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THE CONSERVATION OF EXPANCIA: SECOND LAW OF CONSERVATION

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To Elena Aleinikov - always alive

ABSTRACT

This article is a report on the discovery of the second law of conservation - the Law of Conservation of Expancia (expansion of power) that further develops the Bartini/Kuznetsov system of physical laws. The previous law - the Law of Conservation of Extencia (extension of power) described the linear displacement of power (Aleinikov 2006, 2007) and was applicable, for example, to the "extension war,"" like the Napoleon war against Russia in 1812. The next law deals with the Conservation of Expancia (expansion of power) - the term offered for the area spread of power - and it states that under ideal/unchanging conditions Expancia (the area spread of power) remains the same, or constant. The mathematical formula of Expancia is the following: $Exp = Ext \cdot S = P \cdot S^2 = E \cdot S^2/t = const$ *(where Exp is Expancia, Ext is Extencia, P is Power, E is Energy, S is Distance, t is Time). The range of measurement for Expancia is* L^7T^{-5}*. A new unit for measuring the Expancia is called Elen (to commemorate the memory of Elena Aleinikov who courageously gave 34 year of her life for these laws to be formulated and published). Time and place of discovery: December 4, 2006, Monterey, California.*

INTRODUCTION

History of humankind shows that massive deployment of people and material resources like growth of Roman Empire or Ottoman Empire, not to mention WWI and WWII, have never been measured scientifically, but nevertheless were precisely called expansions, or expansion wars. History has documented the rise and fall of empires. In each of these cases, the fall of the empire can be related to the inability to project power. In other words, one must properly plan expansion of power to keep from over expending resources. A more scientific approach, as described in this article, could have possibly prevented the collapse.

Despite the obvious similarity of the phenomenon, no conservation laws have been formulated for this specific field of scientific research.

ESSENCE

In real world, the power systems, whether it is the power of volcano eruption to spread lava over the certain area or the power of the flood to cover the certain area of land surface, demonstrate this area spread potential. On the physical level, lava, water, sands of the desert, etc. spread over a certain area. On the chemical level, a chemical reaction, going on the surface, has the power to cover a certain portion of the surface before using all the ingredients necessary for this reaction. On the biological level, grass, bushes, etc. spread over the certain area, animals spread over the certain territory. Human beings (before the invention of the airplanes) were voyaging the seas, discovering and conquering new lands to spread the power of the nation, like Spanish, British, French or Russian empires.

Phenomenon

All these phenomena, named and understood differently, have one basic foundation - they are the spread of physical, chemical, biological, economical, or military power over some area. They have the same underlying physical process, sometimes hidden, sometimes obviously seen, but in all cases material in nature and, consequently, they should undergo the same scientific reflection and should be explained by the same laws determining their unified essence, not separate laws for separate manifestations of the essence.

Term

To cover this concept, the concept of two-dimension spread, or to describe this phenomenon, we use the term "expancia."

The reason for a specific term is the following: in the last centuries the once term "expansion" has been "expanded" by itself and began to be widely used for the volume - not area - spread of power. Physicists and non-physicists after them, for example, talk about "the universe expansion" after the Big Bang. Another example is a now fashionable theory of space expansion, vividly volume (3D)-, not just area (2D)-oriented.

Therefore, taking into account the necessity to make the new term looking like a term (one word/one meaning) again, the new law uses the variant "expancia" to denote the area expansion, or two-dimensional spread of power.

Conservation Law

As is common for all conservation laws, the new law is true only for the ideal situation. It states that under ideal/unchanging conditions Expancia (the area spread of power) remains the same, or constant. In simple words, it states that if no resistance and no counter action is taken, then the spread of the power over the area will be infinite.

In the real world, however, where the counter action is always present, the same law can state that two systems with equal power will spread over the equal area if the conditions do not change.

Formula and Relationships to the other Concepts

The mathematical formula of Expancia is the following: $Exp = Ext \cdot S = P \cdot S^2 = E \cdot S^2/t = const$ (where *Exp* is Expancia, *Ext* is Extencia, *P* is Power, *E* is Energy, *S* is Distance, *t* is Time).

Measurement

The range of measurement for Expancia is L^7T^{-5}. It is based on the measurement for Extencia that is L^6T^{-5}, the measurement of Power that is L^5T^{-5}, and the measurement of Energy that is L^4T^{-5}, in the Bartini/Kuznetsov system of physical laws (Bartini, 1965, 1966, 2005; Kuznetsov, 2000).

Unit

A new unit for measuring the Expancia is called Elen (to commemorate the memory of Elena Aleinikov who courageously gave 34 year of her life for these laws to be formulated and published).

Time and Place of Discovery

Time and place of discovery: December 4, 2006, Monterey, California.

CONCLUSION

Just as the Law of Conservation of Extencia (linear extension of power), this new Law of Conservation of Expancia (area expansion of power) is applicable to all complex economic systems such as transportation, communication, construction, military operations and certainly will become a foundation for numerous calculations in strategic management.

NINE NEW LAWS OF CONSERVATION: FUTURE SCIENCE HORIZONS

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"We think it's a mistake to believe that most Laws of Nature have been already discovered by contemporary science. More likely we are just at the very beginning of a long road to the Unknown World."
D. Rabounski, Editor-in-Chief, *Progress in Physics*.

ABSTRACT

This article announces the discovery of nine new laws of conservation. The projective theoretical power of these new laws is build on the Bartini/Kuznetsov LT system of presenting the laws of Physics (Bartini, 1965, 1966, 2005; Kuznetsov 2000). It was explained by the author (Aleinikov, 1988-2002) and has already been used for the discovery of the first new law of conservation (Aleinikov, 2007; Aleinikov & Gera 2006). For brevity and simplicity, the new laws are presented in a Table, the logic of their formation, definitions, terms and units are explained below. Understandably, this short presentation is of general character, and all laws introduced here will be described, explained, and shown in their application to reality in the next publications. These new laws will open new horizons for researchers as well as for logistics and strategic management specialists around the world.

INTRODUCTION

The majority of the discoveries we know today as fundamental laws of Nature have been done at the tip of the pen rather than at the tip of the sword or at the tip of the scalpel. Yes, Julius Robert Mayer was a doctor, but he discovered the Law of Energy Conservation by theoretical thinking over the blood differences. Yes, Johannes Kepler was certainly an astronomer, but it was his theoretical re-thinking of the Tiho Brahe's meticulously collected data of Mars movement that led him to the discovery of his conservation laws. Yes, Sir Isaac Newton was a practical physicist and occultist, but it was his theoretical thinking (and huge generalization of existing calculations - certainly not just an apple that fell on his head, as legend says) that led him to the laws and formulas that express the regularities of calculating movement, force, and gravity.

The laws of Nature are not written on the wall for us just to discover them by discovering where the wall is. The laws of Nature are not written by the configuration of the stars on the night sky. They are not written on the surface of the new planet seen through a telescope. The laws of Nature are not written on the bloody surface of the human heart first seen by the surgeon.

The laws of nature, as we know them, are ALL theoretical generalizations done by the high caliber scientists who dare to see the high level abstract regularity behind the millions of separate cases and then formulate the laws in understandable, provable and testable form (like F = ma). The discovery of these laws requires enormous effort, it takes years and years of work, and this makes the scientists who come to these discoveries honored and revered by humanity.

The laws presented in this article are the result of 24 years of work on the interpretation of the Bartini's intellectual heritage in general and his Table of Physical Laws in particular that led us to understanding the mechanism behind the laws of conservation and their relationships. In other words, this drop of information concentrated for this presentation represents and reflects the ocean of information behind it.

CONSERVATION LAWS: HISTORIC ANALOGS

Conservation laws create the backbone of contemporary science. They helped to demystify the nature and natural phenomena. They gave sense to numerous observations and calculations. They paved the way to numerous new discoveries, too. Neutrino, for example, was discovered because calculations showed a slight but constant deficit in mass.

In the past it took science decades and sometimes centuries to come up with the next law of conservation. As a case in point, just compare the following:

The list of some of the most well-known conservation laws includes:

- Law of Equal Areas: A line joining the sun and any planet sweeps out equal areas during equal intervals of time. (Kepler, 1609)
- Harmonic Law: The ratio of the squares of the revolutionary periods for two planets is equal to the ratio of the cubes of their semi-major axes. (Kepler, 1619)
- Law of Conservation of Impulse (Newton, 1686)
- Law of Conservation of Moment of Impulse (Laplace, 1800)
- Law of Conservation of Energy (Mayer, 1842)
- Law of Conservation of Power (Maxwell, 1855)

NEW CONSERVATION LAWS

Now, after the Bartini/Kuznetsov system has proven to be the Periodic Table of the conservation laws (exactly like the Mendeleyev's Periodic Table of the Elements), and it has already brought the discovery of the new law of conservation (Bartini, by 1973, Bartini, Kuzntsov, Obraztsova, appr.1980; Aleinikov & Gera, 2006; Aleinikov, 2007a, 2007b, Aleinikov & Smarsh, 2007), thus proving its heuristic power, it can accelerate the scientific process of discovery as it was predicted earlier (Aleinikov 1988). It happens because every new method or methodology brings new scientific results.

The new conservation laws are presented here in the Table (Table 1) for simplicity and shortness. The logic of their formation, definitions, terms and units are explained below.

Table 1. New Conservation Laws

#	Laws of Conservation	Formula	Unit and Relationship
1	Extencia	$Ext = P \cdot L = L^6T^{-5} = const$	1Alger = 1W · 1m = 1J · 1m : 1s = 1N · 1m^2 : 1s
2	Expancia	$Exp = Ext \cdot L = L^7T^{-5} = const$	1Elen = 1Alger · 1m = 1W · 1m^2 = 1J · 1m^2 : 1s
3	Volupower	$Vlp = Exp \cdot L = L^8T^{-5} = const$	1Smar = 1Elen · 1m = 1Alger · 1m^2 = 1W · 1m^3
4	Arergation	$Arg = Trn \cdot L = L^7T^{-4} = const$	1Sergal = 1Tran · 1m = 1J · 1m^2 = 1N · 1m^3
5	Volergation	$Vrg = Arg \cdot L = L^8T^{-4} = const$	1Natal = 1Sergal · 1m = 1Tran · 1m^2 = 1J · 1m^3
6	Maneuverability	$Mnv = Mob \cdot L = L^7T^{-6} = const$	1Grig = 1Bart · 1m = 1Elen : 1s
7	Operability	$Opr = Mnv \cdot L = L^8T^{-6} = const$	1Nin = 1Grig · 1m = 1Bart · 1m^2 = 1Smar : 1s
8	Intensivity	$Int = Mnv : T = L^7T^{-7} = const$	1Andral = 1Grig : 1s = 1Bart · 1m : 1s
9	Flexivity	$Flx = Int \cdot L = L^8T^{-7} = const$	1Nikkon = 1Andral · 1m = 1Nin : 1s

As is true for all previously discovered as well as new laws of conservation, these laws work only under the so-called ideal conditions (i.e., when isolated, in isolated environment, in absolute vacuum, under absolute zero temperature, etc). Therefore, each law states that under unchanging/ideal conditions, the quantity of X (phenomenon) remains constant. Terms for the new phenomena are introduced through definitions and relations shown to basic units of SI units of Joule, Newton, Watt, meter, second. Phenomena, in their turn are defined via their relationship to the other, well-known phenomena, like energy, power, etc.:

- Extencia = linear displacement, or one-dimension extension of Power (Aleinikov, 2006, 2007)
- Expancia = area spread, or two-dimension expansion of Power (Aleinikov, 2007)
- Volupower = volume spread of Power (Aleinikov & Smarsh, 2007)
- Arergation = (from **ar**ea + **erg**on) area spread of Energy (from the previously defined Transfer = linear propagation of Energy, Bartini, Kuznetsov, Obraztsova, appr. 1980; Aleinikov, 2007a)
- Volergation = (from **vol**ume + **erg**on) volume, or three-dimension spread of Energy
- Maneuverability = displacement of Mobility (Mobility = rate of Extencia, or the speed of displacement of Power, as Bartini introduced it - Bartini, by 1973)
- Operability = area spread of Mobility
- Intensivity (not intensity) = rate of Maneuverability
- Flexivity = linear displacement of Intensivity, or the rate of Operability

Measurements for the new phenomena are derived from the previously known measurements. Units are named after people who participated in their discovery (as is common in the history of science).

The date of discovery for laws 1-3 is mentioned in the previous works (Aleinikov, 2006, 2007a, 2007b; Aleinikov & Smarsh, 2007). The date of discovery for all laws from 4 to 9 is August 26, 2007 - the time when after 24 years of work some final touches were put onto the general picture.

The place of discovery for all laws: Monterey, California, USA.

CONCLUSION

This article announces the discovery of nine new laws of conservation built on the Bartini/Kuznetsov *LT* system of presenting the laws of Physics. All new conservation laws are applicable to technical, military, transportation, communication, economic and other complex systems requiring scientific foundations for global and strategic management solutions. Understandably, this short presentation is of general character, and all laws introduced here will be described, explained, and shown in their application to reality in the next publications. It is absolutely obvious, however, that these new laws will open new horizons for researchers as well as for logistics and strategic management specialists around the world.

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VOLUMETRIC CONSERVATION OF POWER: VOLUPOWER

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ABSTRACT

This article introduces the Law of Conservation of Volupower that further expands the Bartini/Kuznetsov LT system of interpretation of laws of physics (Bartini, 1963, 1965, 2005; Kuznetsov, 2000) and builds up on the two laws introduced by Aleinikov (Aleinikov, 2006 - 2007). Two previously discovered conservation laws introduced the concepts of Extencia (extension, or linear displacement of power) and Expancia (expansion, or area spread of power), i.e., the one-dimensional and two-dimensional power spread. The same logic can be generalized and applied in three dimensions to describe the volumetric spread of power, Volupower. The Law of Conservation of Volupower states that under ideal/unchanging conditions Volupower (volume spread of power) remains constant. The formula for Volupower is $Vlp = P \cdot S^3 = const$ *(where Vlp is Volupower, P is Power, S is Distance). A new unit for measuring Volupower is called Smar. Mathematically,* $1Smar = 1watt \cdot 1m^3$*. Time and place of discovery of the Law of Conservation of Volupower: August 21, 2007, Monterey, California, U.S.A.*

INTRODUCTION

This article introduces the Law of Conservation of Volupower that further expands the Bartini/Kuznetsov *LT* system of interpretation of laws of physics (Bartini, 1963, 1965, 2005; Kuznetsov, 2000) and builds up on the two laws introduced by Aleinikov (Aleinikov, 2006 - 2007).

Physics in general leads us to deriving equations in order to address specific proportional values. Then we can apply what we learned from these physical relationships to more complex systems that contain both physical and non physical-based elements. Such complex systems include but are not limited to transportation, communication, construction, management and military operations.

Two previously discovered conservation laws introduced the concepts of Extencia (extension, or linear displacement of power) and Expancia (expansion, or area spread of power), i.e., the one-dimensional and two-dimensional power spread. Here we are suggesting that the same logic can be generalized and applied in three dimensions to describe the volumetric spread of power. The term offered for the phenomenon of volume spread of power -Volupower - is quite transparent.

VOLUPOWER DEFINED

A broad, or most general application of Volupower can be visualized in political science and strategic studies. The strength or power of a nation-state can be made up of the elements of political, military, economic, technological and other powers. These elements, when summed up, can describe the overall potential of this system. In a more specific application, in a physical sense, for example, in cloud physics, a cloud is formed depending on several factors to include heat, moisture and the environment. Depending on these factors, each cloud has a potential to reach a certain volume. In another case, an air defense radar can form a potential three-dimensional dome within which it can detect targets. Characteristics of the atmosphere and the radar will result in the varying size of the dome. Depending on these factors, each radar has a potential to cover a certain volume - effective coverage zone. All of these physical phenomena, when seen in three dimensions, reflect the volumetric concept called Volupower, as power is transported in multiple planes.

The range for measurement for Volupower is L^8T^{-5} (where L is length and T is time) that further expands the Bartini/Kuznetsov system. The Law of Conservation of Volupower states that under ideal/unchanging conditions Volupower (volume spread of power) remains constant. The formula for Volupower is $Vlp = P \cdot S^3 = const$. The relationships with the other concepts are the following: $Vlp = Exp \cdot S = Ext \cdot S^2 = E \cdot S^3/t = const$ (where Vlp is Volupower, Exp is Expancia, Ext is Extencia, P is Power, E is Energy, S is Distance, t is Time).

A new unit for measuring Volupower is called Smar. Mathematically, 1Smar = 1watt · 1m^3.

Time and place of discovery of the Law of Conservation of Volupower: August 21, 2007, Monterey, California, U.S.A.

CONCLUSION

This article introduced the Law of Conservation of Volupower that builds on previous works of Bartini, Kuznetsov and Aleinikov. Volupower has been defined as the volumetric spread of power. The Law of Conservation of Volupower states that under ideal/unchanging conditions Volupower (volume spread of power) remains constant. This Law is further defined with visualization examples and a mathematical formula for Volupower. A new unit for Volupower has been introduced. This law is applicable to many physical systems as well as complex economic and military systems, thus becoming a foundation for numerous calculations in strategic management.

GUERILLA ACTIONS AS SMALL BUSINESS STRATEGY: OUT-WITTING IS MORE COMPETITIVELY RESPONSIVE THAN OUT-SPENDING

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ABSTRACT

Small and medium-sized firms face disadvantages in the dynamic global market place today. The authors suggest that "fast cycle decision making" – the application of Col. John Boyd's OODA Loop philosophy can create economic advantages that will allow the smaller firm to aggressively compete against much larger rivals. Fast cycle decision making suggests deception, rapid response and being able to "turn inside" your opponent's decision cycle. It is of interest to note that this version of guerilla warfare is now embodied in the United States Marine Corp's new doctrine of Maneuver Warfare.

THE RELATIONSHIP BETWEEN ORGANIZATIONAL PERFORMANCE AND PERFORMANCE RATINGS OF IN-ROLE AND EXTRA-ROLE BEHAVIORS

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ABSTRACT

An experiment was conducted investigating the effects of low versus high organizational performance on ratings of overall, in-role and extra-role behaviors. Based on the Werner's (1994) design this study provides useful insights into the main and interaction effects of performance on the ratings of employees. The theoretical rationale for the study is provided by Meyer and Zucker's (1989) theory of failing organizations in which they explain "how low performance can trigger forces favoring maintenance of organizations (1989: 11). Meyer and Zucker's (1989) theory contradicts conventional wisdom that poor performing organizations either improve or cease to exist. Results are discussed in terms of both prospect and attribution theories, and Meyer and Zucker's theory of failing organizations.

OUTPUT DECISIONS OF FIRMS UNDER UNCERTAINTY: SOME MICROTHEORETIC ANALYSIS

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ABSTRACT

The theory of the firm under uncertainty has been traditionally studied using the expected utility approach. There are very few works done in this field of study using the risk-return approach despite the popularity of this dichotomy in the business world. This paper, therefore, applies various mean-risk models to the output decision making of a competitive firm facing uncertainty in the product price. The risk formulation used in this paper involves a pre-specified target level of profit, similar to those discussed in Fishburn (1977and 1984). Furthermore, the measure of risk-aversion used in this model indicates the relative weight given by the agent to the risk component of the mean-risk objective function. The results of various mean-risk models are compared to those in the corresponding expected utility literature, and significant differences are found in many cases. One important difference is that whenever expected utility results require decreasing absolute risk aversion as a sufficient condition, the corresponding sufficient condition in the risk-return model of this paper is given by the condition that marginal cost is at least as large as the sum of average cost and average target level of profit. The results of this paper, in our opinion, are intuitively more appealing compared to the relatively abstract concept of decreasing absolute risk aversion.

INTERACTING WITH CHINA AND INDIA: STRATEGY CHOICES AND PUBLIC POLICY INITIATIVES FOR SOUTHEAST ASIA

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ABSTRACT

India and China have experienced astonishing economic growth in recent years. Their continued accession into world-class competitor status has been seen as a threat to the economies of Southeast Asia. This paper explores that emerging threat and offers advice to firms operating within Southeast Asia, and their governments, on how to compete effectively with these emerging economic superpowers. The recommendations are based primarily on Porter's national competitiveness model.

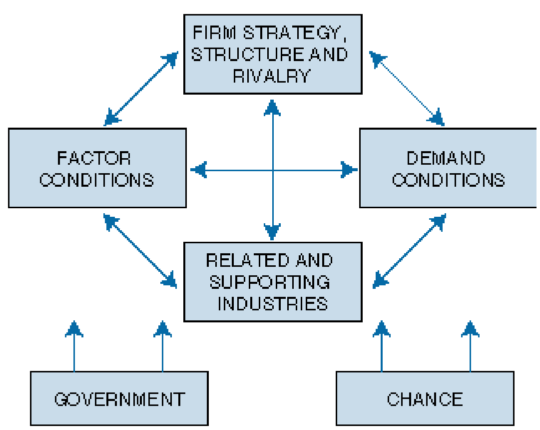
In recent years much attention has been directed towards the emerging economies of the world. In particular, special mention has been made of the so- called "BRIC" countries, referring to Brazil, Russia, India, and China. In reality it now appears that India and China are by far the major players in this club of emerging countries, with China clearly in the lead. With the world's fourth largest economy, and its strong growth rate, China is expected to soon pass Germany and become the world's third largest economy (Dickie 2007). India, while not experiencing the same degree of economic growth as China is, nevertheless, also emerging as a potential economic superpower. India and China are poised to change the economic landscape of the 21st Century and will significantly alter the economic dynamics of Southeast Asian nations. It appears that China will continue to dominate in manufacturing capacity, and India will excel in information technology and services (Lall & Albaladejo 2004; Saran & Guo 2005). The question then becomes: what role is left for Southeast Asian countries in this new global economy?

NATIONAL ADVANTAGE

Investors typically possess three motives for investing in other countries: seeking markets, seeking efficiency, or seeking resources (Dunning 2002). A 2005 article in *Business Week* magazine pointed out the importance of the third element in this motive triad when it stated that "natural resources are driving the global economy as never before." China's growing demand for resources has the potential to offer Southeast Asian countries a number of opportunities in the resource seeking aspect of foreign direct investment. In particular, ASEAN countries offer opportunities in mining, energy, agriculture, and aquatic resources. In addition, the ASEAN member states offer to potential investors countries rich in human resources. It is this resource that may ultimately offers the greatest potential for economic growth in Southeast Asia.

Using the national competitive advantage theory of Michael Porter (1990), ASEAN firms can improve their competitiveness by repositioning themselves strategically by seeking to differentiate themselves from low-cost producers. In addition, they must integrate their manufacturing processes and upgrading their human resource base. The four year study by Porter and his associates into the competitive advantage of a nation determined that the competitiveness of individual firms within a country determine the country's overall competitive advantage. A country's ability to stay competitive in a dynamic global environment is determined by the ability of its domestic firms to innovate and change. ASEAN countries, with the exception of Singapore, do not promote innovation and spend much on research and development (Economist 2007). Micro-level strategic choices are the greatest determinants of a nation's competitive position and economic well-being. At the same time, public policy plays a role as well in facilitating this competitive process. According to Porter's model (Figure 1), there are four determinants of national competitive advantage: Firm strategy, structure and rivalry; demand conditions; factor conditions; related and supporting industries. The competitiveness of domestic firms is determined by the effectiveness of how those firms are structured and managed. The ability of a nation to be competitive is greatly influenced by the strategic abilities of the individual firms operating within that nation. Strong domestic rivalry also produces strong international competitors. Strong domestic demand increases the ability of local firms to develop their markets, and having demanding customers at home also produces firms that can compete internationally. While natural resources may help a country in terms of economic development, they are not sufficient for long-term prosperity. The development of "homegrown" or human resources is far more important. Being competitive as a nation requires the development of industry clusters, or supplier clusters that supplement the abilities of firms operating within those clusters.

Figure 1
The Diamond Model of National Advantage



Source: The Competitive Advantage of Nations, 1990

Firms operating within ASEAN need to focus their competitive abilities and develop greater regional production capabilities with firms in other member states in order to remain competitive.

Cluster development can cut across national borders. As economic integration becomes a greater force in the global economy, political borders are becoming less relevant. The ability to be part of a global supply chain, irregardless of national identity is more important than ever for Southeast Asian firms.

STRATEGIC CHOICES

The competitive position of countries operating in this global supply chain network are determined by their efficiency and cost structures, their quality of production, their ability to be flexible, and the perception of their dependability and innovative character. In addition, the economic policies of host countries can be an advantage or disadvantage to companies seeking to integrate into these production networks. Southeast Asian firms must continue to build their productive capabilities, focusing on quality, efficiency, and flexibility.

On the micro-level, the choice of appropriate strategic choice is important. With essentially three strategy choices (Porter 1980): cost leadership; focus; and differentiation, the choice of strategy may appear simple. Each strategic choice requires essential characteristics and skills, and the correct choice for any given cluster or firm operating within the cluster may not be easily determined. *Cost leadership* requires an organizational culture that focuses on efficiency and cost consciousness. Economies of scale can also be helpful, and maybe even essential in succeeding with this strategic choice. A strategy of *differentiation* requires a strong emphasis on marketing and branding activities, and often requires high levels of customer service and quality. The *focus* strategic option requires limitations in the choice of product/market and a very strong orientation to the needs of these select markets. With the economic emergence of India and China with their low labor costs, many businesses in Southeast Asia may want to consider a strategic choice that doesn't involve competing on the basis of price. Attempts to match the "China price" will drive down wage rates and may in the end be futile. Selective differentiation may be the best option for many of these firms. Porter's advice for ASEAN member states would be: improving education at all levels, including managerial and entrepreneurial education; capitalizing on the natural and human resources of the country; emphasizing quality manufacturing; and building important cluster industries.

While natural resources can be part of the solution to the rise of China and India, ASEAN member states should also position themselves to be attractive for efficiency seeking foreign direct investment. As we have seen in Vietnam, size isn't a limiting factor. Although the country is relatively small, it has managed to attract impressive amounts of foreign investment due to its efficiency orientation, its "doi moi" economic reforms, and business-friendly leaders (Kazmin 2007). The combined power of the ten member ASEAN states can increase their strategic position and capitalize on the comparative advantages and economic efficiencies of each country. More economic integration and faster implementation of planned integration is recommended. Creative thinking and innovation are needed. Macroeconomic policies that encourage economic freedom, economic integration, and free trade are essential. The targeting of industries with high domestic value added outputs, and the selection of niches to avoid direct competition are preferred strategies for firms operating within ASEAN. In addition, greater economic integration and freedom are needed, along with a reduction in corruption.

CONCLUSION

In a recent Asian Development Bank study it was found that China's new ability to attract FDI had a positive effect on the flow of foreign investment into Southeast Asia. One reason for this spill-over effect is the concept of a "China plus One" strategy in which investors seek to invest in China and other countries in the region in order to reduce political risk. While not specifically mentioned, the same is true of India. Many Southeast Asian countries can be the beneficiaries of this risk diversification strategy. Rather than viewing the emergence of China and India as threats, firms operating in Southeast Asia should seek to capitalize on their economic emergence. Doing so will require a different strategic orientation and a facilitating role for government.

While this paper has placed more emphasis on the challenges facing ASEAN member states relative to China, it not intended to deemphasize the future threat the nations also face from India. At present China's growth is the major concern, however, India may soon become a more significant competitor (Saran and Guo 2005). Now, more than ever, ASEAN must respond to the Bangkok Declaration that provided the groundwork for "mutual interests and common problems among countries in Southeast Asia." The solution to the economic challenges facing member countries from China and India is to view these challenges as an opportunity. The solution lies in an economically liberated and globally connected Association, and the solution will require strong and effective leadership within ASEAN.

REFERENCES OMITTED DUE TO PAGE LIMITATIONS