratch. Astonishingly enough, however, (nearly) everybody is able to drive a car if he learns to manipulate some 10 handles.

Or think of the conductor of a large orchestra who pulls together the "noises" from 100 professionally played instruments of many different kinds into one beautiful piece of music full of harmony, melody rhythm, and emotion.

It is with these examples (and many others) in mind that we look for a way to handle the complexity of our businesses in a world of ever increasing complexity. And it is here that we call on IT to help us out of misery. The scenario is as follows: On the one hand we have the complex companies, on the other one the equally complex world of business software. Business is about adding value (steel in à Rolex out).

Value is added in business processes. If we map these business processes onto software processes we will have made a large step toward measuring, benchmarking, and, most importantly, handling the complexity of our business processes [40]. This is why: Software processes are based on strictly defined (mathematical) rules. They are measurable.

We can ask a lot of quantitative questions such as: How many transactions are supported? How many branching points can be counted? How many elements are found in a given process? How efficient are the individual processes?

The results, numbers, can now for instance be compared for companies of similar size in different industries, for similar companies (competitors) in the same industry, for similar companies in different countries, or for one single global company's subsidiaries in different countries.

The results can be used as benchmarks offering companies a tool to improve systematically their respective performances. Gradually, and most importantly it will become possible to hide the enormous (inevitable) complexity of a company vis-à-vis their customers. The complexity of the company's internal business processes will be silent for them [41] and they can concentrate on their own business.

What we propose, therefore, is a new scientific discipline: Business Process Mapping [18]. Its goal is to make the complexity of companies manageable by mapping the company's specific business processes onto business software. Business software, of course, is also complex, but here complexity is in general much easier to measure, handle, and to control than it would be by looking directly into the company where you easily will get as many answers as the number of different managers you care to ask.

To conclude this section let's consider another example: Physics is a scientific discipline whose method is to map the complexity of nature (business in our case) by means of strictly controlled experiments (business processes) onto mathematics (business software) which is also complex but easier to handle with the help of formal rules (programming) and computers (computers).

b) Process Innovation vs. Product Innovation

In 1937 the Nobel Memorial Prize winning British economist Ronald Coase published a paper *The Nature of the Firm* [42] where he established what since has become known as Coase's law. It states that a firm cannot grow any longer if the transactions needed to empower the growth are more expensive than the profit from the growth. Plausible enough but like so many – when the dust has settled - simple truths it had to be discovered, supported by convincing arguments, and shown to be useful.

Here we propose to paraphrase and restate this law [43] with respect to the role of innovations in business by saying that if a firm wants to grow profitably it better makes sure that its product innovations do not get torpedoed by the cost of the processes needed to bring them to the market. And as a consequence we claim that nowadays process innovation is more often than not at least as important as product innovation.

Clearly we are talking about production lines, distribution channels, customer relationship management, administration, and the like. Loosely speaking we are talking about "logistics". We are talking about doing things right rather than about doing the right things. Business, as we discussed in the previous section, is becoming ever more complex. Doing things right, therefore, is the longer the more the call of the day. Doing the right things is not enough.

Innovation is never easy. Ideas are one thing but development to market is another matter all together. One part of it is the development of the product itself, in essence mostly a technical challenge. The task here is to change the color of something, add or eliminate a button, make it faster or slower, bigger or smaller, heavier or lighter, use new materials, or what have you. Not easy but involving skills quite successfully acquired and practiced by generations of technical experts of all kinds. It is the other part where process innovation comes in.

Here the real challenge is not technical. The challenge is people. People will be asked to change their habits, to enthuse themselves for new projects, to integrate in new teams, and so on. They need a skill not usually in the focus of in house training in companies (or taught at schools for that matter): They need change competence.

Such is the challenge brought about by process innovation and it is change competence which makes process innovation in most cases considerably more difficult than product innovation. Martin Hilti, the founder of the HILTI Company summarized these ideas from an entrepreneurial view concisely as follows [44]: Owning markets is much more important than owning factories.

Let us look at a few examples of successful process innovations. Henry Ford realized that the conveyer belt (which was not his invention) made it possible for unskilled men to put together complicated machines. Gottlieb Duttweiler a Swiss entrepreneur in the first half of the 20th century, started a hugely successful retail company (Migros) based on the simple process idea to bring the products needed for daily life on (in the beginning) small trucks to villages with no shop (then quite common in Switzerland) so that people did not need to go to town.

Michel Dell did not sell different computers than did his competitors, but he created a new method to produce and distribute them. He eventually became the market leader for quite some time. Amazon in its large storehouses does not sort the half million and more books according to some alphabetical order of authors or what, but equips each of them with an electronically readable tag so that they can be stored and fetched automatically. Containers revolutionized shipping.

Alfred Hiestand, another Swiss entrepreneur in the second half of 20th century became rich by selling semi frozen croissants which, after heating them for 30 seconds, are fresh, crusty and tasty from 5 am till midnight. The same products, different processes! As a final and very spectacular example watch in Mumbai at noon each working day how over two million lunch boxes are extremely reliably distributed to the workers in town with the help of a code consisting of circles, crosses and triangles by carriers who do not know to read or write. Six sigma at its best [45].

What today's companies need, then, is a driving force which enables both: product innovation and process innovation. They need an innovation dynamo [46], a virtual device based on creativity, communication skills, and change competence.

On the one hand it will help to fill effectively the company's product pipeline, while on the other hand it will enable the company to bring these products efficiently to the customers. This dynamo will be an additional and important management tool for The Future Company.

c) ERP goes SOA

You are hungry. If you are to be helped, three steps are called for. Eating of course is one of them. But you also need to order your meal and to pay for it. In what order? It depends in the business model you choose. McDonalds will want you to order first, pay then, and to eat last. In a traditional restaurant you will order first, eat then, and pay at the end. If you take your lunch in the self service canteen of your employer you will pay and eat in that order. If a sit down buffet is available you again pay first, order then and eat at the end. Finally, if you are eating at home you just sit down and eat. Five business models for three steps [47]!

This is what Service Oriented Architecture (SOA) is all about. It allows you to structure your business processes with utmost flexibility. SOA is a method to encapsulate and orchestrate all available components (including IT) in such a way that internally and externally (relative to customers, suppliers, partners, and so on) business solutions are available as needed in each specific case.

It should be clear that not the technical tasks (manipulating data, calculations, maintaining hardware, and the like) are addressed but rather the easy and effective coordination of IT services according to the business transactions at hand. SOA is a structure which integrates the business applications and at the same time hides their complexity behind a cleverly chosen architecture. Silent processes are the result.

Integration is the buzzword here. It has four main components. The first is integration of people. Every employee will have a unique "single sign on" access to all and every information handling equipment he needs in his specific role. Every information channel he is entitled to use is open at all times, and all other means of communication will be available to him in real time. The second integration concerns information. Data are uniformly and reliably administrated and distributed.

They are summarized efficiently to furnish decision tools at the right moment and at the right place in a given process. The third is the integration of processes. Internal and external business processes are effectively correlated. They are as uniform as possible, scalable, flexible, and reach beyond artificial system boundaries. Furthermore business processes are to be easy to revise and improve. The fourth (the heart of SOA) is integration of applications.

An application platform supports all relevant technical standards and empowers a smooth interplay of web-services beyond company boundaries. It also allows for different ways to program additional software to yield optimally adapted (best practice) solutions to the encompassing business processes. As a result the company will speak with one voice to the customer. The customer will know all he needs to know about the company's products and services. The processes are optimized with respect to the value chain and they are always easily adaptable to the changing demands of the market. Any dependence on a specific technology is substantially and sustainably reduced.

Another important aspect is, as always, cost. As new and more SOA applications are created their individual cost tends to zero, because most of the services are already available and only need to be orchestrated. As said before, the flexibility of the business solutions is greatly increased which, on the cost side, allows to dedicate a much larger share of the IT budget to adapt the company's IT solutions to the changing market conditions and new software developments, rather than to use nearly all of it to keep the system running.

On a grander scale SOA offers even more benefits to business. For instance consider the four most prominent driving forces behind SOA: deregulation (protected markets open up), globalization (end of low cost competition), technology (work is rapidly transferable), and commoditization (increased consumption at lower margins).

Consequently, value chains characterized by concepts such as company centered, command and control, ownership driven, and self contained risk develop into business networks where the corresponding modified concepts are customer centric, connect and collaborate, relationship driven, and shared risk.

The relationship between IT and business started in the 1960ies with a shy friendship between managers thinking technically and in functions and inert monolithic Enterprise Resource Planning (ERP) systems running on equally monolithic main frame computers. 30 years later it evolved towards a wavering romance with the same ERP systems but now running on a much more flexible client server architecture.

Today all is set for a formal engagement between entrepreneurs thinking in processes with integrating SOA systems running on any appropriate technical platform. This platform is center stage in the next chapter.

d) Hard Discs go Internet

25 years ago, in 1984, computing became available to everybody. Replacing “write and enter” on a keyboard (involving programming) by “point and click” on a graphical user interface (GUI) transformed the interaction with computers hitherto only accessible to well trained specialists into a commodity for the public at large.

Personal computers started their enormously successful invasion of the developed world and beyond, and conquered the desks and the laps of by now much more than one billion people. Desktops and laptops make up most of this technology platform, backed up by servers, data banks, glass fiber networks, and so on.

Each of these personal computers contains a hard disc where the data and the programs are stored for each individual device. Hard discs are sophisticated technological machineries featuring small magnetic reading and writing heads hovering not much more than 10 billionth of a meter (10 nanometers) on top of some 10 rapidly swiveling patters covered by a complicated layer of tricky magnetic materials about 10-20 nanometers thick.

Hard discs are heavy, consume a considerable amount of the power which keeps the PC running, and produce most of its waste heat which in turn asks for noisy cooling systems.

They are quite shock sensitive and prone to all kinds of failures with drastic consequences of losing precious data not saved regularly (on other hard discs). And they are slow: Manipulating data on a hard disc is slower by at least a factor of 105 than performing a calculation.

No wonder ways out of this technological bottleneck are on top of the shopping list for the whole industry. There is by now little doubt that the solution is to be found in the idea of replacing hard discs by centralized internet services. Even better: this development is already in full flight. Music, films, videos and much more is already available in the net (iPads have no hard disc.). If today you buy a software package most likely you will not get an installation CD but an internet link, from where you can download what you have ordered and paid.

Consequently notebooks – smaller and lighter as the former ones - without CD slots are already on the market. (It is not difficult to foresee that CD's will become obsolete altogether and vanish as have the floppy discs five or six years ago.)

Your personal computer will reduce to a screen with an integrated keyboard connected to the internet. It will shrink to what today is your cell phone which you will use less than 1 percent of the time for telephone calls. Economy of scale will have won the day.

We are entering the age of Cloud Computing. There are a confusing lot of definitions to explain what this is all about [48]. To quote one by Jeff Kaplan it is a broad array of web-based services aimed at allowing users to obtain a wide range of functional capabilities on a “pay-as-you-go” basis that previously required tremendous hardware/software investments and professional skills to acquire. Cloud computing is the realization of the earlier ideals of utility computing without the technical complexities or complicated deployment worries.

Web-based services such as Software as a Service (SaaS), Platform as a Service (PaaS) or even Anything as a Service (AaaS) are the cornerstones of cloud computing. They provide computing services that are highly reliable, scalable, and autonomic to support ubiquitous access, dynamic recovery, and composability. In particular consumers can determine the required service level through Quality of Service (QoS) parameters and Service Level Agreements (SLAs) [49].

Cloud Computing of course also needs an appropriate hardware to make it work. Grid is its name.

It enables the sharing, selection, and aggregation of a wide variety of geographically distributed resources including supercomputers, storage systems, data sources, and specialized devices owned by different organizations for solving large-scale resource-intensive problems in science, engineering and commerce [49] and references therein. (An often quoted analogy is the early 20th century transition from every factory having its own electrical power station to the centralized power stations of today.)

Surely the choice for the sites (the nodes or hubs of the grid) where the hardware is to be installed and taken care of and the tremendous security issues raised by this concept will not be restricted to technical arguments but will touch heavily upon political issues as well. (It is a situation comparable to the ongoing controversies about the localization of the large particle accelerators like CERN or the deposition of waste material from nuclear reactors.) Incidentally, arguments about energy consumption, CO₂ production and the like may help to find a solution.

Price Waterhouse Coopers in collaboration with Microsoft have recently interestingly enough evaluated the possibility to establish such a node in Iceland where clean energy and natural cooling are readily available [50]. As to security the problem may again not be technical in the first place but much more about how to deal with the human factor which will be our topic in the next Section.

e) People and Change

In the beginning of the industrial age the most precious resource was capital followed by the raw materials, the production means, and finally people who then were a commodity. Today clearly the situation is the other way round: Capital is the commodity and the lack of qualified well trained people with the right skills is more often than not the decisive factor hindering business success [51] [52].

This development started during the industrial revolution beginning in the 18th century when manual work was replaced by machines that for instance could transport and lift heavy materials much more efficiently and effectively than workers. As a consequence productivity increased tremendously and new jobs (manufacturing the machines for instance) emerged.

In the middle of the 20th century conveyer belts with lots of people doing dull, repetitive work were replaced by industry robots and again productivity increased and new jobs were created. And now? We are in an age where routine mental work is replaced by machines.

As an example, watch an accountant as he performs his tasks. He gets numbers from somewhere, transforms them into new numbers which he delivers to his boss, the board, the controllers, or whomever.

His own work, transforming the numbers, is strictly determined by rules of accounting, by laws, by regulations such as the US Generally Accepted Accounting Principles (GAAP), and the like. If he deviates from these restrictions ever so slightly, if he displays the smallest trace of imagination, he goes to jail.

A job like this one, which has to be done according to strict and formal prescriptions, is doomed to be replaced by machines (computers) that are much cheaper, faster, and more reliable than people who lose their jobs to the benefit of increasing productivity.

People once more have to look for work they can do better than the machines. It will not be calculations, simulations, or steering of equipment of all kinds. For these tasks computers are by orders of magnitudes superior to people. (For many years already computers have been superior playing chess, long thought a game where human intuition could not be beaten by a calculating machine.)

However, fields like creativity, communication, grasp of content and context, Gestalterkennung, shaping things, associative thinking and memories, translation of languages, semantic thinking, driving cars, and not to forget emotions, poetry, art, and sports, will be for many years to come the more or less exclusive playground for human beings until the next generation of ever more sophisticated machines comes up with new challenges.

Fields like these (and certainly many similar ones) define the skills needed for business in the next decade. Some of them are technical, be it in IT, or - a vastly larger field - in all kinds of engineering skills, craftsmanship, or trading skills, or of course research as a prerequisite for a large number of products and services.

Non technical ones, strangely enough called soft skills, include methodological and social competences, communication skills, managing (or better enabling) capabilities, marketing competence, customer relationship management (CRM), and many more. The most important of all skills, however, is change competence.

Change is the hall mark of our times. Change is not new. In the past it has been rather slow. People could live through a professional career with one profession, even quite often with one employer. Today this is the longer the more out of the question. One might object that for instance a medical doctor will be a medical doctor during his whole career. May be, but before he retires he will have had to acquire so much additional knowledge on new diseases, new therapies, new diagnostic tools, technical skills, and the handling of apparatuses that, although he is still helping people to become and stay healthy, he will find himself in his daily work to do a lot of new and different things and do them quite differently from the time when his career started as a clinic intern.

Likewise, in business people today will (no surprise here) have the incentives to add value, to find a market, to create, distribute, and sell products and services to customers who are willing to pay for them, and so on. Working hard to achieve these goals during their careers they will find themselves performing many different tasks in many different functions, to be involved in many different projects, and working for more than one employer, if any.

Continuous learning, bridging different disciplines (transdisciplinary not interdisciplinary!), thinking and acting in processes, always realizing that it is the customer and the customer only who pays my salary, practicing methodological and social skills on the same footing as technical skills will be the distinctive features of a successful career. Business people will see change not as threat but as a welcome opportunity to beat the machines once again, to increase productivity another time, to create new jobs, to increase welfare, and to make money.

The Future Company

The Future Company will be devoted to change. Markets will have become truly global having further expanded geographically (specifically into the Far East).

Markets will also be reaching out for new products and services at an increasing rate. The Future Company in order to deal with all the various cultural and political diversities and to match the ever accelerating pace will have to rely on IT products and services even much more intensely than today.

Handling complexity will be the first challenge and the foremost prerequisite to enable change. The (scientific) discipline of Business Process Mapping will play a key role. Process innovation is the vehicle to open the roads towards change. A device such as the Innovation Dynamo will be helpful. The building blocks of change come under the name of Service Oriented Architecture, which will replace the monolithic ERP systems as a much more flexible tool.

SOA enables companies to keep in step with the rapidly expanding markets which offer many new opportunities at a high pace. Competition will be tougher than ever and the winner will take next to all. Hardware, the bones of software, will change drastically as well. Cloud computing and Anything as a Service with a few geographically concentrated, secure sites where everything is technically run are the new scenario. IT-departments will shrink or vanish altogether.

Finally, the quintessence which distinguishes your business from your competitors is the people staffing your company. To be successful they will find themselves in new professions or in new combinations of old ones, concentrating on skills which enable them to beat the computers. (Historically, quintessence the fifth element besides the four usual ones (earth, air, water and fire) which make up Plato's world, is the one that makes the difference in the medieval chemist's drugs market potential). The Future Company happily married to an enormous variety of IT products and services will thrive on silent processes featuring the specific services which make up the company's Unique Selling Proposition (USP). They all will be linked to a node in the grid of the cloud driven by continuously learning people with appropriate technical, methodological, and social skills.

The Future Happens. Even without you

The future happens. Even without you. You better play the hand you are dealt. People are the heart of any company.

So take good care of them. Give them every opportunity to learn and to dedicate themselves to what makes the gist of your company.

Finally, remember Alice meeting the Red Queen [38]. They together run faster and faster only to end up where the race began. Whereupon Alice remarks Well, in our country...you'd generally get to somewhere else - if you ran very fast for a long time as we've been doing.

A slow sort of country! the Queen replied. Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that. That is of course what business is all about.

Summary

IT is here to stay. The future happens. Even without you.

Information technology is here to stay. Its impact on human affairs cannot be overestimated. Nor can the speed at which change happens.

Change in business is in full flight. Indeed, as already seen today, only those businesses survive that adapt carefully and fast to the possibilities and challenges IT presents.

Interestingly enough, however, in Collins' important empirical analysis [50] of companies that made the transition from Good to Great based on disciplined people, disciplined thought and disciplined action there is no chapter on IT and IT does not even appear in the index, nor do computers.

Now Collins, an eminent student of companies certainly did not overlook the role of IT. His analysis is to a large extent independent of the state of the art of the technical tools in the background. Or at least it was when Good to Great was published in 2001. However, what was background 10 years ago is now on its way to the frontispiece.

What has happened is that IT is no longer restricted to the role of an ever more efficient tool on the way from business decisions to the market. Effectiveness has become an important issue too. IT in business has made the transition from quantity to quality.

The concepts relevant to the success and failure of companies depend in an essential way on IT developments and their application; a challenge to be addressed seriously if one does not want to be paralyzed by complexity, slowed down way behind competition by broken processes, or ruined by redundant management of maladapted resources.

Business is at the heart of society. It is its engine. No wonder then that the changes in business are reflected in society. Jobs formally in the hands of people have been transferred to machines for centuries. During the last decades, in addition, a lot of jobs have been taken away from the brains of people to machines.

Hitherto useful knowledge and skills become obsolete, new ones are needed. People lose their jobs and new jobs are in demand for people able to execute them. The time scales at which the new challenges present themselves and those at which people acquire the skills needed to meet them are out of phase. Social unrest results. Again, this is not a new phenomenon. But, besides being faster than ever, for the first time in history it is global [53].

Another issue is communication. Willy-nilly we get to know practically everything happening on earth (and beyond) almost in real time as soon as CNN and other media get their cameras in position. Via Facebook we can link to a two digit percentage (and counting) of all people on earth instantly and talk about anything we like. With Wikipedia and Google we have instant access to much more facts or not so facts than we will ever be able to digest. What will come out of all this turmoil?

IT will help and so will learning. Learning is survival. In comparison with animals humans depend for a very long time on adults caring for them. The reason is simple. The young have to spend a large amount of their energy on learning [54]. Learning is even more than survival. Learning is a sheer necessity to be able to participate and to thrive in a world full of machinery and sophistication. Learning alone does not suffice.

Unlearning is what is asked for in addition. A difficult task again, aptly summarized by Max Planck who said that new ideas do not win over old ones by convincing the advocates of the old ones, but because eventually they die out [55].

IT will heavily affect the state as well. First of all, the state almost everywhere has a long way to go to streamline its administrative tasks.

It is a fair guess that thinking in IT supported unbroken processes will eliminate most of the seemingly inevitable bureaucratic obstructions so typical for political organizations [56] (and many companies too) and that cost could be reduced by a consequential two digit percentage figure. Mainly cost of human resources of course, with the advantage that personnel, not needed any longer in redundant, completely useless, or even counterproductive functions, could be incited to learn and prepare themselves to go (back) into the nongovernmental world and engage in IT driven productive work in demanding jobs. The gross national product will be pleased and so will the citizens as the state could put the additional moneys to good use by financing education and training, public transport, medical services, communication, social networks for those who need them, culture, and much more. All of course supported by IT.

The state will also be challenged to legislate and put into effect the rules and laws arising with the necessity to fight abuses of IT connected with privacy issues, copyrights, patent violations, security, and downright criminal activities. Last but not least IT can help to keep states not only lean but also clean. IT supported checks are very efficient tools to detect among other misdemeanors cheating, corruption, or personal fraud in the grindings of large and complicated organizations such as the state.

Outlook

Prediction is very difficult, especially if it's about the future.

Trade is what keeps the human species on the map. Its history is thoroughly documented [57] and shows that it underwent many changes through the millennia. Specifically, trade has accelerated at an incredible pace. Taking agriculture and stock-farming as a benchmark the typical time scale is one year, for instance the time interval between sowing to harvesting or the time the next generation of cattle needs to get productive. Industry, averaged over its many different manifestations, by the long chalk is about twice as fast as measured, say, by the time it takes to launch a new product.

Services, again based on some average, are about 10'000 times faster. It takes half an hour to get a haircut. IT is about an incredible factor of 10¹⁵ times faster than growing crop as one nanosecond (10⁻⁹ seconds) is the typical time scale for the physics of digital devices. Prefixes like Mega, Giga, have already reached everyday language while Tera (10¹²) is on its way. Peta (10¹⁵) is the next jump of orders of magnitude that will embellish our language. IT is Peta.

No wonder changes in almost every aspect of human affairs we have discussed are so imminent. No wonder IT's impact is so strong, and no wonder that the technical development of IT by far has outsped its practical applications [29]. And if ever the technical limitations will indeed turn out to be obstacles for further uses of IT in business, society, or learning new developments like optical computing, holographic memories, quantum computing, or even computing with the help of large molecules like DNA are already on the scientists workbenches. The challenge we face is to make better use of the possibilities today's IT has ready for us and to avoid its threats.

We spend billions of dollars to understand the universe and much more, certainly in the Tera range, in wars at a terrible prize of human suffering. Why not profit from IT's Peta potential to lessen the impact of conflicts, to learn more about the universe and all the other great scientific mysteries, to promote the arts and humanities, and at long last to acquire a better understanding of the conditions of a stable society, a working economy, and peace? .

Acknowledgements

It is a pleasure to thank my colleagues Matthias Kaster, Francis Kurz, Margarete Nuber, Estelle Schiltknecht, Andreas Spiess, Werner Wehrli, and Alexander Weiss for discussions, criticisms, and helpful comments.

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Emerging Markets, the Markets of the Future

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This article introduces emerging markets, their history, current developments, and future trends. To do this, it first analyses the origin of the “emerging markets” name, a list of potential markets to be included in the emerging category, and the flows of trade and investments along with their share in the world’s economy. It continues by studying the main characteristics of emerging markets and the distinctive features of local players. The article concludes by exploring two growing trends in emerging markets, their largest cities as the markets of the future, and the commercial relationship between China and Latin America.

Emerging markets, the markets of the future

“Global institutions had failed to fully reflect the changing status of developing countries in the world economy and finance”

Hu Jintao, China’s president (1)

1. Introduction

Emerging markets have been increasingly appearing in the media, specialised literature, and MNCs annual reports in the last 15-20 years. During this period, acronyms like BRIC (Brazil, Russia, India, China), BRICET (BRIC + Eastern Europe + Turkey), BRICS (BRIC + South Africa), VISTA (Vietnam, Indonesia, South Africa, Turkey, Argentina), BRICM (BRIC + Mexico), BRICK (BRIC + South Korea), CIVIETS (Colombia, Indonesia, Vietnam, Egypt, Turkey and South Africa), or Next Eleven (Bangladesh, Egypt, Indonesia, Iran, Mexico, Nigeria, Pakistan, Philippines, South Korea, Turkey, and Vietnam) were coined and are now common in the business vocabulary.

Also during this period, twelve Transition Economies from Eastern Europe joined the European Union (EU) and from them five entered the Eurozone. Emerging markets have also increased their weight in political terms in recent years as the Group of Twenty (G20) (2) has replaced the Group of Eight (G8) to “become the new permanent council for international economic cooperation” (CNN.com, 2009).

However, along with the many acronyms, there are various definitions of emerging markets as well as different lists of these markets.

2. Emerging Markets

Until the end of the 1970s, ‘less economically developed countries’ (LEDCs), based on objective or subjective indicators, was the common term for countries that were less developed in comparison with the USA, Western Europe, or Japan. This term carried the idea of high potential for profits but with higher risks. The term was thought not positive enough and as a consequence the label ‘emerging market’ appeared and since then has been used with ‘emerging economies’ interchangeably. The term ‘emerging markets’ “was coined, the literature seems to agree, in the early 1980s by Antoine van Agtmael, then working for the World Bank’s International Financial Corporation. The phrase was defined in terms of economics and levels of wealth. Emerging markets were economies with low-to-middle per capita income. It quickly came to be understood that emerging markets also needed to boost their growth, open their markets, and embark on structural reform. For years, the term was synonymous with the Asian tiger economies” (Authers, 2006).

At the beginning of the 2000s, new definitions and lists appeared in specialised literature. For example, Arnold and Quelch (1998) said that emerging markets are countries that satisfy at least two criteria: (i) a rapid pace of economic development, and (ii) government policies favouring economic liberalisation and the adoption of a free-market system. At that time, the International Financial Corporation (IFC, 1999) identified 51 rapidly growing countries in Latin America, Africa, Asia, and the Middle East as emerging economies and to this Hoskisson, Eden, Lau, and Wright (2000) added 13 Transition Economies from the list of the European Bank for Reconstruction and Development (European Bank for Reconstruction and Development, 1998). This made a total of 64 emerging markets at the beginning of the 21st century.

After this, in 2001 Goldman Sachs’ chief economist Jim O’Neill developed the idea of BRICs for countries he expected to be the next to enter the economic big league. He said that the BRICs, Korea, and Mexico “should not be really thought of as ‘emerging markets’ in the classical sense, as many still do. (3)

We regard these countries as a critical part of the modern globalised economy”.

Table 1: FTSE Global Equity Index Series (FTSE, 2010)

Developed	Advanced emerging	Secondary emerging	Frontier markets
Australia	Brazil	Chile	Argentina
Austria	Hungary	China	Bahrain
Belgium/Luxembourg	Mexico	Colombia	Bangladesh
Canada	Poland	Czech Republic*	Botswana
Denmark	South Africa	Egypt	Bulgaria
Finland	Taiwan	India	Côte d'Ivoire
France		Indonesia	Croatia
Germany		Malaysia*	Cyprus
Greece		Morocco	Estonia
Hong Kong		Pakistan	Jordan
Ireland		Peru	Kenya
Israel		Philippines	Lithuania
Italy		Russia	Macedonia
Japan		Thailand	Malta
Netherlands		Turkey*	Mauritius
New Zealand		UAE	Nigeria
Norway			Oman
Portugal			Qatar
Singapore			Romania
South Korea			Serbia
Spain			Slovakia
Sweden			Slovenia
Switzerland			Sri Lanka
UK			Tunisia
USA			Vietnam

*Czech Republic, Malaysia and Turkey will be promoted to Advanced Emerging market status from June 2011

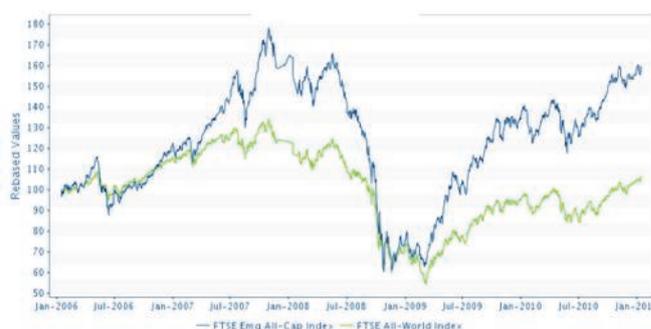
With these definitions issues appeared when analysis and comparisons were attempted. These economies are too diverse; the pace and depth of their political and economic changes, and the size of their markets are only examples of the differences. Is it possible to have in the same group countries like Argentina, Pakistan, and Lithuania? Or China, Trinidad and Tobago, and Jordan? ^

For this reason, probably, The Economist (2008) proposed to retire the phrase “emerging markets” and supports the more rigorous three categories recently published by the FTSE group based on the development levels of local stock markets (4): (i) advanced emerging, (ii) secondary emerging, and (iii) frontier markets. Table 1 shows the list of countries in each category as at September 2010.

Figure 1 shows the performance for the FTSE Emerging Markets Index (5) compared with the FTSE All World Index from January 2006 to January 2011.

In this figure, it is possible to see that the Emerging Markets Index has outperformed the All World Index over the period of analysis; this is particularly relevant as the period was dominated by a deep economic and financial crisis.

Figure 1: Compared performance of the FTSE Emerging Markets Index versus the FTSE All World Index from 2006 (FTSE, 2011)



In addition to the FTSEs, there are other lists from specialised institutions like ISI Emerging Markets or indexes like the Morgan Stanley Capital International (MSCI).

In fact, Jim O’Neill from Goldman Sachs, the creator of BRIC, recently proposed to add Mexico, South Korea, Turkey, and Indonesia to what he dubs “growth markets” as “any economy from the emerging markets world that is already 1 per cent of global GDP or more, and has the potential for that to rise, has the ability to be taken seriously”. (6)

But still it seems challenging to create a comprehensive list, index, or even a definition of emerging economies. One of the reasons is that countries are growing; markets may have developed from a past emerging market phase like South Korea or Taiwan (or the other way around, like Argentina).

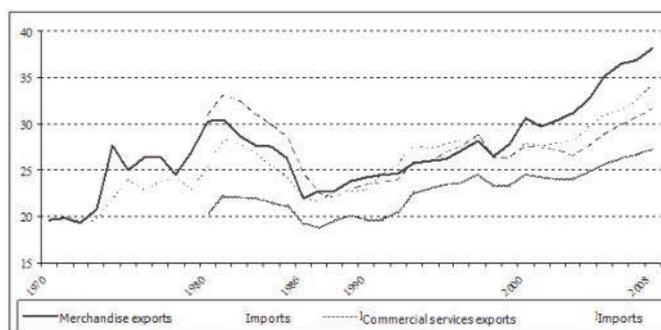
A second reason may be the simplification inherent in making an index, for example, small countries (or countries with limited market liquidity), like Chile, are often underestimated.

3. Trade and investments

In any case, and regardless of different classifications, the increasing importance of LEDCs or emerging markets is being fed by their growing share in the flows of trade and investments in the world economy.

This can be seen in Figure 2: by 1970 merchandise exports were around 20% and by 2008 they had reached 38%, commercial services exports also increased from around 20% in 1970 to 27% of global trade in 2008 (WTO, 2010b).

Figure 2: Share of developing economies in world trade in %, 1970-2008 (WTO, 2010b)



A comparison between Table 2 and Table 3 shows the same trend by country and region. In Table 2 it is possible to see that the EU 15, the USA, and Japan accounted for around 65% and 60% of world trade in 1990 and 1999 respectively, and that LEDCs for only around 12% and 18% over the same period. Ten years later, Table 3 shows that in 2009 the EU 27, the USA, and Japan accounted for around 33.5% whilst the Six East Asian Traders (7), China, Mexico, and the Russian Federation were responsible for 34% of world trade. From Table 3, it is also worth noting that the list of top ten exporters is shared by developed countries and emerging markets, and also that India and Brazil (key components in the BRIC) are still at an early stage in their involvement in international trade with 1.7% (position 15) and 1.6% (position 18) respectively.

Table 2: World merchandise exports by country and region in %, 1999 (WTO, 2000)

	Share		Annual percentage change			
	1990	1999	1990-99	1997	1998	1999
Developed countries						
European Union (15)	44.5	39.8	4	0	4	-1
United States	11.6	12.7	7	10	-1	2
Japan	8.5	7.7	4	2	-8	8
	64.6	60.2				
LEDCs						
Six East Asian traders	7.9	10.0	8	3	-7	8
China	1.8	3.6	14	21	0	6
Mexico	1.2	2.5	14	15	6	16
Central and Eastern Europe	1.4	1.9	7	6	9	1
	12.3	17.9				
Regions						
Western Europe	48.3	43.0	4	-1	4	0
Asia	21.8	25.5	7	5	-6	8
North America	15.4	17.1	7	9	-1	4
Latin America	4.3	5.4	8	11	-1	6
C. E. Europe/Baltic States/CIS	3.1	3.9	6	4	-5	-1
Middle East	4.0	3.1	3	5	-23	24
Africa	3.1	2.0	1	2	-16	9
Regional Trade Associations						
NAFTA (3)	16.6	19.6	7	10	0	6
MERCOSUR (4)	1.4	1.4	5	11	-2	-9
ASEAN (10)	4.3	6.6	11	4	-7	9

For foreign investments the trend is similar. As can be seen in Figure 3, FDI flows to developing and transition economies have been growing, from a 10% share in 1974 to 49% of total flows in 2009.

If this trend continues, in a few years emerging markets for the first time will be receiving more FDI than developed economies. This trend is also seen in mergers and acquisitions (M&A). 2010 figures in emerging markets are now higher than those of Europe for the first time with a volume of US\$575.7bn against Europe's us\$550.2bn.

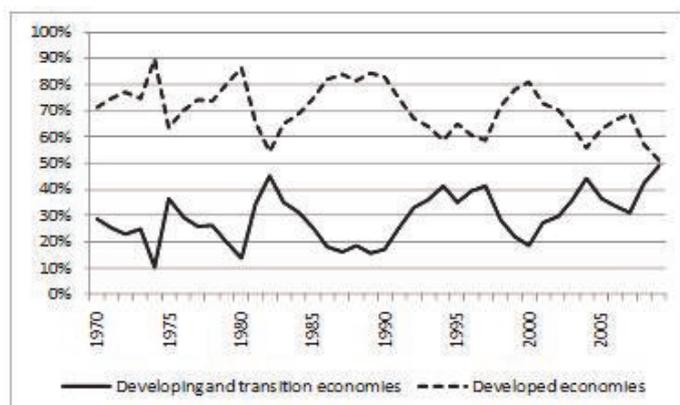
“Deals by companies in emerging markets now account for 30 per cent of global M&A activity, while Europe's share has fallen to 29 per cent. China, with about \$133bn in deals, has attracted most interest this year from acquirers. Brazil, India and Russia follow, with the four BRIC countries together accounting for more than half of emerging markets activity” (Saigol and Thomas, 2010).

Table 3: World merchandise exports and imports by country in %, 2009 (WTO, 2010a)

Rank	Exporters	Share	Rank	Importers	Share
				Extra-EU (27)	
1	Extra-EU (27) exports	16.2	1	imports	17.4
2	China	12.7	2	United States	16.7
3	United States	11.2	3	China	10.5
4	Japan	6.2	4	Japan	5.7
5	Korea, Republic of	3.9	5	Hong Kong, China	3.7
6	Hong Kong, China	3.5	6	Canada a	3.4
7	Canada	3.4	7	Korea, Republic of	3.4
8	Russian Federation	3.2	8	India	2.6
9	Singapore	2.9	9	Singapore	2.6
10	Mexico	2.4	10	Mexico	2.5
	Sub Total	65.5		Sub Total	65.9
11	Taipei, Chinese	2.2	11	Russian Federation	2.0
12	Saudi Arabia	2.0	12	Taipei, Chinese	1.8
	United Arab Emirates				
13	b	1.9	13	Australia	1.7
14	Switzerland	1.8	14	Switzerland	1.6
15	India	1.7	15	Turkey	1.5
				United Arab Emirates	
16	Malaysia	1.7	16	b	1.5
17	Australia	1.6	17	Thailand	1.4
18	Brazil	1.6	18	Brazil	1.4
19	Thailand	1.6	19	Malaysia	1.3
20	Norway	1.3	20	Saudi Arabia	1.0
21	Indonesia	1.3	21	Indonesia	1.0
22	Turkey	1.1	22	South Africa	0.8
23	Iran, Islamic Rep. of	0.8	23	Viet Nam	0.7
24	South Africa	0.7	24	Norway	0.7
	Bolivarian Rep. of				
25	Venezuela	0.6	25	Iran, Islamic Rep. of	0.5
26	Viet Nam	0.6	26	Israel	0.5
27	Argentina	0.6	27	Philippines	0.5
28	Chile	0.6	28	Ukraine	0.5
29	Nigeria b	0.6	29	Egypt	0.5
30	Kuwait	0.5	30	Chile	0.4
				Bolivarian Rep. of	
31	Israel	0.5	31	Venezuela	0.4
32	Algeria	0.5	32	Algeria	0.4
33	Kazakhstan	0.5	33	Nigeria b	0.4
34	Qatar b	0.4	34	Argentina	0.4
35	Angola	0.4	35	Iraq b	0.4

a Imports are valued f.o.b.
b Secretariat estimates.

Figure 3: Inward and outward FDI flows, annual, 1970-2009 (UNCTAD, 2011)



In any case, not all emerging economies are active recipients of FDI. Fifteen countries from East Asia, Latin America, and Southern Africa account for around 73% of inward FDI to developing economies as can be seen in Table 4.

Table 4: FDI inward stock to developing economies, 1990-2009, in millions of US\$ (UNCTAD, 2010)

Developing economies⁸	26,836,498	
1 China	3,793,786	14.14%
2 Brazil	2,652,972	9.89%
3 Mexico	2,588,323	9.64%
4 Russian Federation	1,840,589	6.86%
5 Chile	981,911	3.66%
6 Korea, Republic of	974,455	3.63%
7 Argentina	923,725	3.44%
8 South Africa	851,992	3.17%
9 Malaysia	815,441	3.04%
10 Thailand	795,430	2.96%
11 Turkey	743,011	2.77%
British Virgin Islands	724,764	2.70%
12		
13 India	704,872	2.63%
14 Saudi Arabia	699,253	2.61%
15 Indonesia	591,238	2.20%
Total		73.34%
East Asia ⁹	5,439,300	20.27%
South and Central America ¹⁰	9,107,029	33.94%
Southern Africa ¹¹	1,238,610	4.62%
Total		58.82%

Recipients in this table are ranked by the stock of FDI, where it is worth noting the high position of a small country like Chile (probably the gateway for foreign investments in South America) showing that not only big countries can be emerging economies. India's relatively low position is also worth of mention as its FDI stocks are much lower than its BRIC counterparts.

4. Main characteristics

As stated above, it is difficult to find a comprehensive definition of emerging markets that suits all. For example, "for households, emerging markets are the source of cheap consumer goods. For frustrated computer users, they are often the location of outsourced technical support. For executives of multinationals, emerging markets are growth drivers amid stagnation and financial crisis in developed economies" (Khanna and Palepu, 2010, p. 1).

But one of the criteria that often underlies various definitions of emerging markets "is the system of market governance and, in particular, the extent and stability of a free market system" (Arnold and Quelch, 1998, p. 8) along with the "ease with which transactions can take place in any market and the cost associated with it" (Khanna and Palepu, 2002, p. 4). This is based on the fact that economies should put in place a web of institutions to facilitate the efficient functioning of markets. These institutions mould the social and organisational behaviour of organisations and, as a consequence, affect their decision-making processes as well as their available options. Institutions in a market (country) should reduce uncertainty and provide a stable level playing field that facilitates interactions and diminishes both transaction and information costs.

This complex web of institutions that permeates the developed economies is either absent or poorly developed in emerging markets. This seems evident in three main areas in EMs: (i) information problems: comprehensive, reliable, and objective information to make decisions is not widely available; (ii) misguided regulations: some emerging economies place political goals over economic efficiency which reduces the chances to take full advantage of business opportunities; and (iii) inefficient judicial systems: an independent judicial system that enforces contracts in a reliable and predictable way does not seem to be the reality in EMs (Khanna and Palepu, 1997).

In this sense, it has been found that “building all the institutional infrastructure for well-functioning markets is a slow and time consuming process” (Khanna and Palepu, 2002, p. 4).

Reasons for this can be: (i) that emerging markets require good political governance to develop institutions with thoughtful and supportive regulations, as well as even-handed and predictable enforcement; (ii) that these institutions need qualified persons with certain skills who are usually difficult to find in emerging economies; and (iii) that in the development of market institutions there is a mutual interdependence across the first two problems (Hoskisson et al., 2000; Khanna and Palepu, 2002).

In fact, it has been suggested that “many emerging markets are likely to suffer from significant institutional voids for a long time to come” (Khanna and Palepu, 2002, p. 4) as “the mere deregulation of economies does not automatically lead to immediate reduction in transaction costs” (Khanna and Palepu, 2000, p. 281).

Institutional voids usually result in higher transaction costs. This is because the price system does not give reliable information for the efficient allocation of resources; also, because sometimes the government’s discretion rather than the rule of law determines property rights and makes their enforcement more costly.

Institutional voids can also lead to market failures and, as a consequence, firms operating in EMs often have to perform some of these functions themselves. Higher transaction costs are also a reason behind the high prevalence in emerging markets of unrelated diversified local business groups mainly due to the low development of the capital and labour markets. Examples of this are the chaebols in South Korea, business houses of India, or grupos económicos in Latin America (Khanna and Palepu, 1997).

In addition, capabilities for relationship-based management in emerging markets substitute for the lack of institutional infrastructure as firms tend to base their competitive advantage on links with local authorities. In this environment, local companies can obtain licenses and other benefits due to their close links with the home government and, as a consequence, protect their operations from domestic and international competitors (Fornes, 2009; Hoskisson et al., 2000).

5. Local players

Local companies from emerging countries usually take any of these three organisational forms: (i) domestic competitors (mainly business groups, state-owned companies, and privatised firms); (ii) entrepreneurial start-ups; and (iii) overseas players (Peng, 2003; Peng, Tan, and Tong, 2004). They face four broad challenges: (i) competition from developed countries’ firms entering EMs to exploit the skills developed in their home markets; (ii) having to develop new strategies to deal with improved conditions in their domestic markets; (iii) having to enter other EMs to exploit the strengths developed in their domestic markets; and (iv) having to enter developed economies (Wright, Filatotchev, Hoskisson, and Peng, 2005).

These companies face a ‘high velocity’ environment of rapid political, economic, and institutional changes” (Wright et al., 2005, p. 7). Due to this, EMs’ companies have developed a set of abilities, strengths, and capabilities (like close links with governments, structures aimed at internalising transaction costs, etc) to overcome these challenges which help them to compete successfully in the domestic market. But their engagement in international activities, especially FDI, has been relatively low. In the 1990s, most FDI from EMs was categorised as asset-exploitation and asset-seeking. The former implies a transfer of proprietary assets across the border, and the latter aims at the acquisition of strategic assets (Makino, Chung-Ming, and Rhy-Song, 2002).

Asset-exploitation FDI by EMs’ firms, especially in other developing countries, is usually small scale, labour intensive, and has flexible production skills along with products suitable for the host market that could eventually replace domestic competition. Companies from EMs used to choose FDI, rather than exports or licensing, as their preferred option because of: (i) the uncertainty of the local market (mainly poor information on the value of local assets and weak distribution networks), (ii) the difficulty for local firms to internationalise their operations, and (iii) the weak legal framework to protect technological knowledge (Wells, 1981, 1983). Asset-seeking FDI has been followed by companies from Asia’s newly industrialised economies to reinforce their price competitiveness in EMs, but to strengthen their non-price competitiveness when investing in developed countries (Chen and Chen, 1998; Kumar, 1998).

This strategy implies that internal strengths should come from the ownership of proprietary assets and also from the capacity to buy and the knowledge to manage assets from firms in the host country (Dunning, 1995; Dunning, 1998).

But since the 2000s, the situation has been changing as firms from EMs have been increasing their presence outside their home markets.

Well known examples like Cemex and America Móvil from Mexico, Ternium from Argentina, Vale and Gerdau from Brazil, JSFC from Russia, Lenovo and ZTE from China, and Tata Motors from India are leading the way in the internationalisation of companies from emerging economies followed by an increasing number of firms engaging in international operations.

This trend can be seen in Table 5 which shows the outward stock of FDI as % of GDP. In the table, it is worth noting the high increases during the period of countries like Chile, Malaysia, Korea, or South Africa, although they are still far away from the 40.8% posted by developed economies.

Different from the situation for most of the 20th century, EMs' companies now seem to be in a stronger position to compete in foreign markets.

These companies can offer high levels of flexibility and the capability for rapid adjustment from their experience dealing with changing home environments.

They can also offer every day low prices and high value for money to middle and low segments of consumers in both developed and emerging economies. Firms from EMs have also been strengthening their position as suppliers of global retailers where customers are now demanding their products (Williamson and Yin, 2009).

Still, they seem to have a long way to go until they can reach a level of internationalisation (measured by foreign assets) similar to that of their Western counterparts. This is self-evident in a comparison between the figures in Table 6 (the top 75 non-financial firms from EMs) with the world's top 75 MNCs (UNCTAD, 2010).

For example, General Electric, the world leader, has US\$401.290 millions in foreign assets, while CITIC from China (top in the EMs' list) has around 10% of this value (CITIC is number 48 in the world's list). Also, the company in 75th position in the world's top 100 MNCs, TeliaSonera AB from Sweden, has US\$29.067 millions in foreign assets; while TPV Technology Limited from China has less than 10% of this figure in foreign assets (US\$2,266 millions).

Table 5: FDI outward stock as percentage of GDP, 1990-2009 (UNCTAD, 2010)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
China	1.1	1.3	1.9	2.1	2.7	2.3	2.2	2.3	2.4	2.4	2.3	2.6	2.6	2.0	2.3	2.6	2.8	2.8	3.4	4.9
Brazil	9.4	10.3	10.8	9.7	7.9	5.8	5.2	5.2	5.7	8.5	8.1	9.0	10.8	9.9	10.4	9.0	10.5	10.0	9.9	10.0
Mexico	1.0	0.9	1.0	0.8	1.1	1.5	1.3	1.3	1.4	1.6	1.4	1.9	2.0	2.6	3.2	3.3	3.7	4.1	4.2	6.1
Russian Federation	0.5	0.6	0.8	1.1	1.9	3.3	4.9	7.8	14.4	18.1	21.0	18.1	19.2	22.0	28.8	12.1	20.1
Chile	0.5	0.7	1.5	2.3	3.6	3.8	5.2	6.2	8.5	12.3	14.8	17.1	18.2	18.5	18.2	18.1	17.7	19.3	18.6	25.2
Korea, Republic of	0.9	1.1	1.3	1.5	1.8	2.0	2.5	3.3	5.9	5.2	5.0	4.0	3.6	3.9	4.5	4.6	5.2	7.1	10.5	13.9
Argentina	4.3	3.2	3.2	3.4	3.6	4.1	4.5	5.5	6.1	7.1	7.4	7.9	20.2	16.6	14.2	12.7	12.1	10.5	8.7	9.5
South Africa	13.4	13.4	13.6	13.8	14.1	15.4	16.9	15.6	20.0	24.8	24.3	14.8	19.8	16.2	17.8	15.3	19.5	23.0	18.0	22.6
Malaysia	1.7	1.6	1.8	2.1	3.5	5.8	8.8	11.5	17.2	17.5	16.9	9.0	10.1	10.9	10.3	15.9	23.1	31.3	30.5	39.5
Thailand	0.5	0.6	0.7	0.8	1.0	1.4	1.7	1.3	2.4	2.5	1.8	2.3	2.3	2.4	2.3	2.9	3.1	4.0	4.6	6.2
Turkey	0.6	0.6	0.6	0.5	0.8	0.6	0.6	0.7	0.8	1.1	1.4	2.3	2.5	2.0	1.8	1.7	1.7	1.9	1.9	2.4
India	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.4	0.4	0.5	0.8	1.0	1.1	1.2	2.9	3.7	4.9	6.1
Saudi Arabia	1.8	1.5	1.6	1.7	1.8	1.8	1.8	1.9	2.3	2.1	2.6	2.8	3.7	3.5	3.0	4.5	5.5	8.4	7.2	11.1
Indonesia	0.1	0.1	0.5	0.7	2.4	2.7	2.6	2.8	6.4	4.4	4.2	4.3	3.7	3.2	4.2	4.9	4.6	4.9	5.3	5.6
Japan	6.7	6.7	6.6	6.0	5.8	4.5	5.6	6.4	7.0	5.7	6.0	7.3	7.8	7.9	8.0	8.5	10.3	12.4	13.9	14.6
Canada	14.6	15.8	15.2	16.4	18.5	20.0	21.6	24.0	27.9	30.5	32.8	35.0	37.5	36.8	37.6	34.3	34.8	36.5	35.0	42.4
United States	12.6	13.8	12.6	16.0	15.8	18.6	20.7	22.8	26.2	30.8	27.6	23.0	19.4	25.0	28.9	29.4	34.0	38.3	21.8	30.2
United Kingdom	23.1	22.4	20.6	25.5	26.6	26.8	27.7	27.2	34.3	46.8	62.3	60.6	63.2	63.8	56.6	52.6	59.6	65.6	57.5	76.0
Italy	5.3	5.9	5.6	7.9	8.5	9.4	9.3	11.7	14.5	15.1	16.4	16.3	16.0	15.9	16.2	16.5	20.3	24.6	22.3	27.4
Spain	3.0	3.7	4.5	5.9	5.6	5.8	7.2	9.3	12.3	19.1	22.2	23.6	23.8	25.0	27.0	27.0	35.3	40.8	37.4	44.2
France	9.0	10.6	11.4	12.3	13.4	13.0	14.7	16.7	19.6	22.9	69.7	59.6	43.8	52.6	56.1	57.5	71.0	69.6	45.9	64.9
Germany	8.8	9.6	8.6	9.3	10.5	10.6	11.9	14.3	17.1	19.3	28.5	32.7	34.5	34.0	33.7	33.2	37.1	40.1	36.0	41.2
Developed economies	11.2	11.9	11.2	12.9	13.3	14.0	15.8	18.0	21.5	24.7	28.8	27.8	26.8	30.7	32.6	32.7	38.9	42.8	32.9	40.8

Table 6: The top 75 non-financial firms from developing and transition economies, ranked by foreign assets, 2008 (UNCTAD, 2010) (12)

Corporation	Home economy	Industry ^c	Assets			Sales		TNI % ^b
			Foreign	%	Total	Foreign	Total	
1 CITIC Group	China	Diversified	43,750	18%	238,725	5,427	22,230	21.0
2 Cemex S.A.	Mexico	Non-metallic mineral products	40,258	89%	45,084	17,982	21,830	81.6
3 Samsung Electronics Co., Ltd.	Korea, Republic of	Electrical & electronic equipment	28,765	34%	83,738	88,892	110,321	54.2
4 Petronas – Petrolim Nasional Bhd	Malaysia	Petroleum expl./ref./distr.	28,447	27%	106,416	32,477	77,094	29.6
5 Hyundai Motor Company	Korea, Republic of	Motor vehicles	28,359	35%	82,072	33,874	72,523	36.5
6 China Ocean Shipping (Group) Company	China	Transport and storage	28,066	77%	36,253	18,041	27,431	49.9
7 Lukoil	Russian Federation	Petroleum and natural gas	21,515	30%	71,461	87,637	107,680	42.2
8 Vale S.A.	Brazil	Mining & quarrying	19,635	25%	79,931	30,939	37,426	38.3
9 Petróleos De Venezuela	Venezuela, Bolivarian Republic of	Petroleum expl./ref./distr.	19,244	15%	131,832	52,494	126,364	21.5
10 Zain	Kuwait	Telecommunications	18,746	95%	19,761	6,034	7,452	61.2
11 Formosa Plastics Group	Taiwan Province of China	Chemicals	16,937	22%	76,587	17,078	66,259	40.9
12 Tata Steel Ltd.	India	Metal and metal products	16,826	70%	23,868	26,426	32,168	69.8
13 Petroleo Brasileiro S.A. – Petrobras	Brazil	Petroleum expl./ref./distr.	15,075	12%	125,695	40,179	146,529	16.2
14 Hon Hai Precision Industries	Taiwan Province of China	Electrical & electronic equipment	14,664	55%	26,771	21,727	61,810	58.1
15 Metalurgica Gerdau S.A.	Brazil	Metal and metal products	13,658	53%	25,750	10,274	23,182	48.6
16 Abu Dhabi National Energy Company	United Arab Emirates	Utilities (Electricity, gas and water)	13,519	57%	23,523	3,376	4,576	69.5
17 Oil And Natural Gas Corporation	India	Petroleum expl./ref./distr.	13,477	44%	30,456	4,238	27,684	23.8
18 MTN Group Limited	South Africa	Telecommunications	13,266	73%	18,281	7,868	12,403	67.4
19 LG Corp.	Korea, Republic of	Electrical & electronic equipment	13,256	26%	51,517	44,439	82,060	43.8
20 Evraz	Russian Federation	Metal and metal products	11,196	58%	19,448	12,805	20,380	47.5
21 Qatar Telecom	Qatar	Telecommunications	10,598	52%	20,412	4,077	5,582	69.7
22 América Móvil	Mexico	Telecommunications	10,428	33%	31,481	17,323	31,026	52.6
23 China National Petroleum Corporation	China	Petroleum expl./ref./distr.	9,409	4%	264,016	4,384	165,224	2.7
24 Hindalco Industries Limited	India	Diversified	8,564	68%	12,653	11,371	14,338	71.6
25 STX Corporation	Korea, Republic of	Other equipments goods	8,308	45%	18,338	1,668	12,914	34.5
26 Axiata Group Bhd	Malaysia	Telecommunications	8,184	76%	10,783	1,746	3,406	67.7
27 Severstal	Russian Federation	Metal and metal products	8,066	36%	22,480	9,325	22,393	30.2
28 Ternium SA	Argentina	Metal and metal products	7,063	66%	10,671	5,357	8,465	64.5
29 China State Construction Engineering Corp	China	Construction and real estate	7,015	23%	29,873	3,619	29,080	16.6
30 YTL Corp. Berhad	Malaysia	Utilities (Electricity, gas and water)	7,014	63%	11,102	968	1,966	47.8
31 Tata Motors Ltd.	India	Automobile	6,767	47%	14,359	9,869	15,635	48.9
32 Asustek Computer Inc	Taiwan Province of China	Electrical & electronic equipment	6,746	61%	10,998	9,522	21,157	55.9
33 Orascom Telecom Holding	Egypt	Telecommunications	6,718	69%	9,757	2,947	5,305	64.4
34 Quanta Computer Inc	Taiwan Province of China	Electrical & electronic equipment	6,711	73%	9,250	4,930	25,946	41.6
35 Sasol Limited	South Africa	Chemicals	6,679	35%	18,977	7,781	21,676	29.6
36 Sinochem Corp.	China	Petroleum expl./ref./distr.	6,409	32%	19,825	34,218	44,280	36.8
37 Sappi Limited	South Africa	Wood and paper products	5,933	97%	6,109	5,483	5,863	85.2
38 JSFC Sistema	Russian Federation	Telecommunications	5,698	20%	29,159	3,983	16,671	19.1
39 Netcare Limited	South Africa	Other consumer services	5,590	84%	6,642	1,516	2,904	56.1
40 Posco	Korea, Republic of	Metal and metal products	5,335	14%	37,345	13,512	37,966	21.4
41 Suzlon Energy Limited	India	Diversified	5,310	72%	7,370	4,714	5,685	75.7
42 China National Offshore Oil Corp.	China	Petroleum expl./ref./distr.	5,247	9%	59,917	4,475	28,028	9.4
43 Genting Berhad	Malaysia	Other consumer services	5,139	58%	8,790	667	2,726	47.9
44 Steinhoff International holdings	South Africa	Other consumer goods	5,060	70%	7,194	3,492	5,636	56.5
45 Gold Fields Limited	South Africa	Metal and metal products	4,839	57%	8,491	1,443	3,223	35.7
46 Medi Clinic Corp. Limited	South Africa	Other consumer services	4,788	89%	5,395	1,341	2,294	78.7
47 Pou Chen Corp.	Taiwan Province of China	Other consumer goods	4,553	66%	6,929	5,518	6,622	71.6
48 Acer Inc.	Taiwan Province of China	Electrical & electronic equipment	4,455	60%	7,418	16,495	17,311	79.9
49 MMC Norilsk Nickel	Russian Federation	Other consumer services	4,389	21%	20,823	1,998	13,980	13.3
50 Sime Darby Berhad	Malaysia	Diversified	4,307	43%	10,061	6,065	8,827	45.7
51 China Communications Construction Co.	China	Construction and real estate	4,010	13%	31,911	5,599	25,740	12.1
52 Telefonos De Mexico S.A. De C.V.	Mexico	Telecommunications	3,948	29%	13,528	2,464	11,140	28.6
53 Naspers Limited	South Africa	Other consumer services	3,821	66%	5,746	995	3,018	55.3
54 Taiwan Semiconductor Manufacturing Co Ltd.	Taiwan Province of China	Electrical & electronic equipment	3,813	22%	17,030	6,139	10,558	30.8
55 VimpelCom	Russian Federation	Telecommunications	3,726	24%	15,725	1,520	10,117	21.8
56 Beijing Enterprises Holdings Ltd.	China	Diversified	3,662	55%	6,670	2,524	2,530	77.0
57 Enka Insaat ve Sanayi FEMSA-Fomento	Turkey	Construction and real estate	3,540	46%	7,767	3,256	6,956	46.5
58 Mexicano	Mexico	Food, beverages and tobacco	3,508	26%	13,377	4,792	15,082	30.3
China Railway Construction	China	Railway Construction						

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59	Corporation Ltd.	China	Construction	3,146	10%	32,204	2,475	31,571	9.1
60	ZTE Corp.	China	Other consumer goods	3,143	41%	7,642	3,860	6,373	44.2
61	Chi MEI Optoelectronics	Taiwan Province of China	Electrical & electronic equipment	3,070	17%	18,099	187	10,081	11.9
62	Mechel	Russian Federation	Metal and metal products	2,911	24%	12,010	1,385	9,951	16.0
63	United Microelectronics Corporation	Taiwan Province of China	Electrical & electronic equipment	2,901	44%	6,594	2,153	3,068	52.7
64	Inventec Company	Taiwan Province of China	Electrical & electronic equipment	2,874	73%	3,935	1,911	12,016	61.2
65	Lenovo Group	China	equipment	2,732	43%	6,308	8,467	14,901	41.1
66	San Miguel Corporation	Philippines	Food, beverages and	2,655	37%	7,117	458	3,774	21.7
67	Compal Electronics Inc	Taiwan Province of China	Other consumer goods	2,573	43%	5,954	4,579	15,171	43.9
68	PTT Public Company Limited	Thailand	Petroleum expl./ref./distr.	2,525	10%	25,252	5,993	59,931	10.0
69	SAK	Kuwait	Diversified	2,504	40%	6,279	264	420	47.5
70	Tanjong Public Limited Company	Malaysia	Pharmaceuticals	2,445	71%	3,451	455	1,101	49.5
71	Qisda Corp. (Benq)	Taiwan Province of China	Electrical & electronic equipment	2,441	62%	3,936	2,678	5,372	53.5
72	TMK	Russian Federation	Metal and metal products	2,361	33%	7,071	2,302	5,690	27.4
73	Wistron Corp.	Taiwan Province of China	Other equipments goods	2,316	55%	4,249	2,458	14,153	42.7
74	China Minmetals Corp.	China	Metal and metal products	2,269	17%	13,484	4,318	26,668	11.6
75	TPV Technology Limited	China	Wholesale trade	2,266	68%	3,354	6,860	9,247	69.8

^a All data are based on the companies' annual reports unless otherwise stated.

^b TNI, the Transnationality Index, is calculated as the average of the following three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment.

^c Industry classification for companies follows the United States Standard Industrial Classification as used by the United States Securities and Exchange Commission (SEC).

6. Emerging cities

Probably due to the heritage from the time when the idea of less economically developed countries was in use, EMs have continued being associated with countries rather than with markets. This difference is relevant as one of the characteristics of these countries is the disparity in income distribution, where most of the wealth is concentrated in their cities and surrounding areas, usually large ones. This is the case for small countries, like Chile, where its capital Santiago has a population of around 5 million (out of a total country population of 16 million) or bigger countries, like Argentina, where Buenos Aires, the capital city, has around 18 million inhabitants (including La Plata) out of a total country population of around 40 million. Brazil has two cities, Sao Paulo and Rio de Janeiro, with around 20 and 12 million respectively out of an estimated country population of 190 million.

In Mexico City there are 20 million inhabitants out of a total country population of around 112 million. Similar cases can be found in China, where the 4-5 largest and most developed cities of Shanghai, Nanjing, Guangzhou, Hangzhou, and Beijing account for a population of around 75 million. Examples like these can be found in most emerging markets. As a comparison, in the EU there are only two urban areas with populations of around 10 million (London and Paris); in the USA (New York and Los Angeles); and in Japan (Tokyo and Osaka).

Table 7: The 30 largest urban agglomerations in 2025 ranked by population size (UN, 2009)

Urban Agglomeration	Country	Estimated population
1 Tokyo	Japan	37.09
2 Delhi	India	28.57
3 Mumbai (Bombay)	India	25.81
4 São Paulo	Brazil	21.65
5 Dhaka	Bangladesh	20.94
6 Ciudad de México (Mexico City)	Mexico	20.71
7 New York-Newark	United States of America	20.64
8 Kolkata (Calcutta)	India	20.11
9 Shanghai	China	20.02
10 Karachi	Pakistan	18.73
11 Lagos	Nigeria	15.81
12 Kinshasa	Democratic Republic of the Congo	15.04
13 Beijing	China	15.02
14 Manila	Philippines	14.92
15 Buenos Aires	Argentina	13.71
16 Los Angeles-Long Beach-Santa Ana	United States of America	13.68
17 Al-Qahirah (Cairo)	Egypt	13.53
18 Rio de Janeiro	Brazil	12.65
19 Istanbul	Turkey	12.11
20 Osaka-Kobe	Japan	11.37
21 Shenzhen	China	11.15
22 Chongqing	China	11.07
23 Guangzhou, Guangdong	China	10.96
24 Paris	France	10.88
25 Jakarta	Indonesia	10.85
26 Moskva (Moscow)	Russian Federation	10.66
27 Bogotá	Colombia	10.54
28 Lima	Peru	10.53
29 Lahore	Pakistan	10.31
30 Chicago	United States of America	9.94

These cities are the real emerging markets. They are the places where a growing middle-class is demanding higher living standards as the economy develops and where growth rates are usually higher than those in developed economies. Most of these cities have vibrant economies with an average purchasing power higher than the rest of the country and are the places where the local wealthy live.

Although these cities suffer from some of the institutional voids present in their countries, private agencies operate in these markets to help in the reduction of inefficiencies in transactions (to the extent permitted by local legislation), physical infrastructure is improving along with public transport, and education levels and reach are also improving. Table 7 shows the 30 largest urban agglomerations in 2025 where it can be seen that the great majority of cities are in emerging economies (24 out of 30). These 24 cities will total 375 million inhabitants in 2025, 75% of the current population of the 27 countries in the EU (Eurostat, 2011).

7. China-Latin America: the emerging markets' axis

It is widely agreed that most of the current state attained by EMs started with the Six East Asian Traders in the 1970s and 1980s and has been consolidated with the emergence of China from the 2000s. But there are other emerging markets that have been increasing their presence in the world's economy since the 1990s, such as Chile and Mexico, and from the 2000s Brazil and Costa Rica. In fact, most Latin American countries in the last decade have been posting growth rates much higher than those in developed economies led by an export boom. Asia is increasingly the destination of these exports where China has become a main trading partner for many Latin American countries. At the same time, Latin America with around 600 million people and a common culture, history, and language (13) has also been a target market for many Chinese companies looking for consumers for their low cost products.

The trade relation between China and Latin America was negligible at the beginning of the 1990s. But from the mid-1990s it has grown more than 18 times (posting a trade surplus for China of around US\$47 billion in 2008 from a deficit of US\$283 million in 1990 (ECLAC, 2010; Sanchez Ancochea, 2006)). A similar situation can be described for investments. One of the main destinations of Chinese Outward Foreign Direct Investment (ODI) in recent years has been Latin America, with 50% of Chinese ODI in 2004 (more than the 30 per cent that went towards Asia) (Blazquez-Lidoy, Rodriguez, and Santiso, 2006, p. 35), with 53% in 2005, 40% in 2006 (MOFCOM, 2007)), and with similar trends in 2008 and 2009 (MOFCOM, 2008).

This shows that a new strong axis of trade and investments between China and LA is consolidating. Flows of trade and investment exceed US\$100 billion (ECLAC, 2008, 2010) and are growing at an annual rate close to 50% (WTO, 2008).

This figure is similar to that of the trade between the EU and Japan at the end of the 1990s, which means that the China-LA axis rivals that of the Triad's (14) axis (Fornes and Butt-Philip, 2011). In other words, the last decade has seen the development of the China-Latin America commercial relation as the emerging markets' axis. All Latin American countries were colonised by Spain, speak Spanish, and are Catholic, with the exception of Brazil that was colonised by Portugal and speaks Portuguese. Japan, North America, and Western Europe (Omae, 1985).

8. Conclusion

This article has presented why emerging markets are now one of the main areas of growth for international companies. It has analysed their main characteristics, local players, and local environment. It ends by presenting two big trends with the potential to attract the strategic focus of multinational companies, their emerging cities, and the relationship between China and Latin America.

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6. Quoted in (Hughes, 2011)

7. Hong Kong, China; Malaysia; Republic of Korea; Singapore; Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu (Taipei, Chinese) and Thailand (WTO, 2006)

8. Hong Kong and Singapore were withdrawn by the authors from UNCTAD's list of developing economies following Hoskisson et al.'s (2000) list of emerging countries; the total FDI stock in developing economies shown in the table does not include the stocks in these countries.

9. China; Korea, Democratic People's Republic of; Korea, Republic of; Macao, China; Mongolia; Taiwan Province of China.

10. Argentina; Bolivia, Plurinational State of; Brazil; Chile; Colombia; Ecuador; Guyana; Paraguay; Peru; Suriname; Uruguay; Venezuela, Bolivarian Republic of; Belize; Costa Rica; El Salvador; Guatemala; Honduras; Mexico; Nicaragua; Panama.

11. Angola; Botswana; Lesotho; Malawi; Mozambique; Namibia; South Africa; Swaziland; Zambia; Zimbabwe.

12. Hong Kong and Singapore were withdrawn by the authors from UNCTAD's list of developing economies following Hoskisson et al.'s (2000) list of emerging countries.

13. All Latin American countries were colonised by Spain, speak Spanish, and are Catholic, with the exception of Brazil that was colonised by Portugal and speaks Portuguese.

14. Japan, North America, and Western Europe (Omae, 1985)

Footnotes

1. Quoted in (McGregor, 2011)

2. www.g20.org

3. Quoted in (The Economist, 2008).

4. The categorisation is based on four criteria: market and regulatory environment, custody and settlement, dealing landscape, derivatives.

5. "FTSE Emerging Market indices are a segment of the overall FTSE Global Equity Index Series (GEIS), and contribute to the overall GEIS market coverage of 98% of the world's total investable market capitalisation, cover 48 countries and comprise over 7000 large, mid and small cap stocks. Our emerging market indices cover the same 48 countries and consist of approximately 1700 large, mid and small cap stocks. FTSE has divided the emerging markets into advanced emerging and secondary emerging markets for greater granularity and to provide a transparent system on the monitoring of emerging market criteria through a country review process.

The Key Success Factors of Penang As the Silicon Valley of the East

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Abstract

The aims of this study is to analyze the key success factors of SEZs in Malaysia especially Penang as a centre of investment which is recognised as the Silicon Valley of the East. By employing qualitative research, the result of this study shows that Penang sources of competitiveness laid on their strategic location (close to airport and harbour), well equipped infrastructure, transparency in custom, tax offices, good education to support industry, supply chain, IT as well as the availability of talented human resources who have division background that suitable for electronic industry. This research also reveal the important of cluster strategy, strong comitment and support from local and central government.

Keywords:

special economic zone, regional competitiveness, cluster strategy, Malaysia

Introduction

Penang, one of Special Economic Zones (SEZ) that focuses on electronic industry is one of the most successful states in Malaysia. Since the year 2010 Penang has recorded as the highest investment in Malaysia.

The dynamic growing industrial cluster, supply chain, human resource, transfer of knowledge, and other facilities available in this area have successfully boost foreign direct investment in Malaysia, decrease unemployment, and eventually increase regional competitiveness. Penang has transformed to become manufacturing hub for high-tech giants such as Intel, Motorola, IBM and Dell.

They aggressively expand their business in Malaysia by not only operating one production place but also developed several sites of production in Penang. Even Dell has moved their call centre to Penang.

The strategic location of SEZ in Penang - just 10 minutes from airport and 15 minutes from harbour - allows Dell to deliver their product from Penang to US only within 28 hours.

This paper is trying to analyze the key success factors of SEZs in Malaysia, especially in Penang which is widely recognized as the Silicon Valley of the East. Throughout the history, Malaysian industry apparently has shifted from low wage, labour-intensive manufacturing activities organized by foreign-based multinational companies (MNCs) to low cost, rapid ramp-up, high volume, increasingly automated manufacturing activities with special capabilities in assembly, testing, and packaging of semiconductors and hard disc drives (Best, 1997). Malaysia has developed SEZs in significant quantities but the greatest returns come from a subsection of large-scale zones with favourable locations, good planning and access to the resources. According to the 2010 World Competitiveness Yearbook, in the year 2010 Malaysia for the first time has earned a position among the 10 most competitive countries in the world, up from 18th placing last year (<http://www.imd.ch/research/centers>). The list measures Malaysia against 58 countries this year, from 57 nations last year. With an index score of 87,228, Malaysia has joined the ranks of the most competitive countries in the world, sharing the Top 10 ranking with Singapore, Hong Kong, the US, Switzerland, Australia, Sweden, Canada, Taiwan and Norway.

Figure 1. Malaysian Competitiveness record



Source: MIDA presentation April 2011

According to the IMD World Competitiveness Center, competitiveness is defined as "how nations and businesses are managing the totality of their competencies to achieve greater prosperity.

IMD further describes competitiveness as “a country’s ability to resist adversity and show resilience to weather” global financial crises. The performance of Malaysian competitiveness can be seen in Figure 1.

Malaysia Ministry of International Trade and Industry clearly stated that to have a sustained growth demands, Malaysian electronics industry have to develop a transition to more automated operations involving high technology and knowledge-driven processes (Best, 1999).

One of the strategies to achieve a good economic performance is to increase export through development of Special Economic Zones (SEZs).

This zone has been seen as a key instrument not only for promoting exports and earning foreign exchange but also for stimulating economic growth through additional investment, technology transfers, and employment generation. SEZs has been proven to help industrial investors to lead economic growth which eventually increase country competitiveness. This paper is divided into four parts. First, we explain the methodology of this research which is followed by the role of Penang as a centre of manufacturing industry in Malaysia. Third, we analyze the key success factor of SEZ in Malaysia which consist of: human resource, transfer of knowledge, Malaysian cluster strategy, input factors, role of government in supporting SEZs, and incentive. Fourth, we present Malaysia’s investment trend. Finally, we close this paper with conclusion.

Table 1: Malaysia Total Number of Investment(Source: MIDA)

State	Februari 2011				2010
	No. of approvals	Proposed Investment (RM Million)			Total Proposed Investmen (RM Million)
		Domestic	Foreign	Total	
FT Kuala Lumpur	3	94.6	95.4	190.0	55.0
FT Labuan	0	0	0	0	14.9
Selangor	41	463.2	1,299.2	1,762.4	10,641.8
Penang	16	633.9	18.0	651.9 (3rd)	12,237.9 (1st)
Perak	2	1.0	16.8	17.8	3,039.7
Johor	36	2,472.2	518.3	2,990.5	7,464.9
Negeri Sembilan	3	25.0	0	25.0	1,292.6
Melaka	6	221.9	42.6	264.5	1,631.1
Kedah	8	12.6	141.7	154.3	1,960.6
Pahang	4	52.4	30.6	83.0	1,038.7
Kelantan	1	0	6.6	6.6	169.5
Terengganu	3	220.8	0	220.8	2,327.9
Perlis	0	0	0	0	31.4
Sabah	5	58.1	15.9	74.0	1,325.6
Sarawak	4	171.7	199.1	370.8	3,945.0
Total	132	4,427.4	2,384.2	6,811.6	47,177.0

To answer the above question, we use some secondary data, in-depth interview and indirect observation in selected SEZ area in Malaysia. In this case, we choose SEZ area in Bayan Lepas Penang because of historical value and impressive achievement, which are:

1. Bayan Lepas, Penang was the first free trade zone to be set up in Malaysia in 1972 (presentation Custom Penang, April 2011).
2. In 2011, Penang acknowledged as the highest SEZ contribution in Malaysia (see Table 1).
3. Due to the increasing investment and manufacturing activities in Penang, Malaysian Director of Labour Department (Rahmat Ismail) reported that there were over 5,500 job vacancies available in Penang on April 2011. Those vacancies mostly came from manufacturing, services, retail, wholesale, hospitality and tourism (Star newspaper, April 2011). This impressive number confirms the success of Penang as SEZ area.

Methodology

The aim of this study is to gain an insight on the FDI performance of Malaysia and their strategic imperative in attracting foreign investment. We strive to answer the following question:

1. How is the macro competitiveness and FDI performance of Malaysia?
2. What is the strategy of Malaysia government in attracting FDI in their country?
3. What is investor opinion about Malaysia?

Instead of observation in SEZ area, we also conducted in-depth interview to the Malaysian Investment Development Agency (MIDA), Malaysian Royal Custom and investors in Penang. The usage of these three types of data collection can be seen as a part of triangulation process which hopefully can increase the reliability and validity of the data. The list of interview can be seen in Table 2.

Table 2: List of interviews in Penang

Date	Duration Interview	of Respondent
April 25 th 2011	14 Hours	MIDA Penang
April 25 th 2011	14 hours	Malaysian Royal Custom
April 26 th 2011	13,5 hours	Benchmark
April 26 th 2011	13.5 Hours	Venture Electronic Services (Sdn) Bhd
April 27 th 2011	13.5 Hours	Inventec Electronics Sdn Bhd
April 27 th 2011	13 Hours	Kobay Technology Sdn. Bhd.
April 27 th 2011	11.5 hours	PSDC (training centre located in SEZ Penang)
April 28 th 2011	13,5 hours	Daktronics (a company established by the ministry of finance to ensure that knowledge transfer retain in Malaysia)

Penang as Centre of Manufacturing in Malaysia

In 2010, Penang became the top manufacturing investment in Malaysia for the first time in history with RM12.2 billion investment. It was reported that 26% country investment in Malaysia is comes from Penang. This is a marvelous and incredible achievement for the second smallest state in Malaysia without any natural resources. Penang topped manufacturing investment for the second year running with RM9.1 billion surpassing the targeted RM6.1 billion (Eng, 2012).

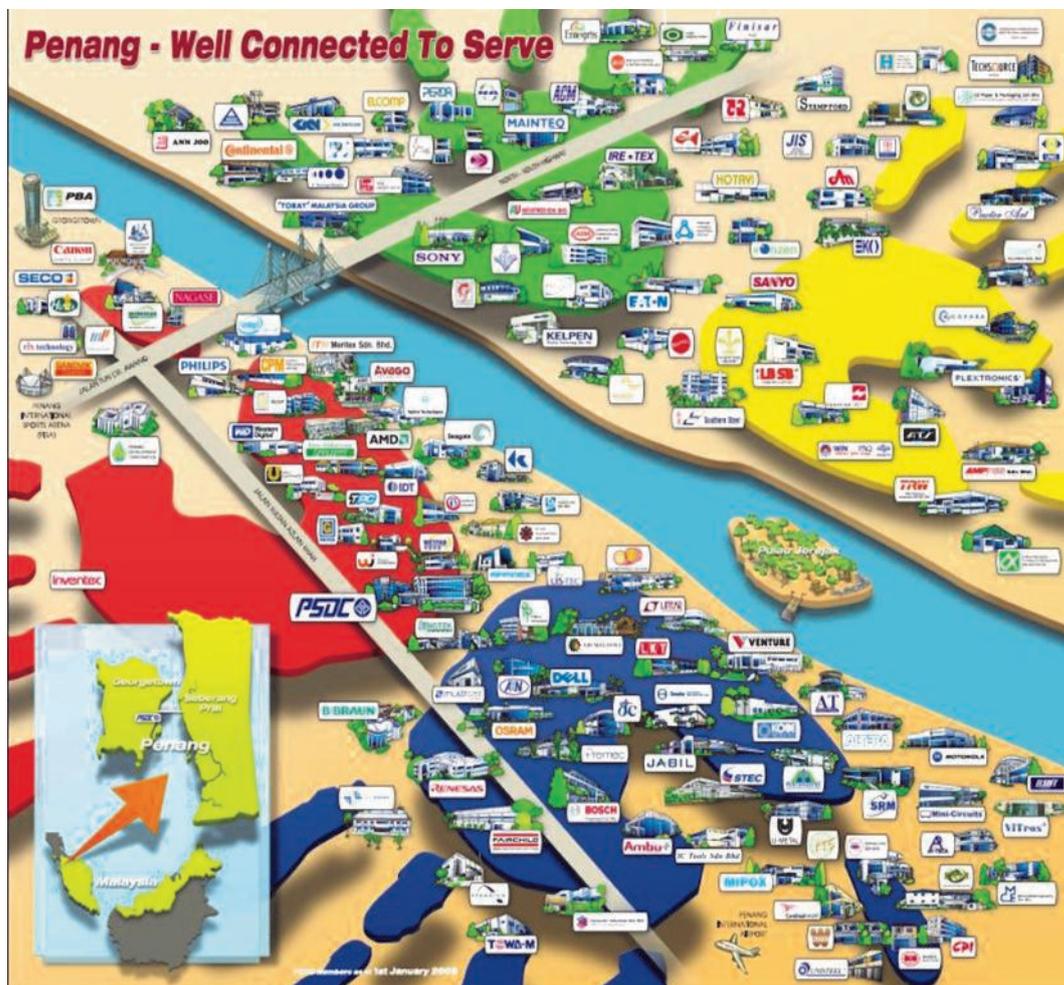
From only having one SEZ in 1972, Bayan Lepas Penang is now managing 7 zones which consists of four industrial estate free zone and three non free zone. There are 22 companies in phase one, 10 companies in phase two, 48 companies in phase three (interview with Custom Penang, 2011). Most of the tenant are coming from manufacturing sectors (50,50%) and 45,8% are from services industry (45,8%) (Interview with Invest Penang).

With this composition and their focus on high tech electronic, it is not surprising that Penang is now recognised as the Silicon Valley of the East.

Penang SEZs started to grow up more than other SEZ in Malaysia when the government invited 8 big electronic companies to make a business in Malaysia. Intel, Bosch, Agilent Technologies, AMD, Fairchild, Renesas electronic, Osram, and Clarion are 8 pioneers electronic industry in Penang since 1972. They were called as 8 Samurai From that point onward, the supporting companies came in and supply chain has been organically develop which ultimately provide a significant economic growth to the region.

“Political stability, government support, and capable workforce have motivated 8 pioneer MNCs to continue operating in Penang for 39 years. The eight Samurai can encourage many top MNCs in the world to establish their plant in Penang.

Picture 1. SEZ in Penang



There are now more than 300 foreign companies in Penang, such as Singapore, Japan, Taiwan, and US. Every year investment increases and the biggest country investors also change.“
(MIDA Penang, 2011)

The above quote highlight the fact that anchor companies play a disproportionately large role in seeding and upgrading clusters, acting as a magnet for other companies and supporting projects that improve the business environment.

The Key Success Factor of SEZs in Malaysia

Malaysia is the first country in Asia that ready to make Special Economic Zones (SEZs) in 1971 compare with Thailand (1972), China (1979), and Indonesia (1986) (FIAS, April 2008) SEZs in Malaysia have been divided into some regions, such as Kuantan, Johor, Gabon, Penang, and Kuala Lumpur. Every region has different characteristic of input factors.

For example, Kuantan is well-gifted with natural resources such as oil, gas, and petrochemical. Malaysia as a whole has many natural resources in areas like agriculture (palm oil, natural rubber, sawn timber, sawn logs, pepper, cocoa, and pineapple), minerals, and forestry (<http://www.tradechakra.com/economy/malaysia/natural-resources-in-malaysia-199.php>).

Nevertheless, the government realizes that relying only to the abundant of natural resources is not enough therefore they have tried to develop strategic competence based on the development of knowledge and education, skill of human resources, cluster strategy. In this session, we will discuss each of those important variables that provide unique value of SEZ areas in Malaysia.

Human Resource & Transfer of Knowledge

Malaysian government place human resource as an eminent role and the driving factors of industry competitiveness. Malaysia total population in July 2011, is 28,728,607 people with 12,693,000 labour force. The unemployment rate in there was last reported at 3,3 percent or there is 412,600 in September, 2011 (Principal Statistics of Labor Force, Malaysia, October 2011). Fortunately, Malaysian special economic zones have been able to become the driving force in building up industrial capacity which eventually provides positive impact in developing job creation.

For example ECER (East Coast Economic Region) as one of SEZs in Malaysia has been able to create 560.000 new jobs by the year 2020 under the ECER Master Plan (East Coast Economic Development Council, 2009). As a result, Malaysian Human Development Index (HDI) has been categorised as a high human development country (57th rank) in 2010 which eventually the best HDI compare to China (89th rank), Thailand (92th rank), and Indonesia (108th rank). These three countries still categories as medium human development country. To develop their human resource, Malaysia established Pembangunan Sumber Manusia Berhad (PSMB) who designs national human resource development.

Recognising the strategic role and value of human resource, Malaysian government try to focus on how to empower their citizen to be a valuable employee. For example, in Penang they formed a talent development institution so-called PSDC which was established in May 1989 by using a tripartite model: industry, government, and academia.

During our visit on April 2011, it was reveled that PSDC consists of 156 members companies. Each member contributes RM 5.000-20.000 which is depending on the amount of employee (this is one time installment). PSDC provide facility for training, consultancy, academy development, and services. Other states in Malaysia used the PSDC concept to set up their own skills centre. To date, there are 11 skills development centre out of 13 states in Malaysia, with PSDC being the first to set up (see Table 3).

PSDC can be categorised as a unique non profit organisation not only because they developed base on tripartite partnership but also the fact that competing companies pool their resources to fund it. Our interview with PSDC management shows an interesting view on how they could leverage their competitiveness:

“PSDC is a disruptive innovation which plays an important role in HRD. We are supported by many supporting programme such as incentive from Malaysian government for firms who conduct training to their employee. Malaysian government would reimburse 20% of the course fee into employers' levy accounts after the completion of training under Malaysia Training Program and so on.”
(PSDC Management, 2011)

Table 3. Skill Development Centre in Malaysia , Source: <http://www.psd.org.my>

STATE	SKILLS DEVELOPMENT CENTRE	YEAR	
Penang	PSDC	Penang Skills Development Centre	1989
Selangor	SHRDC	Selangor Human Resource Development Centre	1992
Negeri Sembilan	NSSDC	Negeri Sembilan Sills Development Centre	1993
Kedah	KISMEC	Kedah Industrial Skills and Management Development Centre	1993
Perak	PESDC	Perak Entrepreneur and Skills Development Centre	1993
Johor	PUSPATRI	Johor Skills Development Centre	1993
Terengganu	TATI	Terengganu Advanced Technical Institute	1993
Sarawak	PPKS	Sarawak Skills Development Centre	1994
Malacca	MISDC	Malacca Industrial Skills Development Centre	1994
Pahang	PSDC	Pahang Skills Development Centre Berhad	1996
Terengganu	TESDEC	Terengganu Skills Development Centre Berhad	1996
Sabah	SSTC	Sabah Skills and Technology Centre	2000

Indeed, knowledge and expertise of employees need to be seen as a critical strategic resource and organizations have to explore ways in retaining them. Nevertheless, capturing knowledge particularly tacit knowledge has been one of the main challenges in knowledge management. Therefore, PSDC programme also include internship in their company member, sharing knowledge from company expert, a joint laboratory, and so on.

Malaysia apparently do not want their country to be exploited and only become a place of investment. To ensure there is transfer of knowledge, Malaysian government would not give permission for investment to companies that do not have a clear transfer of knowledge programme for local employee. This is reflected in the following quote:

“When a company want to build their business in Malaysia, they must fill a form and agree with our human resource policy which ensure that there is a transfer of knowledge to local people such as submitting proposal of training skill from their

company to Malaysian employee, give opportunity for local employee in their project, providing information about how many expatriates will be employed, their qualification, etc.”
(Director of MIDA Penang, 2011).

Basically on the job training for local citizen is a must. The main idea of this policy is to protect and empower local employee so that they can improve their skill and capability in certain industry. After companies established in Malaysia for certain period, depend on the type of industry, those companies must be localized. Localized means that at the end all employees should be Malaysian citizen. Figure 2 shows government policy in developing SEZ which is based on knowledge and education as the centre of SEZs model. Knowledge Transfer Program Committee of Ministry of Higher Education Malaysia has established Knowledge Transfer Program (KTP) as a critical project agenda to develop community and industry. The aim of this program is to solve demand for knowledge workers which eventually will be increased in a high income economy.

Figure 2. Special Economic Zones (SEZs) Model. Source: <http://www.ecerdc.com.my>



KTP grant scheme phase 1 (2011-2012) initiate to recognises a broad range of activities to support mutually beneficial collaboration between universities, industries, and communities such as government agencies, non-government organisation (NGOs), or public sector (KTP, 2011).

It also provides the platform for the exchange of intellectual property, expertise, learning and skills between the stakeholders (see Figure 3).

The forms of interactions may include joint research, education, training, etc. To successfully implement those programme, they established Public Higher Education Institutions (IPTA) which should be effectively engaged with industry and community towards mutually beneficial initiatives through role played by:

- Academia: able to incorporate relevant and up to date knowledge from industry and the community into their teaching, learning, research and consultancy activities.
- Industry : can utilize the resources of IPTA to enhance their business capability and economic activities
- Community: can benefit from the knowledge generated in IPTA to improve quality of life within the community.
- Graduate/Postgraduate Intern: enhance their personal and professional development.

Figure 3. Model Implementation of KTP, Source: Knowledge Transfer Programme Committee (2011)



The above strategic alliances between related stakeholders provide a superb learning environment that has been positively acknowledged by investors:

“Penang provide cost effective and vibrant business environment. We don’t have to set up the training here, and go back the home country....everything is available here.”
(Venture Penang, 2011)

A more thorough insight expressed by Benchmark:

“Since Penang has been manufacturing design operational for multinational MNC, we have a lot of talented engineers. Find expert is also very easy, because colleges are trained what is needed, so it is easy to fit in at technology requirement”
(Benchmark, 2011)

The existence of electronic clusters in Penang made knowledge, HRD and innovation a necessary component to maintain the competitive advantage of state and region.

The increasing input of knowledge into production and acquisition of new knowledge will create a new „epistemic landscape“ with a new architecture of knowledge production and innovation (Evers, 2011). Such an epistemic landscape consists of

- a concentration of knowledge workers and highly-educated manpower,
- Institutions of higher learning and research
- companies with strong R&D an ICT backbone

By improving the quality of education and expanding the learning opportunities and facilities, Malaysia has been able to generate a pool of specialized skills and knowledge workers that can serve the man power needs of existing and future industries.

Malaysian Cluster Strategy

Former studies have shown that industrial clusters enhance the competitive advantage of states or regions (Porter and Bryden, 2007, Wahyuni et al. 2011). Clustering of related industries reduces transaction costs, stimulates innovations and drives development. Silicon Valley in California or the automotive cluster of Stuttgart, Germany is examples of successful clusters.

What makes a cluster successful? A number of important factors include: the availability of venture capital; critical mass; technical infrastructure; presence of higher education and research institutions; entrepreneurial drive; influence of champions; presence of an anchor firm(s); networks and quality of linkages; social capital; and, diversity.

An intriguing aspect is that the factors that distinguish 'over achieving' from 'under achieving' clusters are so-called intangible assets. Clusters possessing strong inter-firm relationships, trust and social capital are more competitive and dynamic. According to Enright (1999), 'overachieving' clusters are aware of the interdependence of their players and, in essence, produce more than the sum of their parts.

The important of eminent cluster shows in the following quote:

"We invest in Penang because of several reasons: 1) the dynamic growing industrial cluster, nearby suppliers and big customer such as HP, Acer, etc. If one big company invest here logically speaking other related company will come here as well. 2) Easy to search skill people, good medical, and high tech. 3) Stable and progressive government. 4) Developed infrastructure (close to airport, port, Singapore) which make the movement of goods very fast and efficient. 5) custom immigration is very supporting. Government have database online, even the police check the criminal. 6) Well educated, multilingual work force that have good communication and skill."
(Venture Penang, 2011)

"The existence of Intel, Motorola, and other MNC in Penang are very important for us because our intention is to support them. Cost of Singapore is increased. Nobody goes to China because Intellectual property. Malaysia has very good law for manufacturing companies like us. Shipping from Penang to California only takes maximum 2 days with very low risk (theft, high jacking, etc.),"
(Benchmark, 2011)

The above two quotes show the intangible aspects of Penang. They basically implement a cluster-based Manufacturing strategy which involves two basic thrusts: the move along the value chain to increase value added at either end of the chain and the shift of the entire value chain to a higher level thereby increasing value-added at every point along the value chain (EPU,1996, p.31).

Malaysia tries to improve local supply chain to support big foreign companies in SEZs area by developing a database, regular meeting, seminar, and training. To get right human resources for companies, Malaysia also arrange job matching programme.

This strong value chain will not be successful if existing companies do not actively increase value in their activity, as shown in the following quote:

„At the beginning Quality assurance came from us but then the freight cost has been increased. We tried to localize value chain so that the cost will be lower and the lead time will be shorter. We developed strategic alliances with other company to build strong value chain."
(Venture, 2011)

Although its clear that Malaysia has developed their SEZ using strategic cluster, interestingly their SEZs are not exclusive. For example, in the middle of electronic clusters in Bayan Lepas there are also Diamond Company which is indeed unrelated with surrounded activities. During our interview, our sources from MIDA said,

"Malaysia allows all types of investment do not matter whether the industry is big or small. Infrastructure is provided and controlled by the government, except the logistic arranged by private sector. Our government do not only take care the business, such as tax incentive, etc. but also take care investor's family, such as established international schools for investors' children and other facilities."

The above analysis clearly shows the eminent role of government support, educational and research institutions (colleges and universities), non-profit organizations and trade associations all play important roles in cluster development and have a catalytic effect on clusters.

Anchor companies play a disproportionately large role in seeding and upgrading clusters, acting as a magnet for other companies and supporting projects that improve the business environment. Educational and research institutions play pivotal roles in cluster development. It is worth noting that the majority of clusters either originated at educational institutes or in close proximity to universities. Community colleges and vocational apprenticeship training centres produce the specialized workforce essential to the cluster's success.

Several studies about Penang indicated that this city has the potential to change from an industrial cluster to a knowledge cluster (Evers, 2011) For this purpose Penang has reinvented itself as a "knowledge hub". Knowledge clusters are agglomerations of organizations that are production-oriented. Their production is primarily directed to knowledge as output or input. Knowledge clusters have the organizational capability to drive innovations and create new industries. Examples for organizations in knowledge clusters are universities and colleges, research institutions, think tanks, government research agencies and knowledge intensive firms.

Knowledge hubs are local innovation systems that are nodes in networks of knowledge production and knowledge sharing. They are characterized by high connectedness and high internal and external networking and knowledge sharing capabilities.

As meeting points of communities of knowledge and interest, knowledge hubs fulfill three major functions: to generate knowledge, to transfer knowledge to sites of application; and to transmit knowledge to other people through education and training.

"Penang Science Council have developed CSR together with companies. For example: Motorola (sustainable, education, learning, very strong in training), Intel (innovation & research), Braun (life science medical health), and so on. Government initiate the project and companies will do it." Invest Penang, 2011)

Government also provide incentives to stimulate private sector involvement in the productivity-driven strategy. Therefore, a series of governmental technology-policy related measures were introduced (Rasiah, 1998), such as in Multi Media Super Corridor companies who enjoy lots of incentive due to knowledge driven strategy.

Input Factors

Looking the input factors, in fact it is quite interesting to see that most of our respondents do not mention the availability of resources as one their stimulating factors in choosing Penang as a place for investment, which is shown at the following quote:

"Accessibility of raw material in Penang is not easier than Singapore. The materials are mostly coming from other countries like China and Singapore. In fact, most of them we purchase it from Singapore but it is not originally coming from Singapore." (Kobay, 2012)

Despite lack of natural resources, apparently well developed infrastructure has become a complementary rewarding variable.

Malaysia's persistent in driving and upgrading its infrastructure has resulted in one of the well-developed infrastructure among the newly industrializing countries of Asia.

Malaysia has invested effectively in infrastructure and has excellent transportation which make Global Competitiveness Index (GCI) marked Malaysia in 23th position from 125 countries with score 5,04. (2007).

Network of highways, efficient seaports, international airports, developed industrial parks are other physical infrastructure that undoubtedly support SEZs effectiveness. Malaysia's central location in the Asia Pacific region makes it an ideal gateway to Asia.

"Cost of Singapore is increased. Nobody goes to China because of intellectual property. Malaysia has very good law of intellectual property and infrastructure for manufacturing company like us. To ship from Penang to California maximum is only take 2 days with a low cost and risk (theft, high rejection, etc.)" (Benchmark, 2012)

The other input factor that can encourage growth of SEZs in Malaysia is administration infrastructure. Medium-term economic planning in Malaysia has been effected through a series of five-year plans, and the country's relatively high-quality public administration has allowed for effective implementation of its development policies and programs.

Malaysia also set up a one-stop shop hosting the company registry, the Inland Revenue Board, customs, financial institutions, the pension and social security agencies. Electronic systems that have been emplaced in many areas have significantly reduced administrative costs.

Malaysia's company registry invested \$12.7 million in a sophisticated registration system over 5 years. The investment was fully covered by fees generated by the registry.

In 3 years after the reform, the number of registered businesses increased by 19%—and the compliance rate for filing annual tax returns rose from 28% to 91% (Sarunhanjaya Syarikat Malaysia, Companies Commission of Malaysia)

Within 6 weeks after the introduction of the new system, 5,439 applications were recorded online. This new system reduced administrative costs by 71.3%, saving €10.2 million a year. Some reformers offer incentives to use e-systems. Malaysia reduced company registration fees as part of the government's economic stimulus package, with the expected benefit being the registration of 320,000 new businesses in 2009. I

n East Asia and Pacific region, Malaysia supports cut filing and service time by 15 days by adding administrative staff to deal with incoming cases and setting stricter deadlines. It also improved caseload allocation by creating a fast track in the commercial division of the Kuala Lumpur high court, to deal exclusively with interlocutory matters (IFC, 2010).

Government's Roles

The impressive achievement of SEZs in Malaysia cannot be separated from the eminent role of MIDA (Malaysian Investment Development Authority) which is the government's principal agency for the promotion of the manufacturing and services sectors in Malaysia.

"Government of Malaysia treated us very well"
(Kobay, 2011)

The wide range of services provided by MIDA includes providing information on the opportunities for investments, as well as facilitating companies which are looking for joint venture partners. MIDA function is explained in Table 14

Table 4. Functions of MIDA, Source : MIDA

Promotion	<ul style="list-style-type: none"> Foreign direct investment, Domestic investment. Business matching through E-Connect. Manufacturing services, Supporting value chain
Evaluation	<ul style="list-style-type: none"> Manufacturing licenses, Tax incentive, Duty exemption. Expatriate posts. OHQ, RDC, IPC, and R&D status, Transfer knowledge Strategic Place.
Planning	<ul style="list-style-type: none"> Planning for industrial development. Recommended policies and strategies on industrial promotion and development. Formulation of strategies, programs, and initiatives for international economic cooperation.
Follow up / Monitoring	<ul style="list-style-type: none"> Assist company in the implementation and operation of their project. Facilitate and exchange & coordination among institutions engaged in or connected with industrial development. Advisory services.

MIDA also assists companies interested in venturing abroad for business opportunities. For example, when their current investor would like to expand their market abroad, MIDA can help them as well. As shown in the following quote:

"When investors encounter any problem, they can contact MIDA at first to help so that they feel save to do business in Malaysia. To further enhance MIDA's role in assisting investors, senior representatives from key government agencies are stationed at MIDA's headquarters in Kuala Lumpur to advise investors on government policies and procedures. These representatives include officials from Department of Labour, Immigration Department, Royal Malaysian Customs, Department of Environment, Tenaga National Berhad, and Telekom Malaysia Berhad".
(MIDA Penang, 2011)

During our interview, the director of MIDA Penang also said that they have constant efforts to obtain feedback from the business community through channels of consultation such as regular government-private sector dialogues.

These allow the various business communities to air their views and to contribute towards the formulation of government policies which concern them.

“Government policy is very friendly business. Therefore, to decrease complain and enhance our mutual understanding, there is regular meeting between zone manager, custom, and company.”
(Head of Custom Penang, 2011)

Since there is a close relationship between investors and government officers, Malaysian government also aware of the possibilities of corruption or abuse of power. To reduce these possibilities, they always try to keep everything transparent and professional.

“Here is our strategy to keep the officials clean : there is rotation and transfer for the official in certain period. Anti corruption agency attack certain departments which are prudent with corruption. They conduct internal control for “hot spot, hot staff, and hot job”. They investigate everything and report it if there is any indication”
(Head of Custom Penang, 2011).

Table 5: Doing Business in Malaysia, Source: Economic overview, 2011. www.mida.gov.my

Indicators	Malaysia	
	2010 Rank	2011 Rank
Doing business rank	23	21
Starting a Business	116	113
Dealing with Construction Permits	109	108
Registering Property	65	60
Getting Credit	1	1
Protecting Investors	4	4
Paying Taxes	24	23
Trading Across Borders	37	37
Enforcing contracts	59	59
Closing a Business	57	55

Table 5 shows the rank of doing business in Malaysia which upgraded from 23th (2010) to 21th (2011).

Some variables that successfully accelerated Malaysian rank are: starting business, environment regulatory, property registration, tax incentive for investor, and closing business.

Active steps to reduce the regulatory burdens and streamline the business environment with the objective of raising investment and growth are the part of regulatory environment in Malaysia. The government have taken steps to increase the supply of skilled workers and enhance the employability of the human resources.

When there is company outside the zone, they can get the same facilities with company inside the zone by applying to custom agency to get exemption facility.

Restrictions of doing business in Malaysia are ownership of industrial land which is usually on a leasehold basis, ranging from 30 to 99 years. However, freehold land is also available for industrial purposes. Shortages of skilled workers and regulatory burdens are the key adverse features of the investment climate.

“Firms note that the difficulty in hiring local workers, the regulations for hiring foreign workers, and skill shortages are the reasons why they are understaffed.”

Moreover, the fact that many electronics companies located in the same compound result in a strive competition. Retaining the best employee become a daunting challenge in this region.

Incentive

Government incentive for investors also one of the variable that upgraded rank of doing business in Malaysia (MIDA, 2011). In Malaysia, incentive divided by two categories: tax incentive and non tax incentive. The type of tax incentives are:

- Pioneer Status gives exempt on 70% of income for 5 years
- Pioneer Plus gives 100% exempt for 5 or 10 years
- Investment Tax Allowance, deduct 60% of investment against 70% of income
- Investment Tax Allowance, deduct 100% of investment against 100% of income
- FIZs have tax incentives plus duty free import on equipment and raw materials

A set of non tax incentive will also be available to encourage investors' participation (although the policy is different from one SEZ to other SEZ regions. Government also provide special incentives for companies who invest in the knowledge-intensive activities.

They fully aware that they face global competition to get investors from other country as well. Therefore, an attractive incentive and most importantly value added of their location should be profound which is indicated in the following interview:

"We realize that there is a tight competition in attracting FDI. In this sense, we divide competition in two types: inside competition and outside competition. Inside competition occur when investors want to move from one SEZ to other SEZ in Malaysia. If investors in Malaysia want to move to other zone, like from Penang to Johor, they can move easily and MIDA would not defend it.

But when the competition is outside Malaysia, the story is different. If input factors of production in Malaysia are difficult than others, Malaysia still has other bargaining power for investor than other country. Our bargaining power is expatriate regulation, strong supply chain, and excellent transportation such as direct flight to Hong Kong and China, direct ship to Singapore, etc. Government in Malaysia try to make regulation for investor as simple as possible. This is a part of our strategy on how Malaysia attracts new investors and keep current investors."

(MIDA Penang, 2011)

Since June 2003, foreign investors could hold 100% of the equity in all investments in new projects, as well as investments in expansion/diversification projects by existing companies irrespective of the level of exports and without excluding any product or activity.

Malaysia Investment Trend and Key Success Variable SEZs

From a country dependent on agriculture and primary commodities in the sixties, Malaysia has today become an export-driven economy spurred on by high technology, knowledge-based and capital-intensive industries.

The structural transformation of Malaysia's economy over the last 50 years has been spectacular.

Often dubbed the "lucky country" because of its wealth of mineral resources and fertile soils, Malaysia did not rest on its laurels but progressed from an economy dependent on agriculture and primary commodities to a manufacturing-based, export-driven economy spurred on by high technology, knowledge-based and capital-intensive industries.

Malaysia's total trade in 2008 reached RM1.19 trillion, an increase of 6.8 per cent from RM1.11 trillion in 2007. Exports increased by 9.6 per cent to RM663.51 billion in 2008 from RM605.1 billion in 2007.

The manufacturing sector accounted for 29.9% of Malaysia's GDP during the first nine months of 2008 while exports of manufactured goods made up 70.0% of the country's total exports. From being the world's largest producer of rubber and tin, Malaysia is today one of the world's leading exporters of semiconductor devices, computer hard disks, audio and video products and room air-conditioners.

Malaysia has edged up another position to rank 18th this year in the global competitiveness survey of 57 countries by the Switzerland-based Institute for Management Development (IMD) in its World Competitiveness Yearbook (WCY) 2009. Parameters of improvement in this competitiveness are economic efficiency (9th to 8th rank), business efficiency (13th to 4th rank), and government efficiency (19th to 9th rank). Malaysia competitiveness Ranking can be seen as Table 6 below.

Table 6: World Competitiveness Ranking, Source: World Competitiveness Report 2010 IMD.

Countries	2009	2010
Singapore	3 rd	1 st
Hongkong	2 nd	2 nd
US	1 st	3 rd
Switzerland	4 th	4 th
Australia	7 th	5 th
Sweden	6 th	6 th
Canada	8 th	7 th
Taiwan	23 rd	8 th
Norway	11 th	9 th
Malaysia	18 th	10 th

Our interview with MIDA (April 2011) indicated that Malaysia is acknowledged as a premier investment destination due to the following reasons: recognised as the 1st for investor protection (Forbes Report, 2009); 3rd attractive location for outsourcing destination (A.T. Kearney Global Service Location Index, 2010); 10th most competitive economy in 2010 (Institute Management of Development, 2010); and 23rd for ease of doing business in 2010 (The World Bank, 2010).

To keep company stay and feel enjoyable in Penang, government not only focuses on business but also other aspects that make them feel comfortable to stay with their family. For example, there are 7 international schools for investor's children in Penang.

This small island is also furnished with international hospital, high-tech park, shopping centre, etc. George Town, the capitol city of Penang, is announced by UNESCO as the world heritage site, that in somehow provide a balance life for investor. They are not just only came to Penang for work but also for pleasure. Even investors whom invest in other state of Malaysia spend their time in Penang which make economic effect of Penang is even bigger than other.

Conclusion

This paper clearly shows that strategic location, well equipped infrastructure, transparency in custom, tax offices as well as the availability of talented human resources who have division background that suitable for electronic industry became Penang sources of their competitiveness. Penang not only has good infrastructure logistic, good education to support industry, supply chain, IT protection, transparency, government, get people experiences in electronic manufacturing, the labors can be trained to match with the industry need.

On top of that, George Town as the capitol of Penang has announced by UNESCO as a world heritage site. Thus, Penang has transformed not only a place for work but also a pleasant place to stay for investor.

This paper also highlight the eminent role of government support, educational and research institutions (colleges and universities), non-profit organizations and trade associations all play important roles in cluster development and have a catalytic effect on clusters in Malaysia.

For example, the private sector is the key to success as private sector-led initiatives are simply more successful. Anchor companies (the eight samurai) play a disproportionately large role in seeding and upgrading clusters, acting as a magnet for other companies and supporting projects that improve the business environment. Educational and research institutions play pivotal roles in cluster development. It is worth noting that the majority of clusters either originated at educational institutes or in close proximity to universities. Community colleges and vocational apprenticeship training centres produce the specialized workforce essential to the cluster's success.

The only eminent drawback came from the though competition inside clusters. High jacking the best talent became normal phenomena that made retaining the best employee becomes a daunting challenge in this region.

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Appendix 1. Profile of Companies in this research

Venture

Venture was founded in 1984 as a global electronics services provider. Headquartered in Singapore, the Group comprises about 40 companies with global clusters of excellence in South-east Asia, North Asia, America and Europe and employs more than 14,000 people worldwide.

Venture is now a leading global provider of technology services, products and solutions with established capabilities spanning marketing research, design and development, product and process engineering, design for manufacturability, supply chain management, as well as product refurbishment and technical support across a range of high-mix, high-value and complex products.

Venture expertise in software design and management, reliability engineering and product test development are indeed necessary for knowledge innovation and quality assurance in such high-tech electronic cluster.

The Group has built know-how and intellectual property with domain expertise in printing and imaging; advanced storage systems and devices; handheld interactive scanning and computing products; RF communications and network; test and measurement equipment; medical devices; retail store solution suite of products and industrial products and installations.

Benchmark Electronics, Sdn.Bhd

Benchmark Electronics is a multinational electronics design and manufacturing service provider with 21 facilities across Europe, America and Asia. Benchmark provides design and manufacturing services to Original Equipment Manufacturers (OEMs) in the medical, test & instrumentation, industrial control equipment, telecommunications, computing and military/aerospace segments.

They offer customers comprehensive integrated design and manufacturing services from initial product design to volume production and direct order fulfillment.

Kobay Technologies Bhd

Established in 1985, Kobay is 100% Malaysian company. Kobay Penang is the headquarter of Kobay's companies. They also have a subsidiary in China and Singapore. In Malaysia they have six factories: 4 in Bayan Lepas and 2 in other places.

Kobay Technologies Bhd provides comprehensive solutions for Precision Tooling, Advanced Automation Equipment, Precision Components and offers multi-disciplined services to its clients in Oil, Gas & Petrochemical industries. The parts they produce usually for oil and gas industry like equipment that go down to the sea (offshore). Those machinery parts are produced depend on customer requirement.

Fabtronic Sdn Bhd

Fabtronic was incorporated on 11 April 2007 and has been established as an outsourcing agent to AMD (Advanced Micro Devices), a multinational company in the semi-conductor industry. Initiate by Malaysian government, 70 percent of Fabtronic stock owned by Ministry of Finance.

AMD was then approached to be involved in the collaboration to establish Fabtronic.. This collaboration can be seen as an incentive mechanism to AMD, which is one of the 8 pioneers that established its operations since 1972, to further incentivise it to expand its business via a win-win approach. Other than as an incentive mechanism, this initiative also has other objectives such as:

- To enhance the skill sets and job opportunities for Malaysians in the semiconductor industry via the creation of employment opportunities;
- To create a conducive environment/ skills/ knowledge/ technology/ work culture transfer; and
- To create business opportunities in related support service.

With the above task at hand, a business model based on "factory-in-a-factory" concept was formulated. In this model, AMD outsource some of its production functions to Fabtronic which is carrying out the production within the AMD's own premises. To ensure there is transfer of knowledge, Fabtronics is supported by 100% Malaysian young employee.

Research Methods Amid Chaos:

Special tactics used to discover answers along the US Gulf Coast in the aftermath of Hurricane Katrina and the B.P. Oil Spill

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Abstract

Businesses determined to rebound, as well as academics studying the business environment in the aftermath of a man-made or natural disaster must adopt techniques that might otherwise seem extraordinary. The chaos of the situation extant in the aftermath of a disaster forces managers and academics to take steps to get to the heart of the issues in minimal time.

In these instances, time is not a luxury that they can enjoy; immediate situational awareness must be assessed and addressed. Moreover, as the business situation changes, and as resource availability and demand for goods and services fluctuates, business and academic monitors must have flexibility to adapt to the situation. An adaptive warfare-inspired approach to data gathering and fact-finding becomes imperative in these extraordinary situations.

Key words: Hurricane Katrina, B.P. Oil Spill, non-traditional research

Introduction

Businesses determined to rebound, as well as academics studying the business environment in the aftermath of a man-made or natural disaster must adopt techniques that might otherwise seem extraordinary. The chaos of the situation extant in the aftermath of a disaster forces managers and academics to take steps to get to the heart of the issues in minimal time. In these instances, time is not a luxury that managers and interested academics can enjoy; immediate situational awareness must be assessed and addressed. In the aftermath of a disaster the business situation changes can be rapid, and the status quo changing daily.

As resource availability and demand for goods and services fluctuates, business and academic monitors must have flexibility to adapt to the situation. Information or data acquisition thus must be immediate. An adaptive warfare-inspired approach to data gathering and fact-finding becomes imperative. Louisiana in the aftermath of a natural disaster, Hurricane Katrina in 2005, and the “B.P. oil spill” manmade disaster of 2010.

This manuscript examines the successful though somewhat-non-traditional data-gathering activities of businesses and academics alike along the Mississippi Gulf Coast and in southeast Louisiana in the aftermath of a natural disaster, Hurricane Katrina in 2005, and the “B.P. oil spill” man-made disaster of 2010. Approximately five years apart, these two events caused massive interruption of commerce. The same geographic footprint that was just beginning to recover after the devastation of Hurricane Katrina was now the “ground zero” impact area of the oil spill.

Hurricane Katrina and the B.P. oil spill are briefly explained. Space allotted to this manuscript cannot explain in any totality the gravity of and damage caused by these two events. These short descriptions thus do not tell the whole story, but rather serve as reminders to readers of these life-changing and life-ending events; readers are urged to more thoroughly read about these disasters in other venues.

This pedagogical manuscript briefly examines the natural disaster of Hurricane Katrina and the manmade disaster of the B.P. oil spill.

In brief, Hurricane Katrina

The U.S. National Oceanographic and Atmospheric Administration (NOAA) regard Hurricane Katrina in 2005 as the “most destructive hurricane to ever strike the U.S.” (NOAA, 2007, para. 1). Herman (2006) reported insured losses alone from Hurricane Katrina exceeded \$40US billion, which was almost double the claims from the previous record holder, Hurricane Andrew, which devastated Florida in 1992 (para. 7).

The Mississippi Gulf Coast and southeast Louisiana suffered massively from tidal flooding. The US National Weather Service (2012) reported that the “storm surge flooding of 25 to 28 feet above normal tide level occurred along portions of the Mississippi coast, with storm surge flooding of 10 to 20 feet above normal tide levels along the southeastern Louisiana coast” (Hurricane Katrina Section). While New Orleans, Louisiana received the preponderance of media coverage in the aftermath of Hurricane Katrina, the Mississippi gulf coast received the harder impact from direct tidal inundation.

The United States Geological Service's (USGS) website states, "The mainland shoreline of Mississippi, located in the right-front quadrant of Hurricane Katrina, experienced one of the greatest storm surges in U.S. history. Most of this coastline stretching from Waveland through Pascagoula suffered extensive damage up to several kilometers inland from the coast" (USGS, 2010, para. 1).

The massive flooding in the southeastern Louisiana area was due in part to the failure of levees and flood control structures to handle a tidal surge that may have exceeded their design parameters. These flood control structural failures were addressed by the NOAA National Climatic Data Center in 2006, which reported:

"At least 80% of New Orleans was under flood water on August 31st, largely as a result of levee failures from Lake Pontchartrain. The combination of strong winds, heavy rainfall and storm surge led to breaks in the earthen levee after the storm passed, leaving some parts of New Orleans under 20 feet of water. Storm surge from Mobile Bay led to inundation of Mobile, Alabama causing imposition of a dusk-to-dawn curfew for the City. Large portions of Biloxi and Gulfport, Mississippi were underwater as a result of a 20 to 30+ foot storm surge which flooded the cities."
(NOAA, 2006, Flooding section).

By 2011, some of the areas struck by Hurricane Katrina show signs of recovery, while others did not. Nolan (2011) described private and public sectors in the city of New Orleans, Louisiana USA that were thriving six years after Hurricane Katrina, while other areas within the same city, not far away from the areas that have recovered, are still desolate. Income, financial resources, and civic organization are the keys factors separating those individuals and businesses that have recovered, and those that have far to go.

The human death toll of Hurricane Katrina, in 2012, is not yet fully known. Olsen (2010) wrote, roughly five years after Hurricane Katrina that "the names of hundreds of dead in Louisiana are still unknown, reporting, Of an estimated 1,464 victims officially recognized by the state of Louisiana, more than 500 names have not been publicly released. And Louisiana's once-ambitious efforts to tackle dozens of related cases of missing persons and unidentified bodies ran out of money in 2006 and has never been revived" (para. 2).

Into this same disaster-area footprint in 2010 came the B.P. Oil Spill.

In brief, the 2010 B.P. Oil Spill

NOAA (2011) states, On April 20, 2010, an explosion on the Deepwater Horizon/BP MC252 drilling platform in the Gulf of Mexico caused the rig to sink and killed 11 workers. As a result, oil began leaking into the Gulf creating the largest spill in American history to date (para. 1). Sherwell (2010) observed, the BP oil spill has turned stretches of the Gulf of Mexico into a lifeless ocean (para. 1).

In 2012, the oil spill is known by several names. These names include: The Deepwater Horizon oil spill, The P.P. Oil Spill, the B.P. Oil Disaster, the Macondo Blowout, and to those who are influenced by 2012 revisionism, it is also simply now being called the Gulf Oil Spill.

On August 10, 2010, an article in The Telegraph described the situation extant in the Gulf of Mexico and its environs shortly after the oil well was capped:

The BP spill spewed 4.1m barrels of oil into the Gulf of Mexico over 87 days, making it the biggest unintentional offshore oil spill in the history of the petroleum industry. Around 4.9m barrels leaked from the time the well ruptured a mile below sea level on April 20 following an explosion that killed 11 workers and its capping on July 15, with only some 800,000 barrels captured during containment operations, according to new US government estimates. As BP moved to shut down the Macondo well once and for all, scientist said it gushed at the rate of 62,000 barrels of oil per day initially - more than 12 times faster than BP had admitted shortly after the blowout (The Telegraph, 2010, para. 1-3).

The NOAA Fisheries Service closed massive areas of the Gulf of Mexico to fishing\ due to pollutants in the water. In October 2010, the NOAA Fisheries service issues a "Frequently asked Questions paper, which listed the following (p. 1):

Why is NOAA Fisheries Service prohibiting fishing in certain areas?

- NOAA Fisheries Service is prohibiting fishing as a precautionary measure to ensure public safety and assure consumer confidence in Gulf of Mexico seafood.

- NOAA Fisheries Service strongly advises fishermen not to fish in areas where oil or oil sheens (very thin layers of floating oil) are present, even if those areas are not currently closed to fishing.
- A process to expedite modifications to the fishing closed area in the Gulf of Mexico has been established so that boundaries of the fishing closed area can be modified daily if needed.

The B.P. oil spill created a negative economic impact to the gulf fisheries in Alabama, Mississippi and Louisiana. Kline (2012) wrote:

“Two-years later, experts say the coastline and the wetlands are recovering, and at rates faster than expected. On the other hand, the fishing industry is struggling to get back to where it was in the days before the spill” (para. 1).

Information gathering and the disaster environment

The information-gathering processes are different when considering a certain natural vs. manmade disasters. The general difference between the two events is that the time of the initial destruction-phase portion of the event.

A natural disaster such as a flood, earthquake, tornado, tropical cyclone or hurricane is usually relatively brief, ranging from a matter of minutes to a few hours. The impact time for a manmade disaster can be a matter of moments, such as an explosion at a factory or the crash of an airplane, or it can be a time span with seemingly never-ending residual effects that over time reduce in intensity but nevertheless continue.

Subsequently, information-gathering among intense, short-term events may be impossible. For example, business data-gathering amid a hurricane at ground-zero of the impact area would be an exercise in futility.

By contrast, information gathering during the eighty-seven days of the B.P. oil spill and after the event with ongoing impact continuing at the time of the writing of this manuscript in 2012 is a necessary and timely activity. To this day, the business, human and ecological impact of the 1986 Chernobyl nuclear disaster in the Ukraine is still studied, and the final impact of the event has not yet arrived (Turner, 2011).

The extraordinary circumstances encountered by business managers attempting to assess the post disaster business environment and its pulsating ebbs and flows of resource availabilities, experienced at the same time as critical shortages require tremendous situational awareness. Academic researchers functioning in that same arena, if they are to be successful, must set aside the lengthy ponderings of conventional theoretical research, and must compress their activities, mimicking the situational awareness strides taken by their business-world contemporaries. This leads to a logical question: So how does one manage or perform research in the unconventional post disaster environment? Much can be learned about capitalizing in about how others manage in other fields when confronting unconventional situations.

Literature

Military planners, leadership schools, and tacticians study the actions of shrewd men who have fought in ages past. They study and analyze not only the successes of their own armed forces, but those of their past and present adversaries. Sports teams do much the same thing, watching videos of teams with which they are about to compete, examining plays and moves of those they are about to meet in the arena. Likewise, business planners must perform an assessment of their situational awareness.

Boldly discussing the military strategies of Attila the Hun, Roberts (1999) examined the necessity for unconventional, stealthy reconnoiter of the situation (p. 4). He discussed how Attila, a captive in the Roman court in his youth, learned the ways of his future adversaries, by adopting an external appearance that disguised his information-gathering activities. Provence (1995) showed the connection of this military mindset to that of business, applying the quotes of famous WWII US Army General George Patton to strategic and tactical business planning known to have said, “Strategy and tactics do not change. Only the means of applying them are different. Strategy is very simple. It should be used like a steamroller—make up your mind on a course and direction of action and then stick to it. It takes very little imagination and skill to conceive a workable method of strategy...Tactics must be applied by attacking weaknesses and exploiting breakthroughs” (p.75).

Expanding upon Provence (1995), Axelrod (1999) further discussed Patton's strategic and tactical theories. Applying Patton's reasoning to this manuscript's focus to the environ of post-disaster business managers and researchers, we find this counter argument to those who are apprehensive to act in imperfect situations. Axelrod (1999) quoted Patton: "It is fatal to wait for perfection (p.130). Axelrod (1999) prodded academics and nudged managers: "Management theoreticians are business-school professors, not managers. Your job is to manage, not to theorize about perfect solutions. Perfection is too expensive. It costs too much time. If you wait for the perfect plan or for ideal circumstances, opportunity will be lost" (p. 130).

Strid & Andréasson (2008) took a tongue-in-cheek approach to their examination of Viking culture. "A thousand years ago, Vikings were making wine sniffers out of the skulls of their enemies. Today they're selling furniture in flat packages" (Strid & Andréasson, 2008, p.5). They wrote how the Vikings would learn about their target, plan fastidiously, and yet maintain flexibility in the face of a situational change.

We learn from Attila, from General Patton, and from the Vikings, the necessity of discreetly or stealthily obtaining information, of planning, and to have enough information to make informed decisions to change direction when necessary. We further learn that waiting until everything is absolutely perfect wastes time, wastes resources, and may waste strategic advantage.

Mao Tse-tung on Guerrilla Warfare has been translated into English and published under in many venues. The United States Marine Corps reproduced it so that it could be utilized by those studying the unconventional warfare methods known as guerrilla warfare.

The translator, Brigadier General Samuel B. Griffith, USMC (Retired) remarks how the "influence of the ancient military philosopher Sun Tzu on Mao's military thought will be apparent to those who have read The Book of War. Sun Tzu wrote that speed, surprise, and deception were the primary essentials of the attack" (USMC, 1989, p. 37).

Mao identified seven fundamental steps toward achieving a revolutionary goal (USMC, 1898, p. 43):

1. Arousing and organizing the people.
2. Achieving internal unification politically.
3. Establishing bases.
4. Equipping forces.
5. Recovering national strength.
6. Destroying enemy's national strength.
7. Regaining lost territories.

All four military strategies by Attila, General Patton, the Vikings and Mao, along with their unique characteristics and stratagems, pose unique insight if adapted by the manager or academic in a post-disaster environment.

Discussion of observations in the field and of experience

Stealth, planning, informed situational awareness, and tactical flexibility; four characteristics important to military planners. These same four are important to business and academics gathering information in the post disaster/ongoing disaster environment. They are discussed and examples provided of their application:

One may wonder why anyone in business or academia would not want to tell everyone that they are on the scene and gathering information. Experience shows that people (victims) in disaster impact areas may be very reluctant to share information with those who they perceive are outsiders. Subsequently, if one's objective is to build a business or to obtain data, one must utilize those four characteristics mentioned above. Walt Disney employed the when acquiring the properties that would he would assemble into what became the Walt Disney World Resort in Florida. Emerson (2010) discussed Disney's method:

"From obscure legal strategies to spy-like maneuvers, Disney's eastern plans, code named Project Future, were built upon a brilliant mix of fantasy and reality. The complexity of the final result, the Walt Disney World Resort, was rivaled only by the complexity of the method used to achieve it. Throughout the entire effort, two restrictions repeated themselves at every stage: Disney's insistence on secrecy in the process and Disney's desire for control of the product (p. 2)

Perhaps without specifically identifying his management style as such, Disney relied upon the four principles to outsmart speculators who would drive land prices up.

Stealth, planning, informed situational awareness, and tactical flexibility allowed Disney to obtain what he wanted: land to expand his business empire. Likewise, stealth is crucial to business managers and academics conducting research under certain circumstances.

Demonstrating mastery of the four principles of stealth, planning, informed situational awareness, and tactical flexibility, along the Mississippi gulf coast after Hurricane Katrina, Wal-Mart assessed the situation and reopened their operations in tents.

The temporary Wal-Mart in Waveland, Mississippi, was “a 16,000 square-foot industrial strength A-frame, complete with electricity and six 30-ton air conditioners” (Ray, 2006, Para. 2). Employing advanced technology to communicate with suppliers and warehouses, in the earliest stages of post-Hurricane Katrina operations, Wal-Mart’s collection of data of their customer’s most-wanted or demanded items employed simple technology: a pad of paper and a pen, where customers listed their wants.

Gross (2005) eyeing the efficiency and successes of private enterprise in the aftermath of Hurricane Katrina, compared to inefficiencies of the public sector, questioned if the “public should really plan to rely on the private sector rather than the government for disaster-relief” (para 2). Attempting a counter-argument to a Fortune article, Gross (2005) wrote:

Government broke down. Business stepped up,” blares Fortune’s cover story. Wal-Mart relief trucks reached stricken Gulf Coast areas before the Federal Emergency Management Administration did. Federal Express continued to deliver when the National Guard couldn’t. As Kenner, La., Mayor Philip Capitano put it: “The Red Cross and FEMA need to take a master class in logistics and mobilization from Wal-Mart. (para. 1)

While Gross apparently intended a counterargument to private-sector success, he inadvertently reinforces the notion that Wal-Mart’s post-disaster management style was aggressively effective.

Academics in post-disaster environments demonstrate equal dexterity in the face of adverse conditions. The doctoral thesis of Adrine Harrell (2009) discussed the mixed approach to data gathering that she used after Hurricane Katrina (p. 69).

While she was able to survey many of those who stayed in business after Hurricane Katrina during a Louisiana Assisted Living Association (LALA) meeting, she had to use other methods to coax or encourage some from closed firms to participate, who were reluctant to do so. “For example, I was introduced to some by the director of LALA; once they were comfortable they would talk to me” (A. Harrell, personal communication, July 13, 2012).

Amid researching her 2010 doctoral thesis, Audrey Price (2010) encountered a different kind of environmental upset; a political upset.

On March 23, 2010, U.S. President Barack Hussein Obama signed into law The Patient Protection and Affordable Care Act, which is informally referred to as Obamacare. At the start of her doctoral research, Price examined the willingness of physicians to use electronic medical record (EMR) technology.

Well into her data collection the “regulatory climate in which medical practices and medical practitioners (physicians) operate began a metamorphosis...[that began] shifting the decision-making process regarding the adoption of EMR technology away from being a purely management decision and morphing it into a matter of business and to some degree regulatory compliance” (p. 124).

While the data that she obtained early in the data collection process clearly demonstrated the pre-Obamacare liberty of physicians to use or not use EMR, the end of her data-collection process was a snapshot showing the change from choice to compliance.

In 2010 while researching the B.P. oil spill effects upon shrimp fishermen in Louisiana and in Mississippi, Lambert, Duhon and Peyrefitte (2012) learned quickly that they had to use non-traditional methods to gather data: “Louisiana and Mississippi fishing communities are fairly clustered, and resist inquiries from those whom they consider to be outsiders.

Researchers used local contacts to provide introductions, dressed in work clothes similar to those worn by shrimpers, and drove pickup trucks when in the field” (p. 230). Lambert, et. al (2012) also conducted convenience-sample surveys that added to their dataset (p. 230).

Demonstrating again the necessity for military-like elements of stealth, planning, informed situational awareness, and tactical flexibility to unveil the unique characteristics of the Gulf Shrimp supply chain and the impact of the B.P. oil spill upon that supply chain, Lambert et. al (2012) utilized “a unique mixed approach of interview, survey, and review of news and government information sources in order to construct a complete picture of the supply chain. This approach demonstrates that a systems approach is a useful tool to assess a supply chain amid a business crisis, and not only in a more sterile and less chaotic business setting (p. 224).

Chairman Mao’s tactics adapted for post disaster business and academic research

Mao Tse-tung’s revolutionary guerrilla warfare approach to overcoming capitalism and western influence may be indeed revolutionary when considering adopting them in order to advance capitalism and the western way of life.

While it may be repugnant for some stalwart communists and some ardent capitalists with headstrong predispositions, that none of their tactics might be of value to the “other” side, an examination of Mao’s guerrilla warfare approach to combat, we determine that in a rapidly changing post disaster environment, both the business manager and the academic must adopt the informed, arousing, motivated, and dedicated yet flexible style of the revolutionary.

Table 1 lists Mao’s tactics, and the business manager and the academic researcher’s approaches that are in practice seemingly styled after Mao’s tactics. Each of Mao’s tactics has applications to business recovery as well as academic research in a post-disaster environment.

Table 1: Chairman Mao’s tactics adapted to business and academia

Mao’s guerrilla warfare approach to combat*	A business manager’s approach to rapid recovery after a disaster	An academic researcher’s approach to data collection after a disaster
1. Arousing and organizing the people.	Inspiring and organizing available employees and other stakeholders.	Persuade cooperation by unconventional resources to support research activity
2. Achieving internal unification politically.	Get employees situated to work with minimal distraction, to the extent of assisting with the welfare of their families, so that all are pulling together	Have institutional research approval, and buy-in to support unconventional research.
3. Establishing bases.	Establish new temporary business settings, i.e. temporary office trailers, tents, etc., situated to allow commerce under post-disaster conditions	Establish a post-disaster research environment, which may be a remote office, or even an automobile.
4. Equipping forces.	Establish communications with suppliers, customers and other stakeholders. Acquire or coordinate sellable items or services. Establish flexible supply chain.	Mobilize researchers with data-collection resources that suit the changing post-disaster environment.
5. Recovering national strength.	Encounter objections, supply chain interruptions, increasing irregular regulatory disruptions.	Encounter objections and possibly jealousies by peers or by competing academic units.
6. Destroying enemy’s national strength.	Competitively overcome the activities of lesser-organized business competitors.	Gather datasets that others are not mobilized to obtain due to lack of critical thinking, creativity, or resources.
7. Regaining lost territories.	Turn stakeholder activity into post disaster customer loyalty	PUBLISH!
* USMC, 1898, p. 43		

Discussion

Non-traditional approaches to business and research may seem to break new ground, yet as we can see, the techniques are as old as those employed by the ancient Vikings, by Attila the Hun, or more recently by General George Patton and Mao Tse-tung.

The timeless strategies and tactics employed for battlefield conquest are now almost seamlessly adaptable to bloodless conquest in commerce and academic research.

Just as military strategists debate the advantages and disadvantages of strategy, tactics and employment of forces, business executives admire or admonish their peers and contemporaries in like manner.

Academics fare no better escape from the debate, as diehard statisticians lost in the swirl of hard quantitative analysis, argue the validity of hard-won information obtained in the field from researchers donning white rubber boots, while those whom they scorn for the use of non-traditional methods obtain data that those less creative can never access.

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The Theory of Planned Behavior in Applied Research: An Examination of the Location Selection Decisions of Independent Filmmakers in the USA

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Abstract

In spite of the historical contributions of the U.S. film and television industry to the national and the global economy, and the significance of location selection to a production's success, to date, there has been a paucity of research regarding the influences which ultimately affect the location selection decisions of film industry management. Utilizing the Theory of Planned Behavior (TPB) and applied research methods, this study explored the phenomenon of location selection for six (6) independent motion picture productions throughout the contiguous United States, with implications for further study of this phenomenon.

Key words: Film Industry, Theory of Planned Behavior, Applied Research, Independent Film, Location Branding

Introduction

In 2011, the global box office receipts for the motion picture industry reached over \$32 billion worldwide, and while there was a 4% decrease in North America (to \$10.2 billion), the international box office receipts reached \$22.4 billion (Motion Picture Association of America, 2012). In the USA, the motion picture and television industry contributed over \$175 billion in revenue to the national economy, resulting in over "\$15 billion annually to federal and state coffers" (MPAA, 2012), and boasted over 11 billion in trade surplus (Motion Picture Association of America, 2009). The industry in the U.S.A over the past seventeen years has become decentralized around the traditional filming locations (Hollywood) California, (New York City) New York, and (Chicago) Illinois.

Increasingly, the establishment of film commissions in 35 of the 46 remaining contiguous U.S. states, and in Hawaii has spurred increased competition amongst states for motion picture and television investment dollars. Those states who are successful in attracting film, television series', and their related production companies experience a substantial "ripple effect," as they reap secondary, tertiary, and even quaternary economic benefit (p.1).

Additionally, as the proliferation of film commissions has increased across the USA, researchers have increasingly borrowed from traditional location and destination marketing literature, in order to establish both brand awareness and product differentiation of their respective states from their competitors, all vying for the final location decisions (and subsequently, the production dollars) of these projects.

Firms must select locations that will give them a competitive advantage in the (global) marketplace, and the film and motion picture industry is no exception. Decker and Crompton (1993) noted the shift in American businesses over thirty years ago, as companies began to exercise increasing flexibility in their location selection decisions (p.70). In like fashion, the motion picture and television industry in the USA has demonstrated greater flexibility in its location selection decisions for its individual film and television projects.

Einev (2002) indicated the importance of film industry distributors' release dates to a film's box office revenues (p.5). There has also been study revealing the causal relationship between a film's delay cost during production, the negative effects of an increase in the amount of time taken to bring the finished product to screen and the film's resultant box office revenue (Afanasyev, 2008 p.6). Consequently, timely decision-making with regard to the shooting location increases the likelihood of timely release date, and subsequently, box office success.

There are many different explorations of aspects of dynamics within the film industry in America (Storper & Christopherson, 1986; Young, Gong, Van Der & Stede, 2010; Kim & Richardson, 2003; Hennig-Thurau, Houston, & Sridhar, 2006; Pope, 2008; Scott, 1986, 1998, 2002). Theories regarding agglomeration economies (Scott, 2002; Pope, 2008), have also been explored. Both marketing/sales (Afanasyev, 2008; Hennig-Thurau et al, 2006; Einev, 2002; Eliashberg, Jonker, Sawhney, & Wierenga, 2000) and the industry's historical progression from vertical integration to flexible specialization (post-fordist models) have also proved valuable.

Initial Review of Literature

In spite of the extensive literature devoted to the artistic, marketing, and sales aspects of the film industry in the USA, there has not been extensive peer-reviewed literature which examined the management decision-making aspects of location selection in the filmmaking production process. The exception to this dilemma can be found in Alfred & Lambert (2012). The location selection decision is a management function which is critical to both the feasibility of producing a film, and to the financial success of the film.

The vertical disintegration of the film industry (Einev, 2002, p.5) with what has been referred to as “satellite locations” (Scott, 2002, p. 965), and the ever-growing states’ film commissions around the USA has resulted in the expansion of the industry into other states (i.e., outside of the traditional locations: Hollywood, CA, Chicago, IL and New York, NY), revitalizing local economies, and in many cases (as in Louisiana, Georgia, and New Mexico) fostering economic “rebirth”. Over the course of the literature review, one theory emerged which would drive the theoretical construct of the study —The Theory of Planned Behavior: Ajzen, 1991).

The Theory of Planned Behavior

The location selection decision of management in the film industry results in a sequence of planned or intended behaviors, as management embarks upon producing a film project. As intention precedes action, the antecedents to this location selection are the critical components in this decision-making process. Consequently, Ajzen’s (1985) Theory of Planned Behavior (TPB) is an essential construct in the examination of the location selection decision phenomena.

The Theory of Planned Behavior (TPB) is the product of Fishbein & Ajzen’s (1975) seminal work: the theory of Reasoned Action (TRA), plus “goal directed behaviors over which an individual has only limited volitional control” (Ajzen, p.12).

This theory is comprised of attitude toward the behavior (behavioral beliefs), subjective norm (normative beliefs), and perceived and actual behavioral control (control beliefs). It is believed that these three constructs are the antecedents to the intention, which precludes the behavior.

The first predictor is the attitude toward the behavior and refers to the degree to which a person has a favorable or unfavorable evaluation or appraisal (Ajzen, 1991, p. 188). Within the context of the location selection decision-making process, attitude can be affected by Word-of Mouth (WOM) behaviors, or by management’s previous production experiences in a particular state. The second predictor is a social factor termed subjective norm, which refers to the perceived social pressure to perform or not to perform the behavior (Ajzen, 1991, p. 188).

An example of subjective norm could be pressure from investors or the studio to film in a certain location due to costs, or refusal to film in a location due to public pressures (e.g., public protests). The third predictor of intention is the degree of perceived (or actual) behavioral control (Ajzen, 1991, p. 188). This is the degree of the perception of ease or difficulty of performing the behavior and according to Ajzen (1991) it is “assumed to reflect past experience” (p.188). Some examples of this antecedent in the location selection decision-making process could be prior instances of positive working relationships within a given state, or perceptions of advantage of filming in one state (versus other potential locations).

Conversely, anticipated impediments (e.g., finding experienced local crew in a particular state/location) and obstacles (e.g., securing permits, logistical challenges) also affect perceived or actual behavioral control. These predictors or antecedents work together (there are instances where one or two of the three components factors more prominently) to determine intent, the resultant of which is behavior.

Methodology: Applied Research in the Film Industry

Through immersion (action) research, the researcher became involved in one Hollywood (California, USA) film and television producer’s business for over three and a half years.

From this vantage point, the researcher moved along the immersion continuum, from a position of “omnipotent observer” at the study’s inception, to a position of “full reflexivity,” where the responses “represented the voices of those who shared the experience and no one voice was privileged” (Riley & Love, 2000, p. 173).

In the development component of the filmmaking process, the researcher was privy to and participated in discussions regarding locations. Issues of script, proposed budget, tax incentive programs, Word-of-Mouth (WOM) within the industry, and prior professional relationships were discussed. Lambert (2009) used this approach to gain familiarity with the business of law firms in the USA.

Concerning action research techniques, Lambert (2009) maintains: “action research techniques allowed the researcher to immerse within the specific domain of the business” (p. 3). Similar positions on the validity of action research techniques are found evident in Coghlan (2004), Baker (2000), Susman and Evered (1978), and Sadler and Barry (1968).

Propositions Emerging from the Literature

Based upon the theory of planned behavior (TPB), three basic propositions emerged from the literature: (1) Attitude will influence the location selection decision; (2) Subjective Norm will influence the location selection decision; (3) Perceived (or Actual) Behavioral Control will influence the location selection decision. Subsequent survey instrument questions supported either (or in some cases all) of the propositions suggested.

Case Studies

Drawing heavily upon TPB, (and due to the exploratory nature of the study), the researcher developed six (6) case studies from film projects in various stages of production.

Each film was treated as its own case study, in accordance with each projects’ registration with the secretary of state’s office as limited liability company (LLC). Of note, Hedges (1985) asserted, “In practice four to six groups...form a reasonable minimum (number of case studies) for a serious project” (pp. 76-77).

This phase of the study was operationalized through the deployment of an open-ended testing measurement instrument, comprised of seventeen questions. The three propositions which emerged from the literature review were the basis of the instrument. The phenomena were examined throughout the researcher’s three and a half year experience with one motion picture and television production company.

Case 1

As an assistant to the producer, the researcher worked on development of a horror film, to be produced in Louisiana. Reportedly, the script was developed with New Orleans/Louisiana supernatural lore as the backdrop for the project. It is important to note that Louisiana was the production’s first (and only) location consideration.

The (below-the-line) crew, who once lived in Hollywood, had now moved to Louisiana due to the industry’s success. Additionally, native Louisianans served in key crew positions. Of note, there are cases in which location selection affects the below-the-line crew (electricians, carpenters, etc.) in instances where a state may not possess sufficient numbers of experienced crew. One consequence of bringing in below-the-line crew from other states is that it may substantially increase production (budget) costs. When budgets are (more than) adequate, hiring outside of the selected state becomes less of a (financial) concern. In this case, hiring experienced crew was simpler after the location selection decision. Additionally, the availability of local talent afforded the production the opportunity to cast some principal roles with local actors.

The low-budget status of the film resulted in the producer wearing many hats over the course of the production process. Both producer and director worked on additional locations for filming finally deciding on a small town—approximately 75 miles west of New Orleans.

The producer’s familiarity with the small town and its people resulted in the production using family-owned properties as shooting locations. The town’s administrators were eager to provide services (permits, accommodations, etc.) for the film in order to make the production as welcome as possible. The producer indicated that prior professional and personal relationships, infrastructure, and available crew were all advantages to filming in Louisiana. However, the film did not meet the minimum requirements for tax credit consideration, due to its low-budget status.

Case 2

The film was a retelling of a film-noire made famous in the 1980’s., and was originally set in post-Katrina New Orleans.

Principal cast and location considerations were labored over for years, as investor groups would change back and forth, each group (or individual) having specific interests regarding stars and prospective locations.

Besides Louisiana, Georgia, Michigan, Puerto Rico, and Canada were other possible locations. Some prospective investors applied pressure upon the production company to select specific states to ensure the highest returns in the shortest amount of time. Some investors even threatened to destroy the project, due to the amount of pressure they were placing on the production team to choose their state in which to shoot the film. In the end, factors which resulted in the selection of Louisiana included, but were not limited to: the script (post-Katrina New Orleans); the availability of experienced below-the-line crew; experienced local talent; experienced local crew; tax incentives and infrastructure.

Case 3

Case 3 was a hip-hop, love story, set in New York City. The film was initially intended for release on the small screen, as a Movie of the Week (MOW). However, both the producers and the investors determined to turn this “MOW” into a feature film, with a \$4 million dollar (U.S.) budget.

A Veteran director was tapped to helm the project, and the production secured a major feature film and television actor to star. Additionally, the script played an essential role in the eventual location selection. Rap music (hip-hop) in the 1980’s was central to the plot of this film and as such, this uniquely New York “born-and-bread music” played an essential “character” in the film. The added importance of various iconographic locations in New York City (i.e., NYU and Washington Square Park) further cemented New York as the location of choice.

The writer/producer, with an extensive resume, in stage, television, and film was also known to refer locations to colleagues in the industry, based on his positive experiences (he also noted that he was frequently referred by others).

The ease with which he had filmed other projects in New York and in New Jersey, and the relationships he had formed with cast, crew, and staff made him reasonably confident about the feasibility of filming the project in New York.

It was common knowledge in the industry that New York City’s below-the-line personnel had been second in number only to Hollywood, California. The Mayor’s Office of Film, Theatre, and Broadcasting’s (MOFTB) also offered tax credits of 30% on production expenditures (MOTFB, 2012).

The production team could have chosen from amongst a number of states with more competitive tax incentive packages. However, the production team believed that the script and the authenticity of the locations called for filming in New York. As hip-hop aficionados, the target market for this film (urban, African-Americans and Whites ages 12 to 45, 53% male and 47% female, 35% college-educated) would not consider the film to be “authentic” if an alternate location was chosen.

Case 4

The film in question was an adaptation of a William Shakespeare classic, set in post-hurricane Katrina, New Orleans. With an Academy award-nominated actor to co-produce and star in the film and with an ensemble cast of veteran actors, the film was believed to be a great artistic and financial success. The film would go through multiple prospective investor groups, with each group seeking potential financial advantages from specific states they had “targeted” for filming. Location had no measurable impact upon casting—the selection of Louisiana was based upon: the script and the technical and logistical advantages found by filming in Louisiana. The state of Michigan offered higher tax credits, but it was clear that the tax incentives would be secondary to artistic and to infrastructural benefits of selecting Louisiana. Additionally, Louisiana would still qualify the production for the state’s tax credit incentives, based upon the film’s \$8.5 million production budget.

Case 5

There would be numerous changes in investment groups for Case 5, but only three considerations for film locations. Los Angeles (California) was originally pegged by the writer as the place to film; however, the producer had a number of films slated for filming in Louisiana at that time. Because Jazz music was central to the script of the film, and because New Orleans (Louisiana) was well known for its reputation as the birthplace of Jazz, the producer initially felt that Louisiana might be the best choice for the film.

However, the numerous changes in prospective investors directly impacted the location selection decision. In this case, one of the investors proposed (Detroit) Michigan as the best location. Investors were interested in recovering a portion of their initial investment before the sale of the film. With the state of Michigan’s 42% tax incentive rebate program, and a provision whereby the production could take advantage of a 30% wage and salaries expense credit “for below-the-line crew members hired from outside the state who do not make up the creative talent of the production” (Miller & Adulkadri, 2009, p.1), Michigan was seen as a more (financially) rewarding prospect.

The location was not considered to be an essential element of the story, because the plotline and the relational dynamic (elements considered distinct from the musical elements of the film) between the lead characters were not grounded in a specific “place.” Relationship was also an important factor, due to the trust amongst those involved in the location selection process (producer, location scout, and production manager). Referral to locations where there had been positive experiences was common practice and it was believed that there were advantages in filming where there was familiarity with the local professionals and the infrastructure. Tax credits were considered important due to the investor’s ability to recoup a percentage of the investment within a shorter timeframe.

Case 6

Case 6 was a biography about a renowned pastor, and his rise to notoriety through serving the Houston’s inner-city community.

However, the production team determined that the tax incentives in Louisiana and prior productions in Louisiana meant that principal photography would be done in (New Orleans) Louisiana. It is important to note that the respondent indicated location was not central to the story. Location was noted to have a direct affect upon the composition of available local crew. She added that her crews were always combination of local and out-of-state personnel. She maintained that the local casting potential was plentiful, so that casting based on (this) location did not pose a significant concern.

The producer also maintained that there were relational dynamics which influenced the final location selection decision. This producer wore multiple “hats” in the production team, and as a result, was required to utilize prior professional relationships in order to address technical and logistical challenges in the production. Trust was noted as a key factor in these relationships, and Word-of Mouth (WOM) behaviors were noted as a normal part of this producer’s relationships with fellow producers and directors, when considering locations. The producer also indicated that Louisiana’s tax and infrastructural investment incentives were highly competitive and that prior relationships and Louisiana’s support for productions would result in lower operating costs.

Analysis of the Data

The data from the test measurement instrument was gathered and coded according to the case number and corresponding instrument items (See Table 1).

Table 1: Breakdown of Survey Instrument: Questions 1 thru 9

	What was your first choice of location (city/state in order) to this film (pilot/series)?	How did your intention to use the location indicated above affect planning in the pre production phase (location management/ infrastructure)?	Did you ever consider alternate locations (cities/states) in which to shoot the production (film/pilot/series)	Do you agree/disagree with this statement: "location selection affects the composition of below-the-line crew"	Do you believe location selection affects the local casting decisions, or does casting affect the location selection	Why did you ultimately settle on _____ (location)?	When you film do you plan to use available local crew, or do you bring a significant amount of your crew from out of state?	Does the availability of experienced local crew affect your location decision?	In our opinion, is qualified/ experienced local crew easy to find once you've made your location selection?
Questions	1	2	3	4	5	6	7	8	9
Case 1	A	INF/C	N	Y	L/CS	AE	B	BD	Y
Case 2	A	INF/C	Y	Y	L/CS	S/AE/INF	B	N	N
Case 3	A	INF/C	N	Y	L/CS	S/AE	LC	N	Y
Case 4	ALT	INF/C	Y	Y	L/BD	AE	B	Y	N
Case 5	ALT	INF/OS/LC	Y	Y	L/CS	TX/AE	B	Y	N
Case 6	A	U	N	N	L/CS	S/AE	LC	Y	Y
	75% A	83% INF	50% Y	83% Y	83% L	100% AE	75% B	50% Y	50% Y

Table 1: Breakdown of Survey Instrument: Questions 10 thru 17

	Do you agree/disagree with this statement "Location is central story"?	Do you agree with this statement: "If I like a location, no matter what the tax incentives/operational costs, infrastructure or any other considerations, then I'll choose that location"?	What role does "trust" and confidence in your location scout and production manager's decision making play in our location selection?	Do you refer colleagues in the industry to states where you have had positive production experiences?	Have you ever returned to film productions in cities/states where you've had positive experiences?	Are there advantages to filming in an area where you're familiar with the infrastructure, the services, and prior professional relationships?	Do you agree/disagree with this statement: "relationship influences my location selection decisions"?	How important are tax credits, infrastructural investment incentives and/or local operating costs to your location selection decision?
Questions	10	11	12	13	14	15	16	17
Case 1	Y	BD	N/A	Y	Y	Y	Y	BD
Case 2	Y	BD	N/A	Y	Y	Y	Y	I
Case 3	Y	Y	N/A	Y	Y	Y	Y	I
Case 4	N	N	N	Y	Y	Y	BD	I
Case 5	N	N	N	Y	Y	Y	BD	I
Case 6	Y	N	I	Y	Y	Y	BD	I
	75% Y	50% N	50% N/A	100% Y	100% Y	100% Y	50% Y	83% I

% LEVEL OF INFLUENCE—0–10: STRONGLY DOES NOT INFLUENCE, 20–39: DOES NOT INFLUENCE, 40–59: NEITHER INFLUENCE NOR DOES NOT INFLUENCE; 60–79: INFLUENCES; 80–100: STRONGLY INFLUENCES

A: FIRST CASE CONSIDERED WAS FINAL LOCATION DECISION, AE: AESTHETIC, ALT: ALTERNATE LOCATION SELECTED, B: BOTH LOCAL AND OUT-OF-STATE CREW, BD: BUDGET-DEPENDENT, C: CREW, CS/L: CASTING AFFECTS LOCATION, E: EXTREMELY IMPORTANT, EX: EXTERIORS, F: FAMILIARITY, I: IMPORTANT, INF: INFRASTRUCTURE/PLANS (PERMITS/CLEARANCES), INV: INVESTMENT FUNDING, L: LOCATION, L/CS: LOCATION AFFECTS CASTING, LC: LOCAL CREW, LD: LOCATION DEPENDENT, N/A: NOT ANSWERED SUFFICIENTLY, N: NO, NEI: NEITHER, OS: OUT-OF-STATE, PE: PRIOR EXPERIENCE, PR: PRODUCER (INFLUENCED), S: STORY/SCRIPT, T: TALENT, TX: TAX INCENTIVES, U: UNIMPORTANT, VI: VERY IMPORTANT, Y: YES

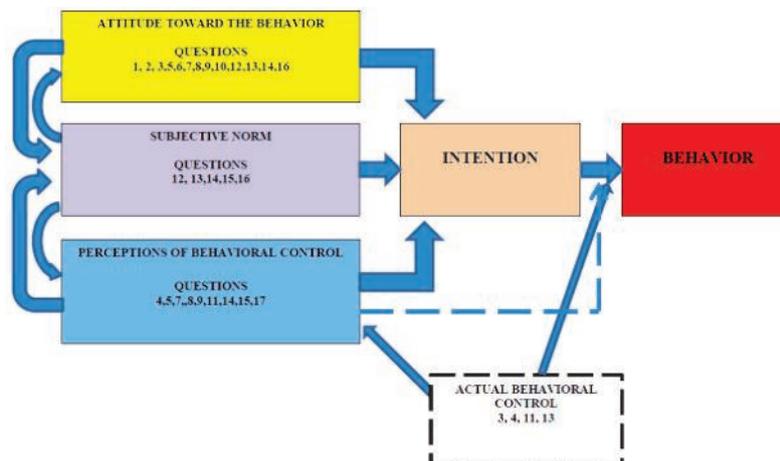
With the unit of analysis determined to be the location selection decision, and the antecedents to intention/behavior: Attitude, Subjective Norm, and Perceptions of (Actual) Behavioral Control, the data shown in Table 2 shows the relationship between the questions of the survey instrument, and their corresponding propositions.

Due to the reciprocal nature of antecedents in TPB, there is some measure of overlap amongst survey instrument questions and antecedents. Figure 1 presents an adaptation of Ajzen's (2006) model of TPB, with survey instrument questions indicated to depict the relationship between the questions and the antecedents to the location selection decision.

Table 2: Breakdown of Survey Instrument: Questions 10 thru 17

QUESTIONS	PROPOSITIONS				
1, 2, 3, 5, 6, 7, 8, 9, 10, 12, 13, 14, 16	1	ATTITUDE	55/78	70.51%	INFLUENCES
12, 13, 14, 15, 16	2	SUBJECTIVE NORM	24/30	80.00%	STRONGLY INFLUENCES
4, 5, 7, 8, 9, 11, 14, 15, 17	3	PERCEPTIONS OF BEHAVIORAL ADVANTAGE	40/54	74.07	INFLUENCES

FIGURE 1: The Theory of Planned Behavior & Survey Instrument Questions



PROPOSITION 1:

Attitude will influence the location selection decision 70.51% INFLUENCES— ACCEPTED.

All but three of the survey instrument questions had some affect upon attitude. Respondents gave strong indications that location, crew, casting, infrastructure, tax incentives, relationship, etc. affected their attitude toward selecting a given state.

PROPOSITION 2:

Subjective Norm will influence the location selection decision. 80.00% STRONGLY INFLUENCES — ACCEPTED.

While corresponding to less survey instrument questions than propositions 1 and 3, subjective norm was found to have the highest response rate of the three, at 80.00%. Ajzen (1985) noted subjective norm is directly affected by relationship, and as such, three of five of the questions in this area had a 100% response rate in the affirmative.

PROPOSITION 3:

Perceived (or Actual) Behavioral Control will influence the location selection decision. 74.07% INFLUENCES— ACCEPTED.

Over half of the survey instrument questions corresponded to perceptions of behavioral control (or actual behavioral control). Perceptions of advantage from selecting a given location were believed to be driven by the relational factors of respondents, as well as by infrastructural factors, such as local crew, local cast, and the expectation of return business.

Summary of the Research

Six case studies were developed, based on internal research through three and a half years working experience with a Los Angeles-based film and television production company (action research). A comprehensive analysis of the data gathered from the testing measurement instrument was completed.

For decades, the motion picture (film) and television industry in the United States has been a primary participant in a multi-billion dollar global film industry. Over the years, other countries (e.g., France, England, India, China, and Korea) have either established or further developed significant film and television production industries which continue to make their mark on a global scale as well.

These are but a few of the reasons for having given the subject of location (brand) selection serious academic examination.

The study of the decision-making process of film industry managers (in the U.S.A.), considering locations for their productions is a critical, yet heretofore, under-studied phenomenon. By recognizing the benefit this study to the film industry in the U.S.A. (and the global film industry), to state and local governments, and to academia, this research has given context and definition to the process, with implications for further study. The evaluation of the initial findings indicated that the Theory of Planned Behavior: attitude, perceptions (or actual) behavioral control, and subjective norm are all antecedents which hold relevance within the context of the film industry location selection, and as such, deserve further examination.

Conclusion

This exploratory study sought to utilize an applied research approach to considering the role of the theory of planned behavior (TPB) in the location selection decision processes of motion picture industry management. The researcher's experiences in production and product development for an independent film production company provided the platform for the examination of this phenomenon.

The results of this study make the case for further exploration of theories like the theory of planned behavior (TPB), and the degree to which this theory influences location selection behavior. Further qualitative study could expand the case study model, to incorporate more cases. More in-depth examination of the dynamic nature of attitude, subjective norm, and perceptions of control by film industry managers could be brought to the fore. Alternatively, the nature of the research could be examined from a positivist paradigm, with data analyzed from a quantitative standpoint. The survey instrument could be reformatted (e.g., Likert-scale format) and a sample size generated to the extent that a "different" focus may be brought to the phenomena in question.

Management practitioners may find this study intriguing, due to the paucity of research regarding the location selection decision-making of film industry managers.

Given the importance of the motion picture and television industry in the USA, and the significance of this industry to the global film industry, this type of study does not go without merit.

Finally, the global film industry, with its substantial growth in recent years, prompts the significance of this study (and its potential for generalizability). Increasingly, investors in the motion picture and television industry are not necessarily from the countries which produce the content (or the state in which the film is being shot). As such, these, and other economic factors are causing increased competition for film investment dollars by competing departments of economic development, and their respective film commissions around the world.

The existence of the Association of Film Commissioners, International (AFCI) is but one example of the preeminence of the film industry in the global marketplace, and the extent to which this particular type of location marketing can affect a countries' bottom-line. With preexisting examples of "economic rebirths" in US states such as Louisiana, Georgia, and New Mexico, there may be an impetus for developing countries (who may not have embarked upon this course of action as yet) to act in like fashion.

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The DBA in German Speaking European Countries:

New Perspectives in the Old Continent

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Abstract

This article investigates the current of the DBA program in German speaking European countries, such as Germany and the German speaking part of Switzerland. It analyzes the current offers in terms of programs delivered, costs and new perspective of an emerging new trend in the graduate academic education.

Key words: DBA in Germany and Switzerland, doctoral degrees, business administration, management education, business school, higher education.

Introduction and Purpose

The purpose of this article is to analyze the nature of the Doctor of Business Administration (DBA) degree delivered today in German speaking European countries. Our analysis is restricted to Germany and the German part of Switzerland as at the time of publication there are no DBA programs offered in Austria.

The DBA differs from a Doctor of Philosophy (PhD) mainly because of its more practice oriented focus, the research focus of professional doctorates like the DBA is “concerned with researching the real business and managerial issues via the critical review and systematic application of appropriate theories and research to professional practice” (ABS, 1997:2).

Both the DBA and the PhD involve the development of substantial original work. However, a professional doctorate such as the DBA requires a slightly different type of research approach from the PhD one. For a PhD, research needs to make a significant contribution to an area of knowledge.

For the DBA, research needs to make a significant contribution to practice, policy or strategy in the field of business administration. For business administration we intend the administration and management of enterprises operating in wide range of environments including companies in the private and public sectors, no profit organizations, hospitals and schools.

O’Neill and McMullen (2007: 78) assert that the DBA “aims to develop researching professionals” while the PhD is principally intended to develop academic researchers”

The research involved in a DBA is applicable to a business issue (or issues) and is carried out in the context of a professional practice. Research by Naumann and Goldstein (2002:34) identifies the DBA as a rapidly growing alternative graduate degree to the traditional PhD. The DBA has a focus relevant to the needs of both practitioners and academics.

The DBA degree is a relatively newcomer in the world of doctorate educations and it is rapidly growing as an alternative graduate qualification to the more traditional PhD (Chapman, 1991). In the last years the wide spread propagation of MBA programs has in several cases degraded the quality and therefore the value of an MBA degree. For this reason a DBA degree represent today a further qualitative step in the business administration graduated education.

Moreover, students awarded with a DBA degree hold a doctorate level qualification that adds a concrete added value towards their further careers steps.

The field of the DBA programs is evolving constantly in Europe; this article aims at giving an indicative overview on the current offer and new possible perspectives at the time of publication in Germany and the German speaking part of Switzerland, as well as opportunities of joint DBA programs between Russian and German speaking institutions.

The Doctor of Business Administration Program: an Overview

The origin, role and place of the DBA program in the system of business education

The DBA was originally developed by Harvard University in 1968 to recognize the research and knowledge needs of business management practitioners.

The Doctor of Business Administration appears firstly in the US graduate education followed by the UK at the beginning of the 1990. In 1999 there were 16 UK offering a DBA program (Bourner, Ruggeru-Stevens & Bareham 2000). More recently two German speaking countries in Europe have started offering this type of graduate degree: Germany and the German part of Switzerland.

The DBA program appeared originally in the Anglo-Saxon system of business education, first in the United States of America, followed by the UK, Australia and some English speaking Asian countries.

On the other hand, the appearance of the DBA in continental Europe is more recent and at the time of publication this program is in an “evolving phase” and changing dramatically. Indeed, in Germany the number of universities and business schools offering this program is still relatively small, while in Switzerland it is more and more perceived as a kick-start to acquire more entrepreneurial and business skills.

Hence, this specific field of business education is in a constant state of flux and evolution in continental Europe; therefore further investigations will be required in the near future to analyze how the DBA program has been perceived and implemented in continental Europe, with a specific focus on German speaking countries.

As in other parts of the world, the need to offer such a program comes from the intention of business faculties and schools to distinguish them and offer a graduate degree alternative to traditional PhD.

Like a PhD degree in academia, Doctor of Business Administration (DBA) is the terminal post-graduate degree in the business education system that is awarded to the students who have already received a Master’s degree. In most cases they are graduates of various MBA or EMBA programs, however, some other Master’s degrees are also recognizable.

Therefore, if a practicing manager, who has already gained the MBA degree through either full-time program or part-time extensive sessions (EMBA program), pursues a senior managerial position and wants to gain the skills of doing a business research, then the next step in terms of further education is doing a DBA study.

Today, the Doctorate of Business Administration tends to gain importance as it has a clear relevance for both the academic and business world. However, the DBA is still subject to criticisms related to the new nature of the degree itself. Many see in the DBA a negative development of the “massive” knowledge production, resulting in a hybrid form which is not pure academic or pure business oriented (McWilliam, 2002).

In reality, the purpose of the DBA is similar to the PhD one: make a significant contribution to the development of the knowledge around the concept of business administration. This contribution should be made through application and development of theoretical frameworks. Nevertheless the DBA is more linked to real, concrete daily business matters analyzed through the perspective of relevant theories.

Indeed the Doctor of Business Administration is more industry-related and implies a strong relationship between higher educational institutions and companies.

Moreover, it is important to note that there is a great diversity of designs for the DBA given its nascent stage of development compared with well-established and traditional PhD. This diversity will emerge clearly in the analysis of the current DBA offer in Germany and the German part of Switzerland. The actual DBA panorama worldwide is therefore fluid with lot of potential growth and development.

The process of business research

Sekaran (2003:5) defines business research as an “organized, systematic, data-based, critical, objective, scientific inquiry or investigation into a specific problem, undertaken with the purpose of finding answers or solutions to it.” Business research can be either applied or basic (it is also known as a fundamental or pure). The former is to solve a current or specific organizational issue, while the latter aims at producing a body of knowledge for a broad and deep understanding of various problems in particular areas.

Choosing a suitable methodology for conducting a DBA research to a great extent depends on the type of a problem a certain company faces with. In general, Collis and Hussey (2003) states that the key research methodologies originate from the two research paradigms or philosophies: positivistic (empirical) and phenomenological.

Therefore, taking into account a given organizational setting, business researcher is free to choose a suitable methodology or a mix of them in order to solve a particular company's problem.

The technology of conducting a business research is similar to the PhD one. Researcher does a preliminary observation of a problem under study in order to identify a broad research area. It is followed by the preliminary data collection (e.g. interview and extensive literature review) that results in definition of more specific research topic or set of questions.

The next step is developing of a theoretical framework that presents all key variables and their interrelations. Having identified and labeled variables, researcher develops testable hypotheses and performs a scientific research design that describes the process of data collection, analysis and interpretation.

The final step is to conclude whether a research question has been answered. Last but not least is to write and present a research report that will serve as a basis for a managerial decision (Sekaran, 2003).

Research topics for DBA research vary significantly. It could be a study of reasons of company's absenteeism or analysis of the effects of downsizing on the long-terms financial performance of a regional automaker.

The DBA in the German speaking Europe

At the time of this publication DBA programs are registered in Switzerland and Germany but not in Austria.

The DBA in Germany

The DBA in Germany is relatively new and not yet widely diffused considering the size of the country (almost 82 million inhabitants) and number of Universities and higher educational institutions. At the time of the research for this article, only one University, the University of Gloucestershire German Agency, located in Munich, offers a DBA degree.

There are two private Business Schools and two state higher education institutions offering a DBA. Tias Nimbas Business Schools offers a DBA that takes place in the German city of Bonn, the Netherland and UK.

Indeed the cost of the program might have a perception impact on further expansion of the DBA in Germany: in a country where culturally and historically education is extremely affordable, tuition between 20,000 € and 45,000 € can play a deterrent role.

Admission criteria

To apply for the DBA program potential students need to hold a Master of Business Administration or an equivalent degree. Those not holding a Business degree might be asked to complete additional modules.

All institutions require a good knowledge of English certified.

Moreover, applicants need to have several years of working experience in a managerial position (usually minimum 4 or 5 year of working experience) in order to be eligible for the program.

To enter the DBA, a potential student needs to submit a research proposal able to make a significant contribution to the enhancement of professional practice in business administration.

Structure of the DBA

With no exception, every DBA program in Germany is structured with a major research phase completed by part-time courses that can be followed on-line or on campus.

As an example the DBA at the International Business Schools Lippstad has five modules:

- Induction and Philosophical Aspects of Research
- Quantitative Research Methodology
- Qualitative Research Methodology
- Critical Evaluation of Published Research
- Research Planning and Proposal Writing

The DBA at TiasNimbas Business School is structured in three parts; each phase needs to be completed before moving to the next one. The first is characterized by four modules and lasts one academic year.

Modules are organized on a residential form. During the second year students follow three modules and they have to present and defend their research proposal. The third year/phase is dedicated to the thesis.

Table 1: Higher education institutions offering a Doctor Business Administration in Germany

Name	Location	Duration	Costs	Certified/Accreditation
TiasNimbas Business School	Bonn/NL/GB	8 terms	38000 €	No info
International Business School Lippstadt	Lippstadt	4 years	46480 €	CERTQUA
University of Gloucestershire German Agency	München	Min. 3 years	Min. 22,200 €	eduQua, QAA
FHM Fachhochschule des Mittelstands	Bielefeld/Detmold, Köln, Berlin	3 years	9,850 € per year	FIBAA and state accreditation
University of Applied Science Deggendorf	Deggendorf	4 years	28000 €	No info

The DBA in Switzerland

At the time of publication (2012) seven higher educational institutions offer a Doctor of Business Administration degree in Switzerland. This is indeed a significant data considering the size of Switzerland and its population (less than 8 million inhabitants). However, Switzerland is one of the wealthiest countries in the world and with its favorable low-taxation system has been attracting several multinationals that have today their European Middle-East Africa (EMEA) headquarter into the country.

This has brought a population of well-educated top managers in the country. Many of them decide to pursue their academic education through an MBA. As we have seen previously the MBA value of its degree has been devaluating, following of the proliferation of MBAs offered, therefore business schools and institutions have started looking for alternative forms of qualification.

Admission criteria

A Master's degree or an MBA is generally required to apply for a DBA program. Some institutions require specifically an MBA, in case the applicant holds another Master's degree he/she might be required to follow additional courses.

Moreover, admission criteria include a good knowledge of English certified and several years of working experience in a management position (normally minimum 4).

For instance, the Hochschule für Wirtschaft in Zurich (HWZ) requires a Master obtained at the HWZ itself or an MBA from the partner institution, the University of Southern Queensland. For perspective students holding different Master additional courses may be necessary.

Table 2: Swiss education institutions offering a Doctor of Business Administration

Name	Location	Duration	Costs	Certified/Accreditation
SBS Swiss Business School	Zurich	2,5 years	33615 €	eduQua, IACBE
HWZ – Hochschule für Wirtschaft Zürich	Zurich	3 years	37350 €	
Kalaidos Fachhochschule	Zurich and UK	3 years	53950 €	
Swiss Management Center	Lausanne, Zürich and Zug	4 years	19300 €	ECBE, ACBSP
PHW Bern	Bern	3 years	32370 €	
Business School Lausanne	Lausanne	3 years	31540 €	ACBSP, CHEA, EFMD, SQS,
European University of Geneva	Geneva	2 years	No info	ACBSP, IACBE, EFMD, Swissmade, euruni,

Problems and Prospects

This analysis shows clearly that there is a great variety in the DBA offer within the German speaking European countries. Indeed there are still too many types of DBA degree therefore some DBA degrees are better than others. Standard and requirements for the thesis completion vary as well.

On the basis of these differences, it is clear that common criteria should be established in the next future, as well as the expected outcomes at the DBA level. Only by going through a harmonization process criticisms regarding the integrity of DBA will be neutralized.

On the other hand, it is true that the flexibility and broad-based curriculum offerings of DBA programs help candidates to conduct research in areas most relevant to their business needs. Barihman et al (2000:401) affirm that “the DBA represents the coming of age of work-based learning at the highest level of higher education”.

Hence, we can affirm that the DBA is a growing alternative way to the PhD to obtain a doctoral qualification in the German speaking part of Europe. The panorama provides a variety of different programs and more research is needed to examine the outcomes in detail.

Mutual interest in developing joint DBA programs in Russia and German speaking countries

Despite the DBA degree is a newcomer, it is gaining popularity throughout the world, because business problems are constantly becoming complex and require more rigorous approaches. The key value of DBA education comes from a synergy between scientific methods derived from academia and rich experience of business practitioners who contribute to developing new management knowledge, practices and policies. Russian business schools have been also running DBA programs, and the number of institutions that offer such kind of business education is growing.

Business schools in German speaking European countries have gained a valuable experience of teaching DBA students. On the other hand, Russian business practitioners that could join DBA program have also acquired indispensable hands-on experience that could be useful for foreign business partners who are planning to enter Russian market.

Basing on above mentioned, it is worth to accelerate cooperation between western and Russian business institutions in order to develop joint DBA programs involving students from both sides.

Firstly, it will create and excellent learning environment for knowledge sharing among diverse people of different nationalities and cultures. Secondly, it will serve as a base for networking that would lead to new business partnerships and perhaps joint ventures between DBA students.

Therefore, DBA as an applied management doctoral degree is a vital, perhaps inevitable, element for a successful manager in our globalized world.

Summary – Key points of the DBA in German speaking Europe

This article has examined the Doctor of Business Administration (DBA) degree in European German speaking countries today, with a special focus on Germany and the German speaking part of Switzerland.

- The DBA is a newcomer in the graduate academic business administration education. It is a growing field with lot of potential. Its growth is related to the proliferation of the MBA degree and the need of alternative graduate degree.
- Admission criteria normally require a Master degree, preferably an MBA, proficiency in English and few years of working experience, usually in a management position.
- The cost and the duration of the DBA vary according to the education institution.
- The DBA is still in the early stage of its development especially in Germany.
- In Switzerland the DBA degree is broadly present with 7 institutions offering this degree at the time of publication (2012). On the other hand in Germany only 4 institutions offer a DBA. This might be related to the tuition costs and the cultural education background of German students.
- In Austria there are not DBA programs offered at the time of publication.
- Russian and German speaking European institutions could benefit from developing joint DBA programs.

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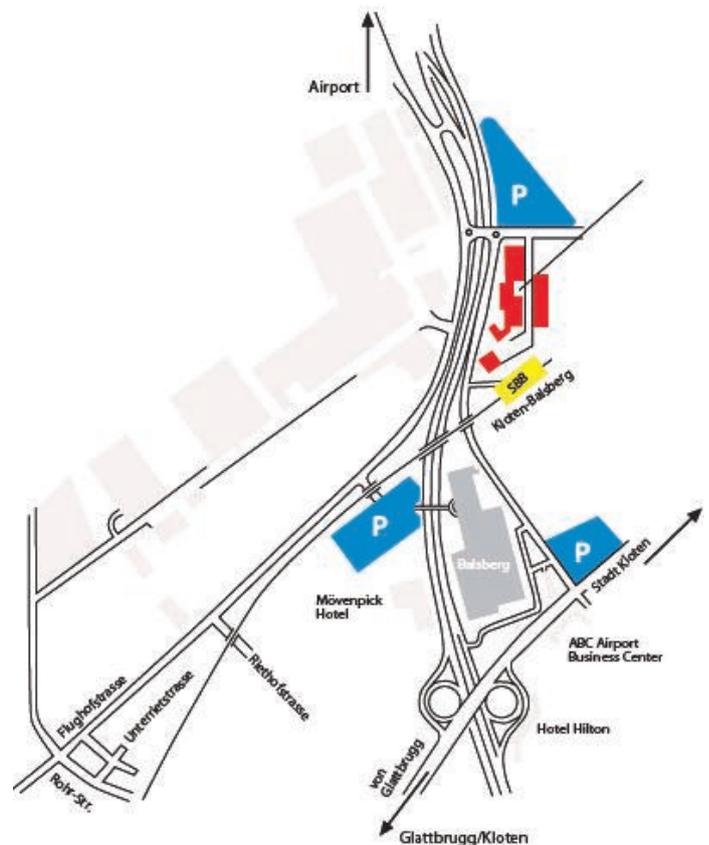
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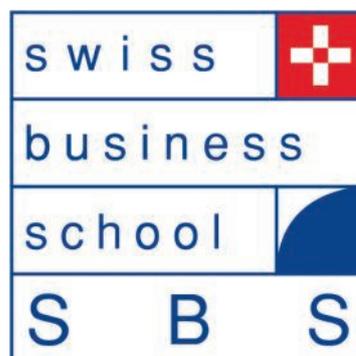
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