Business Administration and Business Economics

Monetary Developments and Decolonization in Ethiopia (1941-1952)

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Abstract: The article analyses the reorganization process of the monetary setting in Ethiopia which started in 1941 along with decolonization, when the Italian colonial rule came to an end. The country regained independence and the former Ethiopian empire was restored. The monetary reform in Ethiopia after the liberation during World War II, was a necessary measure to be adopted. Different paths however could have been followed at that moment by the Ethiopian government. The crucial choice made in money matter was to re-establish a national monetary unit instead of keeping the country inside the East African shilling area, as it was envisaged in British designs for the post-war setting of the Horn of Africa. The Ethiopian project unpredictably prevailed at the end of a weary negotiation, due to the chiefly American support in the framework of a new role gained by the United States in this area. The Ethiopian Authorities were, as a consequence, enabled to free themselves from dependence on Great Britain.

Keywords: Ethiopia; History of Money in Africa; Monetary Reform

JEL Classification: E 42, G 21, N 27

1. Introduction

The advent of a national currency in Ethiopia supported by the Emperor Menelik II had been marked by the first minting of coins in 1894 and by the establishment in 1905 of the Bank of Abyssinia, authorised to issue notes and to perform banking operations (Mauri, 1967; Schaefer, 1992). In 1931, however, this institution was liquidated by Haile Selassie and its assets and liabilities as well as premises and staff were taken over by the new established state-owned issuing bank: the Bank of

Ethiopia. The Bank of Ethiopia, at its turn, closed its business following the occupation of the country by the Italian army (Mauri, 1967) (Tuccimei, 1999).

The purpose of this paper, however, is to describe and analyse the reorganization of the monetary setting in the country, started in 1941, when the short-lived Italian colonial rule came to an end during World War II. The terminal date of the study is the end of 1952.

Historically, when one country conquers another country, the currency brought in by the conqueror usually replaces the currency of the occupied country. This was the case of Ethiopia; twice in the laps of a quinquennium the legal tender currency was changed by two different conquerors. In 1936, the Italian lira had replaced the Ethiopian thaler issued by the Bank of Ethiopia and, in 1941, the currency of the defeated colonial ruler had been, at its turn, replaced by the East African shilling brought in by the British conquering army. The new occupying power, in fact, had found it more convenient in 1941 not to allow its own domestic currency, i.e. the sterling, to be legal tender in Ethiopia and, instead, to enforce the British colonial currency which was issued by the East African Currency Board.

The paper has two more sections. Section 2 analyses the heterogeneous monetary circulation of the country after the collapse of the Italian colonial administration and the attempts of Ethiopian authorities to reorganise the monetary setting. Section 3 deals with the re-achievement of monetary sovereignty by independent Ethiopia.

2. The Adopted First Measures

Ethiopia, after a centuries-old independence, had experienced in the second half of the 30s a short period of colonization and economic development, accompanied by an increasing use of money for transactional purposes, under Italian rule. These improvements in monetary circulation occurred thanks to the fact that a number of Italian banks had settled in the country and a network of 24 bank-branches, covering all the provinces, had beenset up (Mauri, 1967) (Tuccimei, 1999).[1]

In the course of the Second World War the Emperor Haile Sellassie re-entered the country in 1941 and eventually Ethiopia was liberated from Italian occupation. Upon his return to the throne, the Emperor, intended to pursue the same objectives in the monetary and financial field on which were based his innovative policies

[1] In addition, in Eritrea were operating 13 bank-branches and in Somalia 5 bank-branches for a total of 42 branch-offices in the whole Italian East Africa Empire (A.O.I., Africa Orientale Italiana)

implemented in the country during the early nineteen-thirties, just few years before foreign invasion. These objectives were mainly represented by the creation of a national bank of issue, wholly Ethiopian-owned, and by the establishment of a domestic monetary system with the aim of providing a homogeneous currency for the economic development of the country (Mauri, 1997).

However the economic and political situation of Ethiopia at that time, which continued to feel the effect of the recent hostilities, together with the British military presence,[1] suggested leaving these objectives aside for the time being and to give, instead, priority to the reorganization of the current monetary setting. British-East African, Egyptian, Indian and Italian notes and coins as well as Maria Theresa's silver thalers, in fact, circulated side-by-side in a chaotic situation characterized by wild fluctuations of market rates of exchange, i.e. the prices of one currency in terms of another to settle demand and supply as for any other commodity traded on the market.

The Maria Theresa's thaler was an impressive-looking silver coin originally struck in Vienna during the reign of the Empress Maria Theresa of Habsburg and minted thereafter for the countries of the Red Sea Littoral and for Abyssinia, but always with the same date, 1780 (Tschoegl, 2001). In some areas of Ethiopia in 1941 the Austrian silver coins, being a full-bodied money, were still the most popular means, both for payments for goods and services and for hoarding. According to Pankhurst (1965) and other authors, this silver coin, besides its use as money, i.e. means of payment, standard of value and store of value, also performed relevant non-monetary functions: in fact it served as jewel, as certified source of silver for melting down and even as a measure of weight (28.0668 grams).

The volatility of free market exchange rates among different currencies circulating in Ethiopia, as observed before, was high and rates differed notably from one place to the next. Furthermore, for each single monetary unit, coins were unequally valued in relation to their denomination, the intrinsic nature of specie (metal

[1] The British, who entered the Ethiopia in the temporary absence of Ethiopian authorities, had in fact, replaced the Italian Colonial Administration in ruling the country. The political, military and economic control was firmly in British hands. Ethiopia was incorporated into the British sterling area via East Africa shilling and full banking services were provided under monopoly by a British financial intermediary, the Barclays Bank. A branch of this institution had been opened in Addis Ababa, just after liberation of the city in order to meet the immediate banking requirements (Perham, 1949; Konczacki, 1962). The British Military Administration was, in fact, reluctant to share power, chiefly in the monetary and financial field, with emerging Ethiopian authorities and the Emperor Haile Selassie, on the other hand, was distrustful of British designs on his empire (Vestal, 2002).

differing in silver, nickel, acmonital,[1] copper and bronze and in finesse) and their wear (Mauri, 1967).

The overall circulating medium of exchange and its qualitative make-up changed over time as a result of currencies inflows and outflows across the little watched Ethiopian borders. The intensity of these flows was at the same time an impact on prices of commodities and on the fluctuations of free market exchange rates of the various notes and coins in circulation.

Alarmed by the rapid worsening of monetary situation, Ethiopian Authorities decided to regulate without further delay the whole matter. With an initial ordinance dated September 27th, 1942 (Proclamation no. 23), Ethiopian Authorities made the export of Maria Theresa's silver thalers subject to their preliminary authorization. An outpouring of the Austrian thalers from the country was going on, following a sharp rise of the price of silver on the world market.

The exchange rate of Habsburgs silver coin (full bodied money) with the East African shilling in the free market had, in fact, exceeded that of the official exchange rate. The apex of the gap between free market exchange rate and official exchange rate occurred in 1944, when the value of the Maria Theresa's thaler in terms of silver content and based on the international silver price corresponded approximately three shillings, while the official exchange rate was two shillings per thaler (Luther, 1958).

An attempt to complete regulation on this matter was made by the government of Addis Ababa with a set of laws, each apparently drawn up at different time, which appeared together in the *Negarit Gazeta* of 31st October 1942.

The first law (Proclamation N°. 31) revoked definitely the status of legal tender of the Egyptian pound and of the Indian rupee. Legal tender statuses were reconfirmed, on the other hand, for East African shilling (Mauri, 2009) and Maria Theresa's thaler and were given back to the Italian lira. It is worth to remind at this point that according to the preceding Notice No. 3 of 7th April 1941 issued by the British Military Administration and signed by General Sir Alan Cunningham at his headquarter in Harar, only four currencies had gained the blessing of legal tender

[1] Acmonital (acronym "acciaio monetario italiano") was a steel alloy used in Italy for minting coins.

status: the Maria Theresa's thaler, the East African shilling, the Indian rupee and the Egyptian pound.[1]

According the Proclamation N°. 31 of 31st October 1942, all currencies outside the three given legal tender status, were to be considered foreign and to be traded only by *ad hoc* authorised dealers. The above-mentioned act also confirmed the ban on export of Maria Theresa's thalers and – it added – of any other currency without specific authorisation (Perham, 1949).

The content of this law was, however, partially contradicted by a successive act (Proclamation N°. 32) which awarded legal tender status only to the Austrian full bodied silver coin and to the East African shilling. Italian lira, instead, was to be accepted for payments to the Public Administration for only one quarter, starting from the date the act became effective. The Italian currency was to be allowed to circulate among private parties, and to be valued on the basis of the official exchange rates, provided that liras were of a coin or, in the case of notes, of denomination not exceeding ten. A decree of the same date (Legal Notice No. 10/1942) fixed the value of Maria Theresa's thaler at 1.875 East African shillings.

The obvious aim of all these enactments of the Ethiopian government was to reduce the heterogeneity of the stock of money in circulation by excluding currencies of foreign origin except those most accepted by people and those officially used in the country by British military authorities. The exclusion of Italian lira, the currency formerly introduced into the country by the collapsed Italian colonial empire, was not immediate but easily foreseeable in this context.

The official exchange rate between the East African shilling and the Maria Theresa's thaler was later modified in the Austrian silver coin's favour with a decree issued on 29th January 1943 (Legal Notice no. 13/1943). According to new official rate, one Maria Theresa's thaler was worth two East African shillings. Eventually, on September 30th 1943, was issued the Legal Notice 32/1943 in order to regulate the outflow of East African shillings.

[1] Marein (1955, p. 216) states at this regard: "the said Notice contains a passage which seems to indicate that General Cunningham's power to issue such rules is derived from His Imperial Majesty". The Notice of April 7th 1941 was followed by a Notice issued by British Military Authority on April 24th, 1941, fixing official exchange rates between Italian lira and the legal tender currencies. According to this Notice, one Maria Theresa's silver thaler equalled 45 Italian liras, one East African shilling's worth was 24 Italian liras, one Egyptian pounds' worth was 492 Italian liras and one Indian rupee's worth was 36 Italian liras.

The results obtained by this series of measures were, however, definitely unsatisfactory, only in part owing to the lack of enforcing power of Ethiopian authorities, especially in the outlying areas. The Emperor, on the other hand, had hoped to embark upon a complete monetary reform, but his designs met with an understandable strong British resistance. The British, in fact, meant to keep Ethiopia within the monetary area of the East African Currency Board and were, if anything, inclined to make concessions in the banking industry field, which was much less interesting for them (Mauri, 1967). Priority was thus given by the Emperor to financial reconstruction by creating an Ethiopian bank.

Plans to establish a bank of issue as it had been in 1931 the Bank of Ethiopia, short lived because of Italian occupation had obviously to be set aside, at least for the moment. They were in fact conflicting with British objectives on money matter in the region. A compromise-solution calling for a constitution of a state-owned commercial bank was necessarily opted for. Slightly less than two months after the establishment of the Post Office, on 26th August 1942, the law constituting the State Bank of Ethiopia (SBE) as a corporate entity was enacted (Proclamation No. 21). Article 3 of the above mentioned imperial proclamation prescribed that the capital of the bank was to correspond to one million of Maria Theresa's silver thalers, the currency then in force in the country along with the East African shilling. The capital was fully subscribed by the Ethiopian Ministry of Finance.

Contacts with Barclays Bank, followed and an agreement was eventually reached in the context of a wider Anglo-Ethiopian convention, requiring the British bank, previously operating as sole bank in the country, to pull out of Addis Ababa on 15th April of the following year relinquishing its branch to the State Bank of Ethiopia.[1]

The Bank's charter, published in *Negarit Gazeta* on 30th November 1943 (General Notice N°. 18/1943), authorized it to carry out all kinds of transactions customary for commercial banks on the withdrawal of Barclays Bank and, further, gave it the power to make industrial loans. The Bank was entrusted also of the service of fiscal agent and banker of the Ethiopian government. The governance of the Bank, consisting of a Board of Directors, the members of which were to be appointed by the Imperial government. (Mauri, 1997)

[1] The Addis Ababa branch of Barclay's Bank had been opened in 1941.

3. The Re-achievement of Monetary Sovereignty

The Imperial government's firm decision to face and solve radically the monetary difficulties of the Ethiopian economy as well as to replace East African shillings with a national currency providing by this way a uniform medium of exchange for the whole country helped to accelerate the process of monetary and banking reform.

As might be expected, British resistance made tricky the implementation of Emperor's plans, but at the end these difficulties proved less strong than anticipated. It often happens that a nation's development is determined by fortuitous circumstances, foreign as well as domestic, and by relevant events occurred in other parts of the world. The rise of cold war and United States ambitions to play a leading role also in the African continent and chiefly in a country close to the oil producing area of Arabic Peninsula pushed the British to reconsider radically their plans on the Horn of Africa.[1]

This project gave rise to Proclamation N°. 76 of 29th May 1945, cited as the Currency and Legal Tender Proclamation, 1945. A preliminary modification of the terms of the 1942 Anglo-Ethiopian monetary agreement was, however, a pre-condition and a new agreement was thus reached which conferred monetary sovereignty on Ethiopia.[2] British resistance to Ethiopia's exit from the East African Currency Board's monetary sphere was overcome by an undertaking of Addis Ababa authorities to make a substantial use of sterling as reserve currency. In addition, as a preliminary step, a loan of silver was obtained from the United States on the base of the Lend-Lease Act of 11th March 1941.[3]

With the above mentioned law of 29th May 1945, which contextually repealed the previous Legal Tender Proclamation n. 32 of 1942, an Ethiopian monetary system was established on the decimal system and based on a currency denominated "the Ethiopian dollar" which was nominally in gold. In compliance with the terms of International Monetary Fund agreement, an initial parity, establishing weight and

[1] A "Mutual Aid Agreement" between U.S. and Ethiopia was signed on August 9th, 1943 (Vestal, 2002).
[2] See E.W. Luther, Ethiopia, p. 105
[3] See State Bank of Ethiopia, *Economic Conditions and Market Trends*, May 1955, p. 8.

fineness, was set, corresponding to 5.52 grains of fine gold equivalent to 40,25 U.S. cents.[1]

Monetary functions were assigned exclusively to the State Bank of Ethiopia upon Government delegation. Since the Bank was to continue to grant credit and make commercial loans, it was considered best to separate the two activities in laying definite plans by creating an Issue Department within the Bank's organization chart. Thus the task of issuing notes and coins was fully entrusted to this department of the Bank[2]

To back the issue of bank-notes a monetary reserve known as "the Currency Fund" was to be set up, but the name was, in fact, improper and misleading since only issue of notes and not of metal token coinage was covered while the term "currency" encompasses both. The Fund was to be composed of not less than 75% gold, silver and foreign hard currencies (in bank balances or prime securities readily convertible) with the remaining in Ethiopian Treasury Bonds.[3] The Issue Department was subject to direct supervision by the Ministry of Finance. The Ethiopian Ministry of Finance was also empowered to regulate procedures to be followed in exchange transactions as well as in the withdrawal of the other currencies circulating in the country.

This ministry had also the task to fix the exchange rates between circulating currencies and the new currency. In addition, the exchange rate was set at which the value of obligations contracted prior to July 1945 and pending financial transactions denominated in East African shillings at 23 July 1945 was to be converted into Ethiopian dollars. That rate was two shillings per Ethiopian dollar. With reference to values of obligations contracted prior to July 1945 and pending transactions denominated in Maria Theresa thalers, instead, an exchange rate was not fixed at this time and the task was left to the State Bank of Ethiopia. A legal exchange rate of parity for the Maria Theresa's thaler to the Ethiopian dollar was,

[1] See Art 2 of Proclamation N°. 76/1945 and Art. of the Attachment A to this law. See also Z.A. Konczacki (1962)

[2] See Art. 3 of Proclamation N°: 76/1945 and Art. N°: 1 and Art. N°. 2 of the ordinances in Attachment A.

[3] The Currency Fund was initially mainly composed of East African shillings, which were first converted into sterling. Even the Maria Theresa thalers, once withdrawn from circulation, went to enlarge silver reserves, whilst gold reserves were increased mainly by domestic mining output. At the end of 1946, the Currency Fund consisted of 5% of metal reserves, 93% of foreign currency reserves and 2% of Ethiopian Treasury bonds (Luther, 1958).

however, established for the conversion into the new Ethiopian monetary unit of all values denominated in thalers mentioned in all legislative acts then in force.

Differing treatment of the two currencies in circulation in the country at the time of the reform had been foreseen and was clearly reflected in the expiry dates of their status as legal tender. The Maria Theresa's silver thaler was to have ceased to hold such a status when the law in question came into force. The State Bank of Ethiopia was to have handled the withdrawal from circulation of these full-bodied silver coins on the basis of a variable exchange rate to be established periodically taking in due account silver price trends. The East African shilling was, instead, to maintain its legal tender status for another half-year. Nonetheless, certain limits were placed on the circulation of this British colonial currency's fractional coins.

The law, additionally, established the denominations to be adopted for the new currency: the Ethiopian dollar. The task of specifying the features of the notes and coins was entrusted to the Ministry of Finance. The issue of 1, 5, 10, 20, 50, 100 and 500 Ethiopian dollar bank-notes as well as the minting and issue of copper pieces corresponding to 1, 5,10 and 25 cents and a silver 50-cent piece were planned.[1]

Both the bank notes and coins were made in the United States and the shipment to Addis Ababa was done via Djibouti. With the introduction of the new currency, however, some problems arose with the 25 cents copper pieces.[2]

However, the forecasts of Ethiopian authorities turned out to be, as usual, excessively optimistic. The Maria Theresa's thaler continued, in fact, to circulate as a means of payment liked by the public and the State Bank of Ethiopia, given its very limited branch network, was definitely unable to carry out, as planned by the Ethiopian government, the replacement of the Austrian silver thalers. Furthermore, a large part of the population even totally ignored the monetary reform brought in by the Ethiopian authorities. But also the withdrawal of the East African shillings – which presented undoubtedly much less concern since this currency, used primarily by foreign businessmen and upper income groups, circulated mainly in the most important commercial centres – took much more time than had been foreseen by

[1] According to art. 6 "the currency notes issued by the State Bank shall be legal tender in Ethiopia for the payment of any amount" and "coins issued under this Proclamation shall be legal tender for any amount in the case of silver coins and not exceeding ten dollars in the case of base metal coin".

[2] In fact the silver piece of 50 cents was equal in dimension to the 25 cents copper piece and counterfeiters dipped the copper quarters in a nickel solution passing them off as half dollar pieces (Deguefe, 2006).

Addis Ababa authorities. The initial half-year transition period in which this currency was still to be considered legal tender had thus to be reluctantly extended. However, a non-extendible expiry date for the circulation of East African shilling was set at 23rd May 1946.[1]

Following the definitive disappearance of the East African shilling, every possible course of action was taken by Ethiopian authorities to complete the withdrawal from circulation of the Maria Theresa's silver thalers. This was a goal which two attempts at monetary reforms had already failed to achieve in the past. The first had been promoted by Menelek II at the start of the century, the second by Haile Sellassie himself in the mid-thirties. Not even the Italian colonial administration, with the advantage of a large banking branch system spread throughout the Ethiopian territory, had succeeded in this action (Mauri, 1967).

A first law issued on 30th November 1946 (Proclamation N°. 81) forbade not only payments and trade but also hoarding of Maria Theresa's thalers and contemplate heavy fines on violators. It is interesting to point out that prohibition of hoarding was not easily understandable in a country where a large use of the Austrian silver coins was made in jewels production (Pankhurst, 1965; Mauri, 2003). The law was to take effect on different dates in the various regions of the country.

The results, however, fell so far below expectations, that a second law was enacted few months later which extended the deadlines previously set.[2] But the Maria Theresa's thaler continued to circulate even after the expiry date set by this second law. Thus, with Proclamation N°. 105 (*Negarit Gazeta* of 27th August 1949) it was enjoined in peremptory terms that these silver coins had to be delivered to the State Bank of Ethiopia and reasserted the absolute ban on negotiating them for any other purpose. The law cited contemplated a fine of up to 5,000 Ethiopian dollars and imprisonment up to five years for violators.

At the time when Eritrea, following a United Nations resolution, was federated with Ethiopia, the problem arose in introducing Ethiopian currency into this territory as legal tender in the place of East African shillings circulating under British Administration (Rena, 2007). The proclamation N°. 127 of 25th September 1952 was enacted to this end. It extended the Ethiopian monetary system to the incorporated territory and prescribed that the value of all pending financial

[1] See Legal Notice 90/1945 in *Negarit Gazeta* of 30th November 1945.
[2] See Proclamation N°. 99, in *Negarit Gazeta* of 29th April 1947.

transactions be converted into the national currency at the rate of 2.86 East African shillings per Ethiopian dollar.

The official exchange rate was considered slightly disadvantageous by the Eritrean businessmen, since in the past the Ethiopian dollar had been valued and traded at about 2.50 shillings on the Asmara free market. However, the introduction of Ethiopian currency into Eritrea did not create serious problems, since Maria Theresa's silver thaler had for some time held only a marginal position among the currencies in circulation (Caselli and Mauri, 1986).

4. References

Bertone M. (1936). Il problema monetario dell'Etiopia italiana. *Il Sole,* 25th and 26th July 1936.

Caselli C. & Mauri A. (1986). *Moneta e banca in Etiopia.* Milano: Finafrica, Giuffrè.

Deguefe T. (2006). *Minutes of an Ethiopian Century.* Addis Ababa: Shama Books.

De Kock M. H. (1974). *Central Banking.,* London: Crosby Lockwood Staples.

Drake P.J. (1980). *Money, Finance and Development.* Oxford: Martin Robertson.

Harold M. (1994). *A History of Ethiopia.* Berkeley: University of California Press.

Luther E.W. (1958). *Ethiopia today.* Stanford: Stanford University Press.

Konczacki Z.A. (1962). Currency and Banking in Ethiopia. *The South African Journal of Economics,* Vol. 30, n. 3.

Marein N. (1955). *The Ethiopian Empire Federation and Laws.* Rotterdam: Royal Netherlands Printing and Lithographic Company.

Mauri A. (1967). *Il mercato del credito in Etiopia.* Milano: Giuffrè.

Mauri A. (1997). The Rise of Banking in Ethiopia. *African Review of Money, Finance and Banking*. no. 1-2.

Mauri A. (2003). The Early Development of Banking in Ethiopia. *RISEC – International Review of Economics and Business,* Vol. L, no. 4, December 2003.

Mauri A. (2009). The re-establishment of the monetary and banking system in Ethiopia, 1941-1963. *The South African Journal of Economic History,* Vol. 24, no. 2.

Pankhurst R. (1965). The History of Currency and Banking in Ethiopia and the Horn of Africa from the Middle Ages to 1935. *Ethiopia Observer,* Vol. VIII, no. 4.

Perham M. (1949). *The Government of Ethiopia,* 2nd printing. London: Faber & Faber Ltd.

Rena R. (2007). Historical Development of Money and Banking in Eritrea from the Axumite Kingdom to the Present. *African and Asian Studies,* Vol. 6, n. 1-2

Schaefer C. (1992). The Politics of Banking: the Bank of Abyssinia (1905-1931). *International Journal of African Historical Studies,* Vol. 25, n. 2.

State Bank of Ethiopia, *Report on Economic Conditions and Market Trends,* various years.

Tschoegl A.E. (2001). Maria Theresa's Thaler: a Case of International Money. *Eastern Economic Journal*. Vol. 27, no. 4.

Tuccimei E. (1999). *La Banca d'Italia in Africa. Introduzione all'attività dell'istituto di emissione nelle colonie dall'età crispina alla Seconda Guerra Mondiale.* Vol. VIII. Collana storica della Banca d'Italia, Laterza, Bari.

Vestal T. M. (2002). Consequences of the British occupation of Ethiopia during World War II. in B.J. Ward (ed.). *Rediscovering the British Empire.* Malabar: Krieger.

Zewde B. (1991). *A History of Modern Ethiopia 1855-1974.* Addis Ababa: Addis Ababa University Press.

An Exploration of Partnerships, Coalitions, Sole and Trans-organizational Systems and Community Partnerships Designing

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Abstract: In the current turbulent environment with the inter-networked enterprises, by establishing effective community partnerships the opportunity of adaptive space, flatter and more democratic organizations and communities will be more effective. Organizations must create effective relations among themselves and others. In this time the issues like cooperation and relationships come up. Organizations should investigate themselves, scan and do scrutiny the environment precisely to create a sustainable community. This paper aims at reviewing some important aspects of community partnership design.

Keywords: practitioners; academic observers; the Asset-Based Community Development; community empowerment

JEL Classification: J5, M12, M54

1. Introduction

Today, a majority of practitioners and academic observers seem to agree that specific forms of long-term oriented co-operation between - in formal terms - independent firms and imply important advantages which would neither occur simply on the basis of purely opportunistic behaviour and short-term orientations nor would they arise from structures of central control and organizational integration (Bachmann, 2007).

Undoubtedly, the trend towards the establishment of close - and long-term oriented external relationships is strong and has also been confirmed by many contributions which in recent years discussed the characteristics of the system of interfirm relations (Bachmann, 2007).

The term partnership describes a very wide range of contracts and informal arrangements between firms and communities. The communities involved in partnerships range from local to global in scale. Partnerships are relationships and agreements that are actively entered into, on the expectation of benefit, by two or more parties. Partnerships are formed to address issues of collective implications of individuals at local and regional spatial levels, such as governance, quality of life, economic development, social cohesion, employment, etc. Partnerships are a means to share risk between the two parties, and third parties often playing an important supportive roles (Mayers & Vermeulen, 2002).

2. Characteristics of Effective Community Partnerships

Findings from the study conducted by the Centre for Substance Abuse Prevention (CSAP) have demonstrated that effective community partnerships include the following characteristics:

- A comprehensive vision that encompasses all segments in a community and aspects of community life.
- A widely shared vision that has been agreed on by groups and citizens across the community.
- A strong core of committed partners who have been involved in the partnership from the very beginning.
- An inclusive and broad-based membership that reflects the participation from all segments of the community, including the work place.
- Avoidance or quick resolution of conflict that might create a misunderstanding about a partnership's basic purpose.
- Decentralized units such as local planning councils or neighbourhood teams, which not only encourage action directed at the needs of the small areas within a community, but also enlist residents to take the necessary actions or decisions.
- Reasonable staff turnover that is not disruptive.

- Extensive prevention activities and support for local prevention. (CSAP, 2000).

Partnerships also strengthen democratic practices. The greatest challenge of community's partnerships is to use their own assets and to internalize the need to improve their life styles that can be achieved through individual and community empowerment. The factors that exist in a community are called assets defined by three interrelated characteristics: include the capacities of the members, internally focused and driven by relationships. To empower the community means that it may be able to create wealth and the basis of sustainable development using all the resources and all the vehicles at its disposal.

In community partnerships, power relations are modified among the main actors, NGOs, grassroots organizations, the private sector and local governments, as equal partners in consensus building and decision-making. As an essential element of development, community foundations bring together key stockholders as equal partners with their own unique assets and their know-how of the environment. Communities must become equal partners in the development process through the involvement of all their members in the analysis of existing assets as a starting point for launching an investment initiative, rather than become recipients in need of expertise.

Innovative solutions to challenges facing societies can be found through partnerships between government, firms, communities and civil society. Through partnerships, these economic agents may work together to design and adapt strategies and policies and take initiatives consistent with shared priorities to improve governance of local conditions.

3. Advantages of Partnerships

According to Cinnéide (2003) enhanced governance through partnerships enables society to solve problems more effectively through:

- Integrated holistic approach;
- Co-ordination of policies/actions;
- Participation of civic society in decision making;
- Empathy with local needs/conditions;
- Adaptation of policies/actions to local priorities;
- Custom-tailored area based strategies;

- Leveraging additional resources;
- Synergy from team effort.

Two ways to promote “investing in communities” are to involve the private sector and to focus on wealth creation rather than poverty alleviation. With partnerships the community brings other entities to be catalysts, facilitators and vehicles to mobilize resources. Partnerships are important to the private sector because they help to manage the expectations of the community. The private sector has the mechanism through which it can mobilize resources, assist governments and be a good partner for communities.

4. The Asset-Based Community Development (ABCD) Approach in Community Development

The Asset-Based Community Development (ABCD) approach locates the control of the development process in the hands of communities. Asset based community development is an approach to work at the community level influenced by theory and practice in areas of: community mobilizing (McKnight & Kretzmann, 1993) (Elliott, 1999) (Chambers & Cowan, 2003). Sustainable livelihoods (Bebbington, 2000) (Sen, 1981, 1984, 1999) (de Haan, 2000) (Sen & Klein, 2003), the UNDP sustainable livelihood model (UNCDF, 2001); the DFID model of sustainable livelihoods (Ashley & Carney, 1999) (Carney, 2002) and asset building.

Asset-based community development is a means by which communities recognize the value of the multiple assets that they have: Human, social, natural, physical, financial, technological, etc. The Asset-Based approach aims “to locate all of the available local assets, to begin connecting them with one another in ways that multiply their power and effectiveness, and to begin harnessing those local institutions that are not yet available for local development purposes." (McKnight & Kretzmann,1993). Also ABC may support a community to organize to mobilize these assets, build on and protect their asset base for sustained community development, position them as a sound investment to lever additional assets from multiple investors.

The assets based approach is an approach to citizen participation in low-income communities. Communities possess significant assets that can be mobilized and utilized, besides the need for external resources. These assets and capacities can be broken down into three categories:

- Primary building blocks assets that are located in the community and controlled by its members;
- Secondary building blocks are assets not under community control but which can be brought under its control;
- The third category is potential building blocks. McKnight and Kretzmann (1993).

Communities are not subjects; they are not recipients of aid. They are the architects of their own destinies. ABC locates control in the hands of communities, orients the policy and regulatory environment towards community level asset building for sustainable livelihoods. An ABCD tool uses is a type of analysis where you are looking at what's coming in, what is leaking out and what money is being circulated in the community.

As a methodology, asset based community development grew out of the findings of a study of communities that had spontaneously and dramatically improved their economies and social conditions over a period of several years (McKnight and Kretzmann, 1993), has been influenced by participatory methodological traditions and embraces the concept of asset-building, as well as asset-mobilization, for sustainable community-driven development. ABCD is one methodology to help organizations that work at the community level (either in a geographic sense or with target groups) stimulates an asset-based and community-driven development process.

5. Characteristics of the Asset Based Methodology

Some characteristics of the Asset Based Methodology for working at the community level are:

- Purposeful reconnaissance;
- Building a relationship with community members;
- Motivating community members;
- Identifying assets;
- Not mapping but organizing;
- Linking and mobilizing assets for initial community activity;

- Sustaining social and economic development over the longer term.

Application of ABCD is context specific and depends among other factors on the historic relationship between the intermediary organization and the community, power dynamics within communities, the capacity of formal and informal leadership in the community. Also, cultural factors and the relationship between communities and local and state governments (especially regarding access to assets) are important in the relationship context. A definition of community attempts to establish a common understanding of the complex concept of capacity building (McKnight and Kretzmann's, 1993).

In ABCD, a community explores its assets and organizes itself in order to mobilize those assets. The approach recognizes not only financial and natural assets, but human, physical and most importantly social assets – the latter being formal and informal associations, which become the vehicles for community development.

6. Important Community Assets

McKnight and Kretzmann (1993) have demonstrated that community assets are key building blocks in sustainable urban and rural community revitalization efforts. These community assets include:

- the skills of local residents;
- the power of local associations;
- the resources of public, private and non-profit institutions;
- the physical and economic resources of local places.

McKnight and Kretzmann (1993) found that local economic development is successful when communities are able to identify and mobilize their own assets before drawing on resources from outside and have “citizens” rather than NGOs or government agencies at the centre of the development activity

Partnerships are needed to achieve targets of long-term sustainable development. Partnerships provide a viable option for sustainable economic development and benefits for the stakeholders involved, promote transparency and accountability.

Partnerships are of interest in the search for effective governance mechanisms in an age of opportunities and threats created by globalization. Local partnerships in Mexico contribute to good governance. As a form of governance, partnerships may be weak if the capacity of partners is uneven and share different degree of legitimacy.

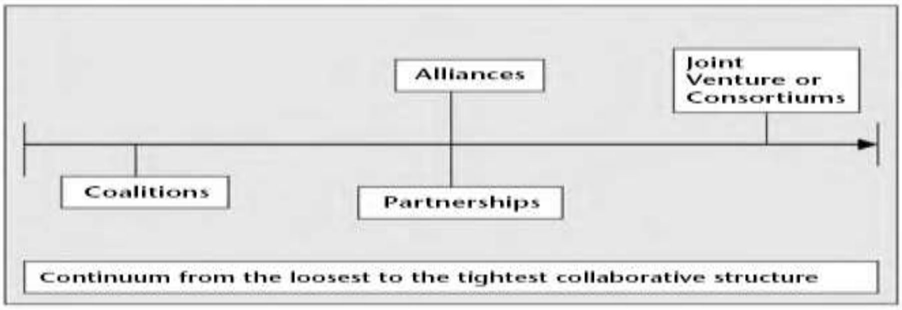
Co-operation and co-ordination fostered by partnerships are the result of the accountability framework reconciled with collective strategic planning. If local communities have weak capacity, participatory democracy and public accountability are challenged. Public sector, firms, communities and civil society as partners differ significantly.

The accountability of partnerships may be undermined when NGOs and the unstructured civil society are represented on a volunteer basis and their interests may not be the ones of the community, giving way to conflicts of interests. Elected officials are accountable to their constituencies and public officials are accountable to government. If large firms and governments are the stronger partners, may help to build the capacity of weak partners. Small and medium enterprises (SMEs) as partners may not be properly represented if there are not mechanisms to enable broad representation.

7. Coalitions, Partnerships, Alliances, Joint Venture or Consortiums

In order to define the types of organizations that can legitimately be labeled TSs, we might place multiparty organizations along a continuum that ranges from the loosest form of collaboration to the tightest. At the looser end of the spectrum are coalitions. They usually have the least structure, often relying only on terms of reference and a decision-making process, and are apt to be used for advocacy purposes. In that case, they forgo a vision development process in favor of a process for reaching agreement on objectives on an advocacy strategy. Coalition is a term favored by health promoters for a TS aimed at achieving common goals (Roberts, 2004, p.26).

Table 1. Continuum from the loosest to tightest collaborative structure



Source: (Roberts, 2004, p. 26)

In the following matrix that is based on Himmelman's matrix of strategies, illustrates the range of activities, resources, and characteristics for organizations and community relationships.

Table 2. Matrix of Strategies for Working Together

Type of relationship	Definition	Relationship	Characteristics	Resources
• Networking	• Exchanging information for mutual benefit	• Informal	• Minimal time commitments; Limited levels of trust; No necessity to share turf; Information exchange is the primary focus	• No mutual sharing of resources necessary
• Coordinating	• Exchanging information for mutual benefit; Altering activities to achieve a common purpose	• Formal	• Moderate time commitments; Moderate levels of trust; No necessity to share turf; Making access to services or resources more user friendly is the primary focus	• No or minimal mutual sharing of resources necessary
• Cooperating	• Exchanging information for mutual benefit; Altering activities and sharing resources to achieve a common purpose	• Formal	• Substantial time commitments; High levels of trust; Significant access to each other's turf; Sharing of resources to achieve a common purpose is the primary focus	• Moderate to extensive mutual sharing of resources and some sharing of risks, responsibilities, and rewards
• Collaborating	• Exchanging information for mutual benefit; Altering activities, sharing resources; and enhancing the capacity of another to achieve a common purpose	• Formal	• Extensive time commitments; Very high levels of trust; Extensive areas of common turf; Enhancing each other's capacity to achieve a common purpose is the primary focus	• Full sharing of resources and full sharing of risks, responsibilities, and rewards

Source: (Roberts, 2004, p. 28)

8. Sole organization vs. Trans-organizational systems (TSs)

If a sole organization joins with other organizations to create a trans-organizational system, more of the environment comes under the influence of the new TS. The turbulence caused by complex problems in the environment can be addressed by the consolidated resources and knowledge base of the new TS. The span of the TS covers considerably more than the single organization (Robert, 2004, p. 18)

Trans-organizational systems (TSs) are organizations too. They must meet the criteria specified above for organizations, including having a system principle and transforming knowledge by adding value. As organizations of organizations, they are functional social systems existing in the space between single organizations and societal systems such as government. They are able to make decisions and perform tasks on behalf of their member organizations, while the member organizations maintain their separate identities and goals (Robert, 2004, p.25).

Trans-organizational knowledge sharing with customers and business partners results in the mutual benefits of better customer service, more efficient delivery times, and more collaboration (Alrawi, 2007). This dynamic makes knowledge a commodity that can be exchanged for revenue or more knowledge (Alrawi, 2007). These concepts are characteristic of the trusted advisor relationship, in which the client organization relies upon the consulting organization for guidance, recommendations, and insight in addition to facts, figures, and designs. The trusted advisor relationship is an important element of *trans*-organizational collaboration, being both a requisite element for the process to occur, as well as a by-product of successful trans-organizational collaboration (Kleinfelder, 2008).

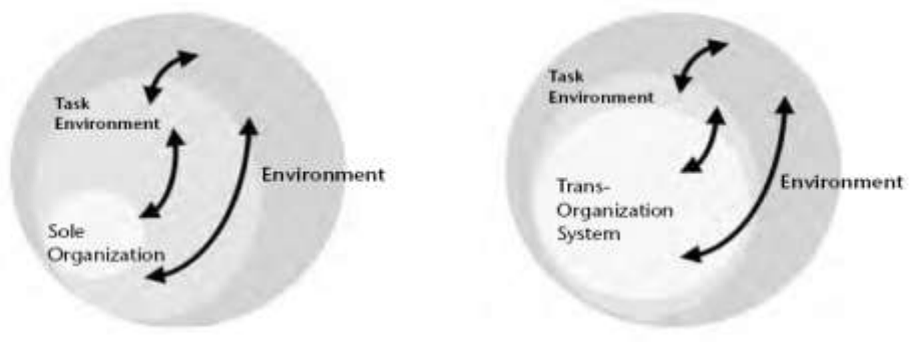


Figure 1. Sole and Trans- Organization Systems and Communities

Sole organization in its Environment Trans - organization system in its Environment

9. Trans-organizational Development for Community Development

In the organizational and management literature of the past 15 years or so, many successful inter-firm relationships are described as being based on a hybrid form of co-operation where business partners are 'neither friends nor strangers' (Lorenz 1988) and where the structure and quality of relations are constituted somewhere 'between market and hierarchy'. 'Strategic alliances' and 'organizational networks' are increasingly seen as a very promising form of trans-organizational relationships (Bachmann, 2007).

Trans-organizational Development (TD) is a purposive, planned change strategy concerned with creating and improving the effectiveness of inter-organizational coalitions. Unlike bounded, over organized systems found within most organizations, coalitions frequently exhibit indefinite boundaries and under organization (Sink, 1991).

As such, they may demand more than the traditional organization development (OD) strategies to effect change. A TD checklist was developed to guide change agents in dealing with coalitions. Developing or increasing shared norms and values, and establishing predictable, regular structures, roles, and technologies are primary tasks of the policy entrepreneur/TD change agent (Sink, 1991).

10. Trust, Power and Control in Trans-Organizational Relations

Large parts of the existing literature on trust building on wider political and philosophical aspirations are inspired by a harmonic vision and the deep desire to see benevolence and altruism prevail in social relationships between economic actors.

Against the background of this observation, the issue of trust has moved centre-stage in many contributions to the analysis of trans-organizational economic activities. Under current macro-economic developments, trust is seen as becoming the central mechanism to allow for an efficient solution of the problem of co-coordinating expectations and interactions between economic actors. While hierarchical relations are mainly controlled by bureaucratic procedures and top-down mechanisms of co-coordinating interactions, market relationships between anonymous buyers and sellers are based on the idea that economic actors simply use their individual resources and market power to follow their idiosyncratic interests, irrespective of what damage they might impose upon others (Bachmann, 2007).

The possible problems connected to hybrid relations, such as the increased vulnerability of individual organizations or possible mutual blockages between them, particularly when fast decisions are needed; obviously rate low compared to the possible advantages, and are often altogether ignored in the literature (Bachmann, 2007).

Trans Organizational Competencies

The following are some characteristics of Trans Organizational Competencies

Organizational Capacity and Dynamics:

1. Creates and employs assessment models to assess organizational environment, needs, assets, resources and opportunities with respect to mission and policy development and assurance functions;
2. Identifies and communicates new system structures as need is identified and opportunity arises;
3. Develops system structures utilizing knowledge of organizational learning, development, behaviour and culture (NPHLDN, 2005).

Trans- Organizational Capacity and Collaboration

According National Publication Health Leadership Development Network about Trans- Organizational Capacity, (NPHLDN, 2005):

1. Identifies and includes key players, power brokers and stakeholders in collaborative ventures;
2. Develops, implements and evaluates collaborative and partnering strategies, including task force, coalition, and consortium development;

3. Facilitates networking and participation of all stakeholders including broad and diverse representation of private/public and traditional/non-traditional community organizations;
4. Facilitates identification of shared or complementary mission and creation of common vision;
5. Creates trans-organizational systems utilizing a common values based approach with ethical standards;
6. Develops and evaluates collaborative strategic action plans;
7. Facilitates change through a balance of critical tensions within collaborative systems.

11. Community and Community Partnership

Nowadays there are new communities for example online communities, online communities are network-based resources where people with common interests can go online to communicate (using list servers, bulletin boards, etc.) and share resources also Online communities exist on the Web for people with shared interests, for instance: Communities exist for sports, hobbies, parent groups and support groups (Lazar, 2002).

The mission of Community Partnerships is to create opportunities for all to pursue their dreams and engage fully them in community (CPI's Mission, 2009). Also according Jim & Patty Sherman:

"*We firmly believe that our son's transformation would not have been possible without the support we received from Community Partnerships.*

They have helped bring the joy of parenthood back into our lives and helped write a happy ending to the first chapter of his life."

So it should be provided direct services to organizations and adults with developmental disabilities to develop them well (CPI's Mission, 2009).

This is adopted as a move towards understanding of Community Partnership (Community Development Foundation, 1970).

A Good Community Partnership:

- Is crucially concerned with the issues of powerlessness and disadvantage: as such it should involve all members of society, and offers a practice that is part of a process of social change;
- Is about the active involvement of people in the issues which affect their lives. It is a process based on the sharing of power, skills, knowledge and experience;
- Takes place both in neighbourhoods and within communities of interest, as people identify what is relevant to them;
- Is collective process, but the experience of the process enhances the integrity, skills, knowledge and experience, as well as equality of power, for each individual who is involved;
- Seeks to enable individuals and communities to grow and change according to their own needs and priorities, and at their own pace, provided this does not oppress other groups and communities, or damage the environment;
- Where takes place, there are certain principles central to it. The first priority of the Community design process is the empowering and enabling of those who are traditionally deprived of power and control over their common affairs. It claims as important the ability of people to act together to influence the social, economic, political and environmental issues which affect them. Community Design aims to encourage sharing, and to create structures which give genuine participation and involvement;
- Is about developing the power, skills, knowledge and experience of people as individuals and in groups, thus enabling them to undertake initiatives of their own to combat social, economic, political and environmental problems, and enabling them to fully participate in a truly democratic process;
- Must take the a lead in confronting the attitudes of individuals and the practices of institutions and society as a whole which discriminates unfairly against black people, women, people with disabilities and different abilities, religious groups, elderly people, lesbians and gay men, and other groups who are disadvantaged by society. It also must take a lead in

countering the destruction of the natural environment on which we all depend. Community Development is well placed to involve people equally on these issues which affect all of us;

- Should seek to develop structures which enable the active involvement of people from disadvantaged groups, and in particular people from Black and Minority Ethnic groups (Community Development Foundation, 1970).

So in designing an effective partnership, designers should not them to implement them in their projects for a good community design.

12. The Design of Successful Community Partnerships

Collaboration is a process of participation through which people, groups and organizations work together to achieve desired results. Community collaboration has the goal to bring individuals and members of communities, agencies and organizations together in an atmosphere of support to systematically solve existing and emerging problems that could not be solved by one group alone (Schlechty in DeBevoise, 1986, p. 12). Collaborative community efforts are constructive responses to creating caring communities and expanding the safety net for children, youth and families (National Commission on Children, 1991) (Dryfoos, 1990) (Meszaros, 1993).

The word “collaboration” refers different types of relationship. Himmelman (1994) has identified stages toward collaboration continuum: Networking, coordinating, cooperating, and collaborating, both within organizations and among organizations, in a community session or an interagency group.

Table 3. The Collaboration Continuum

The Developmental Process of Effectively Working Together

Stages	Behaviour	Example
Networking Stage	Exchanging information for mutual benefit.	Community agencies serving the refugee population meet quarterly to provide the most recent information on anticipated arrivals, share upcoming dates of mutual interest, and introduce new staff members.

Coordinating Stage	Exchanging information and altering activities for mutual benefit and to achieve a common purpose.	At one of the quarterly meetings, the county health department public health nurse hears about a "Welcome to the Community" dinner being hosted by a parish whose members are actively involved in sponsoring new immigrants. The health department has been concerned about the low participation rate among refugees who are eligible for well baby visits. The public health nurse asks the outreach worker organizing the event if it could also serve as the health department's first contact with families. As a consequence, a number of refugees sign up for appointments at times their sponsors are also available, resulting in not only a higher rate of appointments but also kept appointments.
Cooperating Stage	Exchanging information, altering activities, and sharing resources for mutual benefit and to achieve a common purpose.	At the next quarterly meeting, the public health nurse reports on the higher use immigrants have made of the well baby clinics. This sparks a lively discussion about what else might be done to improve services to immigrants. At the meeting is a staff person from a private non-profit agency that has recently received a donation of computers for its computer literacy program. The staff person offers to locate some of those computers in the parish's education centre, and is able to provide a staff person. The parish outreach worker also agrees to find qualified volunteers from the congregation who would be willing to spend a few hours each week staffing the "computer centre." In this way the computer centre can be open for

		more hours in order to help new refugees gain computer skills that they can use for Job searches and forgetting news from home
Collaborating Stage	Exchanging information, altering activities, sharing resources, and enhancing the capacity of another for mutual benefit and to achieve a common purpose.	Over the succeeding months, these initial arrangements to co-locate services are successful. However, immigrants often pose questions to the computer centre staff (professional and volunteer) that they don't feel equipped to answer. The community agencies first decide to develop a training program for the computer centre staff, but quickly realize that people from all the agencies serving the refugee population could benefit. A team of people representing the health department, the local school district's ESL program, and the two sectarian non-profit agencies with primary responsibility for serving refugee families develops a topical "Helpful FAQs" training program. Topics are advertised through the network and offered on the first Monday of each month to anyone working with immigrants.

Source: Based on Himmelman, Arthur T. (1994)

In linking and mobilizing assets, the Asset wheel model has been developed to show potential linkages among different assets, to identify initial activities and micro planning with interested community members.

To sustain the process requires demonstrating success as leverage for further investment, mobilizing additional resources through partnerships with outside agencies and strengthening association capacity, either through association of associations or Community Foundations.

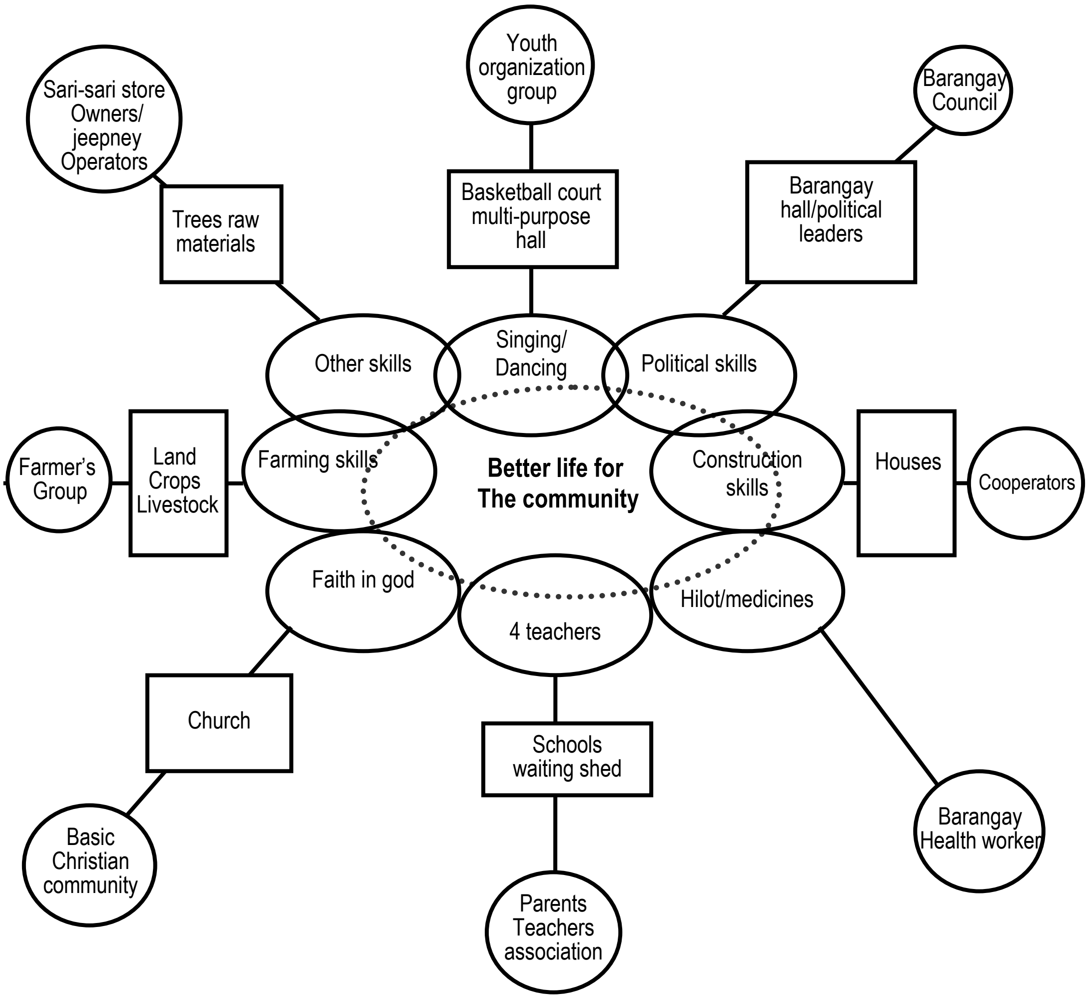


Figure 2. Partnership governance may be shaped empowering community partners to extend decision making and benefit sharing to all members of local society

Source: Brown & Reed (2001)

MSU Outreach Partnerships (Brown & Reed, 2001) consider the creation and implementation of an evaluation design, based on asset-derived outcomes, to be an integral component in the creation, and self-informational process, of social change. Based on Wilber's (1995) theory of development, and the works of United Way of America (1996) and Andrews, Reed, Brown, et al, a chart has been developed as a tool in using outcome evaluation design under different aspects of development.

Community linkage is a group of individuals or agencies working together to achieve common goals. The types of group linkages can be networks, coalitions, alliance or cooperation, coordination or partnerships and collaborations.

Table 4. Community linkages

Community Linkages - Choices and Decisions

Levels	Purpose	Structure	Process
Networking	* Dialog and common understanding * Clearinghouse for information * Create base of support	* Loose/flexible link * Roles loosely defined * Community action is primary link among members	* Low key leadership * Minimal decision making * Little conflict * Informal communication
Cooperation or Alliance	* Match needs and provide coordination * Limit duplication of services * Ensure tasks are done	* Central body of people as communication hub * Semi-formal links * Roles somewhat defined * Links are advisory * Group leverages/raises money	* Facilitative leaders * Complex decision making * Some conflict * Formal communications within the central group
Coordination or Partnership	* Share resources to address common issues * Merge resource base to create something new	* Central body of people consists of decision makers * Roles defined * Links formalized * Group develops new resources and joint budget	* Autonomous leadership but focus in on issue * Group decision making in central and subgroups * Communication is frequent and clear
Coalition	* Share ideas and be willing to pull resources from existing systems * Develop	* All members involved in decision making * Roles and time defined * Links formal with written agreement	* Shared leadership * Decision making formal with all members * Communication is

	commitment for a minimum of three years	* Group develops new resources and joint budget	common and prioritized
Collaboration	* Accomplish shared visions and impact benchmarks * Build interdependent system to address issues and opportunities	* Consensus used in shared decision making * Roles, time and evaluation formalized * Links are formal and written in work assignments	* Leadership high, trust level high, productivity high * Ideas and decisions equally shared * Highly developed communication

Source: Community Based Collaborations- Wellness Multiplied 1994, Teresa Hogue, Oregon Center for Community Leadership.

Collaborations have common elements; grounding, core foundation, outcomes, process and contextual factors.

Collaboration framework

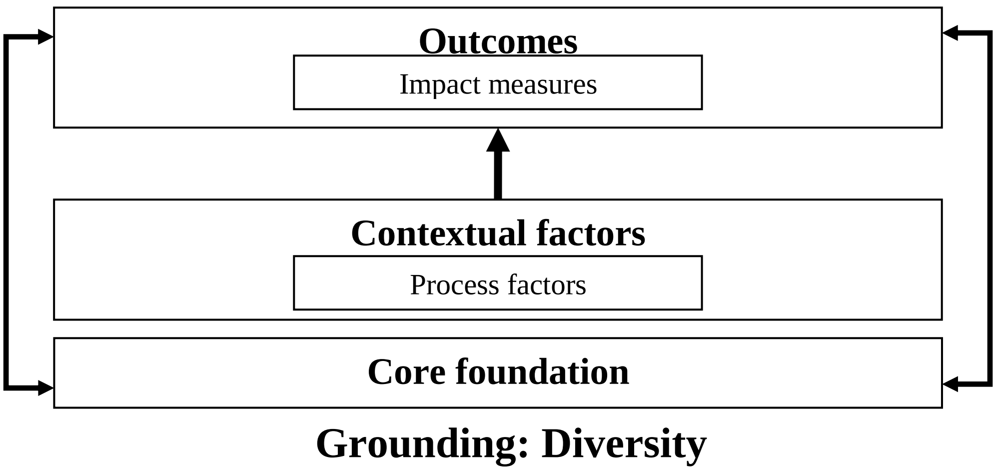
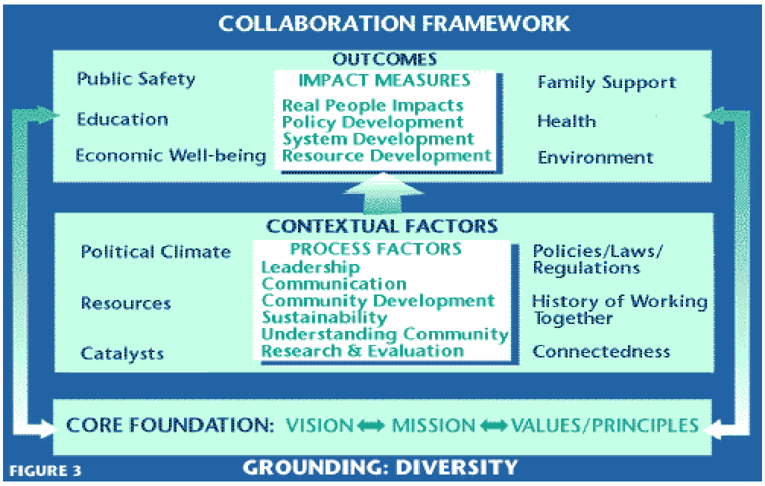


Figure 3. Collaboration framework

Source: National Network for Collaboration (2004).

The elements of collaboration are grounded in valuing and respecting diversity. The core foundation is the common ground of understanding and common purpose. The outcomes are the desired "conditions" for the community and the contextual and process factors are environmental conditions that can enhance or inhibit collaborations.



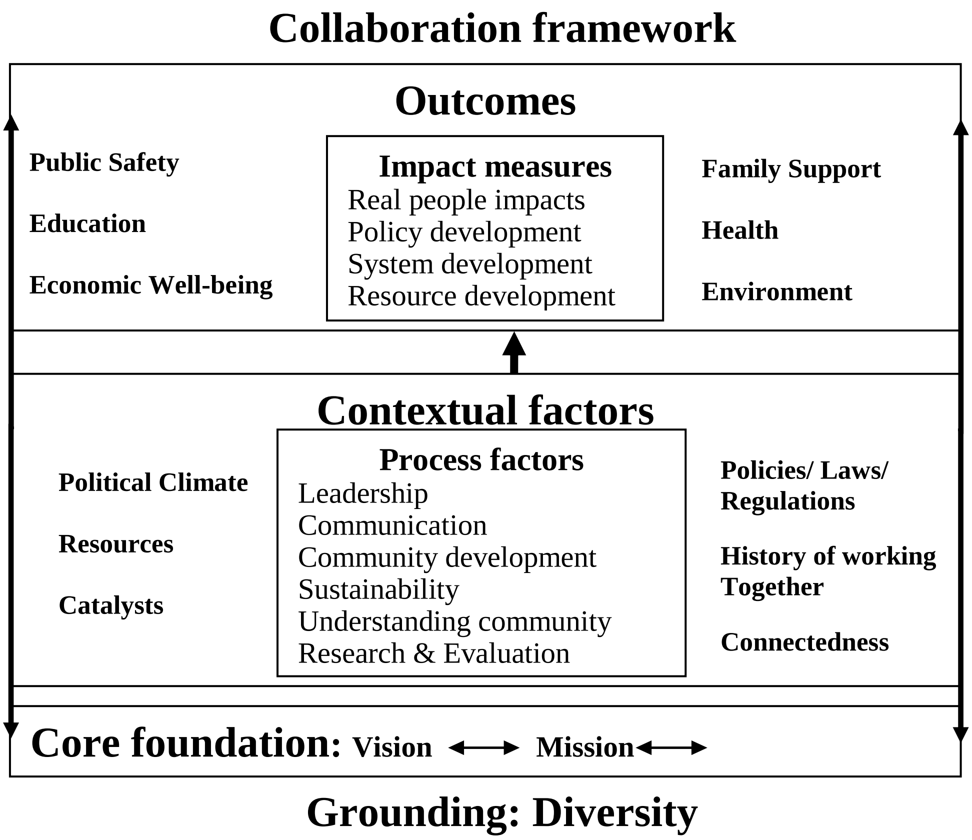


Figure 4. Collaboration framework

Source: National Network for Collaboration (2004)

Table 5. Phases of Operationalizing the Outcome Evaluation within Organizations

Wilber's Aspects of Development				
Sequential Phases	**Individual Intention**	**Individual Behaviour**	**Collective Culture**	**Collective Structure**
Pre-Belief Phase	• No individual belief on the importance of outcome evaluation • Lack of evaluation skills	• Haven't started: Lack of evaluation practice or behoove	• No mutual understanding of outcome evaluation • No mutual agreement on its importance	• Lack of evaluation structures and tools
Getting Ready Phase	• Understand key terms • Personal commitment • Time commitment	• Get ready: Assemble & orient outcome work team	• Mutually understand & agree upon expectations & plans • Peer, Management, Organizational commitment • Resource/Time commitment	• Adopt timelines
Choosing Outcomes Phase	• Understand relationship between activities & initial, intermediate, long-term outcomes	• Choose outcomes: Construct logic models	• Mutually agree on outcomes to measure	• Adopt logic models
Choosing Indicators Phase	• Understand what constitutes an indicator	• Choose indicators: Specify one or more indicators for each outcome	• Mutually agree upon indicators specified	• Evaluation Plan • Document
Preparing for Data Collection	• Understand data sources • Understand	• Prepare to collect data: - Identify data	• Mutually agree on data sources, collection	• Evaluation Plan • Data

Phase	data collection methods & instruments	source for Chosen indicators - Design data collection methods & tools	methods, tools	collection tools • Data collection procedures • Data Storage
Trial Run Phase	• Understand the importance of a trial run	• Try out measurement system: Conduct a trial run	• Mutual agreement on resource allocation for a trial run	• Evaluation Plan • Data collection tools • Data collection procedures • Data Storage – Statistics program
Analyzing and Reporting Phase	• Understand data analysis strategies and techniques • Understand reporting methods and formats	• Analyzing & reporting: - Analyze data - Report findings	• Mutual agreement on type of data analysis, report items, and formats • Mutual agreement on resource allocation to do analysis and publish report	• Data Storage – Statistics program • Report software
Continuous Improvement Phase	• Believe that continuous improvement is important • Understand results of the trial run	• Improve measurement system: Enact improvement strategies • Continue outcome evaluation efforts	• Mutually agree on what the trial run tells us and subsequent improvement strategies. • Mutual agreement on resource allocation for continued	• Continuous improvement documents and structures. • Evaluation Plan • Data collection tools • Data collection

			outcome evaluation.	procedures • Data Storage – Statistics program
Use Findings Phase	• Understand relationship between findings and program interventions	• Use findings: Determine and enact intervention improvement findings	• Mutually agree on what the findings tell us and what subsequent intervention improvement strategies should be	• Program management structure • Program intervention structure

Source: Brown & Reed (2001). Phases of operationalizing outcome evaluation within organizations, Michigan State University Outreach Partnerships

13. Characteristics of Autonomous Model of Partnership for Participatory Planning

An autonomous model of partnership for participatory planning processes to improve local governance in Mexico is required, according to Cinnéide (2003), with the following characteristics:

• Genuine and Sustained Involvement on Equal Basis;

• Inclusive of Public, Private and Community Interests;

• Representative Legitimacy of Partners;

• Partners need to be empowered to Exert Equal Influence;

• Clearly Defined Role.

Governments may promote partnerships by appropriate legislation, fiscal incentives and corporate laws aimed to achieving supportive institutions and policies.

Cinnéide (2003) suggests that a new local governance framework should be:

- Supportive Policy framework (providing steering, technical support, flexible funding);

- Education/Training Programs (to enable local actors to strategically plan and manage local development);
- Development of Community Capacity (aimed at mobilizing and empowering local inhabitants);
- Endogenous Development (local territorial approach, stress on local participation and local control, partnership-led cooperative actions).

14. Conclusions

The importance of Community design and innovative organizational structures within the knowledge-based modern economy is becoming increasingly important and has received greater attention in the literature recently (Kleinfelder, 2008).

Before trans-organizational collaboration can be effective, the potential collaborating organizations must have some mastery of internal knowledge management practices and functioning communities of practice (Kleinfelder, 2008).

Community development is the process of mobilizing communities to address important issues and build upon the strengths of the community.

Development agencies may give funding support to firm-community partnerships focusing on local organizations that can deliver benefits to members of the local community.

Proactive planning to pre-empt the company in design and organization of key aspects of partnerships is a success factor for improvement of partnerships over time. Longevity is not always a good indicator of a successful partnership. The Boise Cascade joint venture in Mexico ended as a partnership in a shambles of losses, recrimination and violence. A "loose-tight" flexible model of management may be a partnership principle and a practical solution. To maximize partners' benefits, the partnership may manage risks (Mayers and Vermeulen, 2002).

Also in designing community partnerships communities first should note for community development process. Community development is a structured intervention that gives communities greater control over the conditions that affect their lives. This does not solve all the problems faced by a local community, but it does build up confidence to tackle such problems as effectively as any local action can. Community development works at the level of local groups and organizations rather than with individuals or families. The range of local groups and organizations representing communities at local level constitutes the community sector. Also Community development is a skilled process and part of its approach is the belief that communities cannot be helped unless they themselves agree to this process. Community development has to look both ways: not only at how the community is working at the grass roots, but also at how responsive key institutions are to the needs of local communities".

15. References

Al-Hawari, M. (2007). The Importance of the Four Knowledge Management Styles to Industry: Using the HSD Post Hoc Test. *Journal of Knowledge Management Practice*, Vol 8, no. 3.

Ashley, C. & Carney, D. (1999). *Sustainable Livelihoods: Lessons from Early Experience*. London: DFID.

Bebbington, A. (2000). Reencountering Development: Livelihood Transitions and Place Transformations in the Andes. *Annals of the Association of American Geographers* 90 (3), pp. 495-520.

Brown & Reed (2001) *Phases of operationalizing outcome evaluation within organizations*. Michigan State University Outreach Partnerships.

Carney, D. (2002). *Sustainable Livelihoods Approaches: Progress and Possibilities for Change.* London: DFID.

Cinnéide, Micheál Ó. (2003). *Partnership and Participatory Planning Processes: Toward a New Local Governance Framework in Mexico*. OECD Conference on Partnerships and Community Capacity Building Cuernavaca, 26 June, 2003.

Chambers, Edward T. & Cowan, Michael A. (2003). *Roots for Radicals: Organizing for Power, Action, and Justice*. New York: Continuum.

Community Based Collaborations - Wellness Multiplied 1994. Teresa Hogue, Oregon Centre for Community Leadership.

Community Development Foundation, 1970, Community Development as a Process. Edited by Lee J Cary, University of Missouri Press, Columbia USA. 1970. Available at: http://maaori.com/develop/commwhat.html

CPI's Mission, Community Partnership Inc Mission, 2009 available online at: http://www.compart.org/index.html

CSAP (2000). Community Partnerships Work In Preventing Substance Use. *Prevention Alert.* Volume 3. No. 14. Mayo 8. 2000.

De Haan, L. (2000). Globalization, Localization, and Sustainable Livelihood. *Sociologia Ruralis* 40 (3), pp. 339-364.

Dryfoos, J. G. (1990). *Adolescents at risk: Prevalence and Prevention*. New York: Oxford University Press.

Elliot, Charles (1999). *Locating the energy for change: an introduction to appreciative inquiry*. Winnipeg: International Institute for Sustainable Development (WIISD).

Himmelman, Arthur T. (1994). Communities Working Collaboratively for a Change. in *Resolving Conflict Strategies for Local Government Margaret Herrman*. Ed. Washington, D. C.: International City/County Management Association, pp. 27 -47.

Kleinfelder, Jeffrey & Hale R. (2008). *Trans-Organizational Collaboration Models for Technical Solutions and Best Practice Development*. Journal of Knowledge Management Practice, Vol. 9, No. 3, September 2008.

Lazar, Jonathan (2002). *Managing IT/Community Partnerships in the 21st Century*. ISBN 1-930708-33-5.

Mayers, James &Vermeulen, Sonja (2002). *Company community forestry partnerships: from raw deals to mutual benefits*. London: International Institute for Environment and Development (IIED).

McKnight, J. (1995). *The careless society: Community and its counterfeits*. New York: Basic Books.

McKnight, J. & Kretzmann, J. (1993). *Building Communities from the Inside Out, Center for Urban Affairs and Policy Research*. Evanston: North-western University.

Meszaros, P. S. (1993). *The 21st Century Imperative: A Collaborative Ecological Investment in Youth*. Journal of Home Economics, Fall, p. 11-21.

National Commission on Children. (1991). *Beyond Rhetoric: A New American Agenda for Children and Families*. Washington, DC: Author.

National Network for Collaboration (2004).

National Publication Health Leadership Development Network (2005), available online at: www.heartlandcenters.slu.edu/nln/about/framework.pdf.

Roberts, Joan M. (2004). *Alliances, Coalitions and Partnerships*. Building Collaborative Organizations.

Sen, A. (1984). Rights and Capabilities, in Sen, A. *Resources, Values and Development*. Oxford: Basil Blackwell, pp. 307-324.

Sen A.K. (1981). *Poverty and families. An essay on entitlement and deprivation*. Oxford: Oxford University Press.

Sen, Rinku and Klein Kim (2003). *Stir it up: Lessons in community organizing and advocacy*. John Wiley & Sons, Inc.

Sen, A. K. (1999). *Development as freedom*. New York: Oxford University Press.

Schlechty in DeBevoise, (1986),

Sink, David W. (1991). Trans-organizational Development in Urban Policy Coalitions. *Human Relations*. Vol. 44, no. 11, pp. 1179-1195. DOI: 10.1177/001872679104401103

United Way of America. (1996). *Measuring program outcomes: A practical approach*. Washington, D.C.: Author.

UNCDF (2001). *Microfinance & Sustainable Livelihood* (Feasibility Study Mission Report) UNDP/UNCD United Nations Capital Development Fund.

Wilber, K. (2000). *Sex, ecology, spirituality – The spirit of evolution*. Boston & London: Shambhala.

An Exploration of Critical Thinking Necessities, Barriers and CAT MAGIC Notion

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Abstract: In the recent years Critical Thinking has become blurry and complicated and it is entered in almost all areas and for decades, it has been conducted a substantial body of research on critical thinking. But there are very little researches in the area of critical thinking and management of organizations sphere. This paper aims at reviewing the critical thinking and the necessities and barriers of implementing critical thinking in the organizations as well.

Keywords: Critical Thinking; Necessity; Barriers; CAT MAGIC

JEL Classification: D70, D81, G11

1. Introduction

Making decisions in such a chaotic atmosphere of time pressure, uncertainty, and conflicting expert opinions creates challenges for any CEO. Making appropriate and logical decisions in crisis situations is even more demanding. Critical Thinking focuses on reframing and rethinking issues so that the right problems would be addressed; it also focuses on distinguishing systematic patterns from random events and identifying acceptable risks in alternative decisions so that the right decision helps the firm or company to survive in this era of uncertainty. In the process of critical thinking, issues like Decision Making: from Decision to action, best and appropriate decision model, decision framing, intelligence gathering, managing the stakeholders, organizational culture and decision making, ethical considerations, peripheral vision, managing uncertainty using scenario planning, bridging the division between decision making and execution are included (Executive Education, 2008).

This paper first analyses critical thinking a brief history, some definitions from different researchers to help the reader distinguish different perspectives regarding critical thinking then necessity of being critical thinker and why critical thinking is important in organizations and then critical thinking barriers at work, CAT MAGIC acronym also some critical thinking assessment tests and at the end some practical proposes.

2. Critical Thinking

Critical thinking theoreticians agree that the intellectual roots for critical thinking primarily began with Socrates' form of questioning (Lipman, 1995) (Thayer-Bacon 2000).

As Paul (1987) argues that there is a problem with the entire notion of attempting to produce one-line definitions of complex concepts such as critical thinking. Such "definitions" are, for Paul, inevitably incomplete and limiting.

2.1. Some Critical Thinking Definitions:

There are varieties of definitions regarding critical thinking among researchers and public, but the following are according to Cosgrove (2009, pp. 19-20):

(1) An attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experiences.

(2) "Knowledge of the methods of logical inquiry and reasoning, and some skill in applying those methods." (Glaser, 1941, pp. 5-6)

(3) "Reasonable and reflective thinking about what to believe or do" (Ennis, 1989)

(4) "The ability to participate in critical and open evaluation of rules and principles in any area of life" (Scheffler, 1973, p. 62)

(5) Dr. Elder said, Critical thinking involves the ability to:

- Raise vital questions and problems;
- Gather and assess relevant information;
- Use abstract ideas to interpret information effectively;

- Come to well-reasoned conclusions and solutions, testing them against relevant criteria or standards;
- Think open-mindedly within alternative systems of thought, recognizing and assessing their assumptions, implications, and practical consequences (Doughty, 2006, p. 2).

(6) “Thinking that devotes itself to the improvement of thinking” (Lipman 1984, p. 51)

(7) “Skillful, responsible thinking that is conducive to good judgment because it is sensitive to context, relies on criteria, and is self-correcting.” (Lipman, 1995, p. 116)

All definitions are true and the appropriate one is the one which is most compatible with reader and researchers' goal so it can be selected the one which is more compatible with our research question.

3. Characteristics of Critical Thinking

“A critical thinker is…one who is *appropriately moved by reasons*…critical thinking is impartial, consistent, and non-arbitrary, and the critical thinker both acts and thinks in accordance with, and values, consistency, fairness, and impartiality of judgment and action” (Siegel, 1990, pp. 23; 34). Some characteristics of critical thinking are:

1. It is purposeful;
2. It is responsive to and guided by intellectual standards (relevance, accuracy, precision, clarity, depth, and breadth);
3. It supports the development of intellectual traits in the thinker of humility, integrity, perseverance, empathy, and self-discipline;
4. The thinker can identify the elements of thought present in thinking about any problem, such that the thinker makes the logical connection between the elements and the problem at hand;
5. It is self-assessing and self-improving. The thinker takes steps to assess his/ her thinking, using appropriate intellectual standards. If you are not assessing your thinking, you are not thinking critically;

6. There is integrity to the whole system. The thinker is able to critically examine his/her thought as a whole and to take it apart (consider its parts as well). The thinker is committed to be intellectually humble, persevering, courageous, fair, and just. The critical thinker is aware of the variety of ways in which thinking can become distorted, misleading, prejudiced, superficial, unfair, or otherwise defective;

7. It yields a well-reasoned answer. If we know how to check our thinking and are committed to doing so, and we get extensive practice, then we can depend on the results of our thinking being productive;

8. It is responsive to the social and moral imperative to enthusiastically argue from opposing points of view and to seek and identify weakness and limitations in one's own position. Critical thinkers are aware that there are many legitimate points of view, each of which (when deeply thought through), may yield some level of insight.

4. Necessity of Being Critical Thinker, Why Critical Thinking is Important in Organizations

This part starts with a question that mainly has its answer for most people, that is "not very often". The question is "how often do you think about how you think?" Every day we each make decisions, generate ideas, draw conclusions and evaluate other people's opinions and so on. These are things that often need careful thought.

The necessities of being critical thinker have been studied a lot and among different researchers we present the following:

1. Being critical thinker is better than the passive acceptance of beliefs;
2. Appreciate the relevance of the claim "The unexamined life is not worth living" to critical thinking (Vaughn, 2005);
3. Understand why the following claims are dubious: "Critical thinking makes people too critical or cynical," "Critical thinking makes people cold and unemotional," and "Critical thinking is the enemy of creativity.";
4. The pervasive use of critical thinking in all human endeavors (Vaughn, 2005).
5. Keeping close look on assets like client, staff, organization;
6. Describing and identifying manners and behaviour that is unrelated to our proposed context in the organization;
7. Classifying clients better to better servicing them;

8. Causing Continuing intervention too short;
9. Focusing on relevant and proper factors;
10. Selecting efficient and effective intervention methods;
11. Increasing client satisfaction (Gambrill & Gibbs, 2009).

5. Some Features of Critical Thinkers

According to Paul (1993), the critical thinker will routinely ask the following questions:

- What is the purpose of my thinking (goal/objective)?
- What precise question (problem) am I trying to answer?
- Within what point of view (perspective) am I thinking?
- What concepts or ideas are central to my thinking?
- What am I taking for granted, what assumptions am I making?
- What information am I using (data, facts, observation)?
- How am I interpreting that information?
- What conclusions am I coming to?
- If I accept the conclusions, what are the implications? What would the consequence be if I put my thoughts into action?

For each element, the thinker must consider standards that shed light on the effectiveness of his/her thinking (Paul, 1993, pp 20-23) (Gambrill & Gibbs, 2009).

6. Critical Thinking Barriers at Work, CAT MAGIC Acronym

There are a lot of barriers regarding implementing critical thinking and researchers and management specialists have identified more than 100 different barriers that prevent effective critical thinking. According to Pinder (2007) there are eight roadblocks that all executives should keep in their mind. To help remember these eight, here is an acronym for them – CAT MAGIC.

1. **C**onfirmation bias – bending evidence to fit one’s beliefs. How many times do executives look for information that supports their point of view as opposed to seeking evidence that is individually or group “neutral?” The best way to fight this natural temptation of confirmation bias is to actively seek information that disproves beliefs.

2. **A**ttribution (or self-serving) bias – the belief that good things happen to us because of internal factors and bad things happen to us because of external factors, while the reverse is true with others. This bias causes us to pigeonhole the actions of others, especially bad behaviour, as strictly the fault of the individual and not circumstances.

3. **T**rusting testimonial evidence – the fallacy of believing information from someone else, even if there is no evidence to support their statements. Studies have consistently shown individuals are more likely to buy something on the recommendation of others than the strength of advertising or some other marketing effort, yet how many of those same people actually know the veracity of those recommendations?

4. **M**emory lapses – while this barrier seems on the surface to be fairly self-explanatory (everybody has gaps in memory), its danger lies in the common human trait of filling in the memory gaps with information that may or may not be true. In other words, we make things up as we go along, which often prevents us from arriving at more fact-based decisions.

5. **A**ccepting authority without question – a behaviour documented by the famous experiments of researcher Stanley Milgram in which many people were willing to administer increasingly more powerful shocks to other people on the orders of an authority figure, even though they weren't sure it was the right thing to do. This critical thinking failure continues to manifest itself today in the blind acceptance to people with questionable degrees or expertise.

6. **G**eneralizing from too few observations – a common practice in consumer marketing where a small group of people in a focus group determine the direction of multi-million dollar ad campaigns, even though the opinions of those people cannot be projected onto a larger population. The same occurrence happens when a small group of executives or board members discuss an issue. We must constantly resist the temptation to take these informational shortcuts. For example, one way to counter the built-in bias of small groups is to seek out the unvarnished input from employees lower on the organizational chart (Pinder, 2007).

7. **I**gnorance and the failure to admit it – a trait that leads to fabricated information and wild speculation. Nobody wants to look foolish, so instead of admitting his or her lack of knowledge a person may fake it and then explain the fakery in a way that makes it seem true. Beware of those who are quick with answers or slow to admit they don't know something.

8. **C**oincidence (or the Law of Truly Large Numbers) – the mistaken belief that pieces of information have causality when, in fact, they are the result of a pure coincidence or the law of large numbers. Any large block of data will show connections, but those connections most likely have no other meaning. For example, some hospital CEOs will likely have red hair, but no other link can be made between being a CEO and red hair (Pinder, 2007).

7. Some Critical Thinking Assessment Tests

The purpose of the critical thinking tests is to provide an assessment of the fundamentals of critical thinking that can be used in any subject. The following instruments are available to generate evidence relevant to critical thinking teaching and learning:

1. Course Evaluation Form: provides evidence of whether, and to what extent, people perceive faculty as fostering critical thinking in instruction;
2. Critical Thinking Subtest: Analytic Reasoning: provides evidence of whether, and to what extent, people are able to reason analytically;
3. Critical Thinking: Concepts and Understandings: provides evidence of whether, and to what extent, people understand the fundamental concepts embedded in critical thinking;
4. International Critical Thinking Test. This test is different from the traditional one and asses the most contemporary issues;
5. Fair-mindedness Test: provides evidence of whether, and to what extent, people can reason effectively between conflicting view points;
6. Critical Thinking Reading and Writing Test: Provides evidence of whether, and to what extent, people can read closely and write substantively;
7. Insight Assessment "Leaders in assessment and evaluation services." Peter Facione's business. Vendors of many useful tests including the California Critical Thinking Skills Test;
8. International Critical Thinking Test: provides evidence of whether, and to what extent, people are able to analyze and assess excerpts from textbooks or professional writing;

9. Commission Study Protocol for Interviewing Faculty Regarding Critical Thinking: provides evidence of whether, and to what extent, critical thinking is being taught (Ausththink, 2007);
10. Foundation for Critical Thinking Protocol for Interviewing Faculty Regarding Critical Thinking;
11. Foundation for Critical Thinking Protocol for Interviewing Students Regarding Critical Thinking: provides evidence of whether, and to what extent, people are learning to think critical thinking;
12. Criteria for critical thinking assignments. Can be used by faculty in designing classroom assignments or by administrators in assessing the extent to which sector are fostering critical thinking (Ausththink, 2007);
13. Rubrics for assessing staff reasoning abilities. A useful tool in assessing the extent to which employee are reasoning well through course content (Ausththink, 2007);
14. Sourcebook of Assessment Information, National Postsecondary Education Cooperative "The Sourcebook is an interactive version of Definitions and Assessment Methods for Critical Thinking, Problem Solving, and Writing, by Dr. T. Dary Erwin;
15. Science phobia by Thomas D. Cook. Argues for using proper randomized trials in education research.

8. Conclusions and Suggestions

Like any other behaviour in life critical thinking can be developed and it worths doing, good critical thinking is all about turning ideas into habitual behaviour. For being critical thinking manager, first managers should recognize critical thinking skills might not be up to par and then they must go about improving them and without knowing the skills, they will not know which skills they should improve. Also we know that knowing is the key in all problems solving processes. Only when they start applying news skills again and again and repetitively to a variety of circumstances then their skills stick and generate results. Managers should note that for the current international business circumstances having the critical mind and thinking is compulsory and Critical thinking must become a force of habit for top leaders, much like their breathing. Like other dynamical capabilities the critical thinking must become part of your leadership core.

9. Practical Suggestions to Foster Critical Thinking among Staff

The following guides will help managers to teach critical thinking to their employees in the organizations and firms.

1. Participating staff in critical thinking conferences, the conference sessions are designed to conver the basic critical thinking principles and to enrich a core concept of critical thinking with practical teaching and learning strategies for staff.
2. Throughout workshops organizations, to emphasize and argue for the importance of teaching for critical thinking in a strong, rather than a week, sense.
3. Advocate a concept of critical thinking and teach the staff that critical thinking applies directly to the everyday needs and professional life (CCT, 2007).
4. Staff should know, by being critical they will get good promotions.
5. Explaining the critical thinking notion and its importantance at the workplace.
6. Help staff to recognize contradictions and inconsistencies.
7. Help staff to identify unstated assumptions.
8. Help staff to clarify and analyze the meaning of words or phrases.
9. Help staff to clarify problems.
10. Help staff to identify significant similarities and differences.
11. Help staff use sound criteria for evaluation.
12. Help staff to clarify values and standards (Gambrill & Gibbs 2009).
13. Help staff to detect bias
14. Help staff to refine generalizations and avoid over simplifications.
15. Help staff to clarify issues, conclusions, or beliefs.

16. Help staff analyze or evaluate arguments, interpretations, beliefs or theories (Gambrill & Gibbs 2009).
17. Having clear goals in the organizations so that the employees get the goals clearly and should be substantive and meaningful.
18. Giving time for employees' critical questions and critical problems.
19. Teaching employee about the key issues that we want to be critical.
20. Help employees learn how to identify the most basic logic assumptions from non logical issues.
21. Offering Critical thinking assignments which address fundamental and powerful concepts.
22. Teach employees how to make inferences issues by data or information and analyze them for the critical weekly or monthly meeting in the organization.
23. Help employees learn how to distinguish hypothesis, assumptions, inferences and implications from others (CCT, 2007).
24. Empower the employees with different thinking (think historically, think scientifically, think mathematically, think spatially, think inner and inter personally).
25. Help them to think like experts, thinking rationally, accurately, logically, fairly and deeply.
26. Help employees to think in the point of view of those with whom they disagree and thinking more reasonably.
27. Encourage employees to think for themselves using logical and intellectual discipline.

10. References

Austhink, (2007). *Critical thinking on the web, a directory of quality online resources*, available online at: http://austhink.com/critical.

CCT, Center for Critical Thinking (2007). *Course evaluation form: Student Perceptions of Critical Thinking in Instruction.*

Cosgrove, Rush (2009). *Critical Thinking in the Oxford Tutorial*. Thesis submitted to the University of Oxford in partial fulfillment for the degree of M.Sc. in Higher Education.

Doughty, Howard A (2006). The Limits of Critical Thinking, review essay. *The Innovation Journal: The Public Sector Innovation Journal,* Volume 11(3), article 11, pp. 1-10.

Executive Education (2008). *Critical Thinking: Real-World, Real-Time Decisions.* Aresty Institute of Executive Education.

Gambrill, Eileen & Gibbs, Leonard (2009). *Critical Thinking for Helping Professionals a Skills-Based Workbook. third edition*. Oxford: Oxford University Press.

Glaser, Edward Maynard (1941). *An Experiment in the Development of Critical Thinking*. Teachers College. Columbia University.

Lipman, M. (1984). The Cultivating of Reasoning through Philosophy. *Educational Leadership*, 42, 1, p. 51-56.

Lipman, M. (1995). *Thinking in Education*. Cambridge: Cambridge University Press.

Paul, Richard; Binker, A.J.A.; Adamson, K. & Martin, D. (1987). *Critical Thinking Handbook: High School*. Rohnert Park, CA: Center for Critical Thinking and Moral Critique, Sonoma State University.

Paul, R. (1993). *Critical thinking: What Every Person Needs to Survive in a rapid Changing World (Revised 3rd. Ed)* (pp. 20–23). Santa Rosa, CA: Foundation for Critical Thinking. www.criticalthinking.org.

Pinder, Gene (2007). *Eight Barriers to Effective Critical Thinking as a Manager,* Article base.com (ArticlesBase SC #208557)

Scheffler, (1973). *Reason and Teaching*. Indianapolis: Hackett Publishing Company.

Siegel, Harvey (1990). *Educating Reason*. London: Routledge.

Thayer-Bacon, Barbara (2000). *Transforming Critical Thinking: Thinking constructively*. New York: Teachers College.

Vaughn, Lewis (2005). *The Power of Critical Thinking: Effective Reasoning about Ordinary and Extraordinary Claims*. Oxford: Oxford University Press.

Turning Weaknesses into Strengths: Nordic Tourism, Potentials for Growth and Major Challenges

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Abstract: Nordic region is a geographical area which is characterized by a combination of nature, culture, history and technology and regarded as a common entity in political, economical and historical sense. Although rich in its resources, Nordic tourism has not actualized its potential in full. The present paper aims to identify weaknesses of the region, to outline a new set of directions for improving Nordic tourism and to delineate major challenges. Its geographical and natural beauties, cultural characteristics, technological advancement and policy development are identified as assets for tourism advancement in the region. Winter tourism, adventure tourism, nature-based tourism and cultural tourism are demonstrated as potential routes of growth. Marketing strategies and changing trends are discussed as major challenges, with suggestions for implementation.

Keywords: Nordic tourism; weaknesses; winter; nature; culture; challenges

JEL Classification D92, F43, L8

1. Introduction

In globalizing and expanding world, tourism industry has become a significant sector within national economies, providing substantial economic, social, cultural and political gains. All regions of the world have become a destination place for international tourists, who are increasing in number and diversity throughout the new millennium. Although sun-lust destinations has come to represent one popularized tourism activity which is offered in particular regions of the world, changing patterns of consumption has paved the way for alternative types of tourism with an exclusive focus on individualized preferences and experience-based travels. Recent tourism trends have paved the way for tourism advancement in peripheral areas which do not posses natural and climatic resources to offer

Triple Ss (sun, sea, sand). Nordic region is a good example of such an area, regarded as peripheral and suitable for development of alternative tourism types. The present paper aims at providing a sketch of the Nordic region, to demonstrate its potentials and new paths of tourism advancement and to identify the major challenges that the Nordic tourism has to face.

1.1. The Nordic Region

The Nordic region is a geographical area which covers Baltic Sea coasts and includes countries of Northern Europe, namely Sweden, Norway, Denmark, Finland, Iceland and parts of Greenland, Faroe Islands and the Aland Islands (Hall, Müller & Saarinen, 2008a).Terms like "Nordic", "Scandinavian" has been used interchangeably in the literature. However, they refer to different geographical areas, with Scandinavia encompassing Norway, Sweden and Denmark. The Nordic region, called *Norden* with a meaning of Northern in Scandinavian language, covers a broader geographical area, distinguished and consolidated in the episode following Second World War (Hall, Müller & Saarinen, 2008b).

The Nordic region, characterized by a combination of nature, history and culture, is regarded as a common entity in political, economical, social, cultural and historical sense. Commonalities evident in the region have historical roots, with temporary periods of competition and divergence settling since 19th century. Currently, the region is marked by substantial cooperation and integration. The countries in the region constitute a common entity and consolidate their integration since comparable state regulations and political policies regarding tourism development are adopted in different countries; nested economic relationships are established and strengthened over time; common cultural characteristics and environmental attractions are possessed (Boniface & Cooper, 2005).

1.2. Tourism Industry in the Nordic Region

Integration and cooperation among Nordic countries, in a world of constant globalization and widespread cross-cultural communication render possible to mention the term "Nordic tourism", which transgresses national borders and provides a space open to communication, transaction and experience. The term "Nordic tourism" identifies a target tourism area which has been defined by reference to both internal characteristics of the Nordic region and environmental circumstances. Nordic tourism area has been established by joint economic concerns, shared political regulations and a common cultural background which fosters an interior atmosphere of openness and exchange. Environmental circumstances characterizing Nordic tourism are innovative marketing strategies which highlight distinguishing characteristics of the region, and means of communication through media which elevate the image and reputation of Nordic countries (Hall, Müller & Saarinen, 2008a).

Tourism, defined as a collection of wide-ranging economic, social, cultural and physical activities in a general sense has a different outlook in Nordic region. Contemporary statistics reveal that Nordic countries fall behind other OECD countries in several tourism-related parameters (Nordon, 2008):

1. %2.5 of the international tourists has chosen Nordic countries as a travel destination while this rate rises to %60 in other OECD countries.
2. % 30 of service expenditures is allocated to tourism on average in OECD members whereas tourism expenses in Nordic countries are below this rate, remaining below %20.
3. Economic benefits of tourism in OECD countries are higher, compared to Nordic countries.

Tourism-parameters in the Nordic region, compared to other OECD countries suggest that tourism in the area has great potential to improve and requires an organized attempt to facilitate its development

2. Nordic Tourism

2.1. Present Weaknesses

Several characteristics of the Nordic region are likely to put it into a disadvantageous position in terms of tourism development:

- Nordic countries are not popular destination places for tourists looking for the Triple Ss-sand, sea, sun, in their holidays. The region is characterized by harsh, icy and snowy winters which may become an obstacle for tourism development, although there are contrasts in the region in accordance with winds, altitude and humidity (Jones & Hansen, 2008) (Sporrong, 2008).

- Accessibility is one characteristic of the region which could hinder the development of tourism activities and shape tourists' appeal. The region may be perceived as peripheral and remote due to difficulty of access to the region, which may reduce its competitive power by increasing its costs of transportation (Hall, 2007). In addition, cost and ease of transportation to the region fluctuates seasonally, especially in particular regions of Norden (Nordon, 2008).
- When tourists believe that they travel to a remote destination, their expectations will rise in search of a unique experience. The rise of expectations become an obstacle in fulfilling tourist needs and necessitates high standards of service quality for satisfying customers (Zillinger, 2007).
- The push towards elevating service quality requires a highly-skilled professionals in the tourism industry, transgressing the employment of labor for maintenance of basic services (e.g. cleaning) (Nordon, 2008).

As outlined above, the Nordic world has environmental and managerial drawbacks which may potentially hinder the growth of tourism industry in the region. The next section presents a new set of lenses through which these drawback can be viewed; it outlines potential routes of improvement and innovation for turning them into strengths.

2.2. Potentials for Growth

In contemporary world, patterns of consumption have been in a process of transformation which has implications for the tourism industry in general and the Nordic context in particular. Individuality and personal experience of tourists has gained prominence in the tourism industry, accompanying the shift of economic arrangements from Fordist to post-Fordist episodes. Mass tourism has lost its appeal in this changing world of consumption, production, socio-economic relations and technological advances (Poon, 1993 cited in Hall) (Müller & Saarinen, 2008b). The decline of mass tourism on a global and regional scale in 1980s and 90s has paved the way for alternative types of tourism to come to the fore as potential routes of growth (Gössling & Jultman, 2006).

The current trend in the tourism industry has been termed "new tourism" which highlights individualized ways of consuming tourism products. The notion of experience has prioritized tourism activities which provide tourists with an opportunity to observe, share and practice uniqueness of the destination place and has highlighted tourists' involvement with the tourism product. The concepts of "winter tourism", "nature-based tourism" and "adventure tourism" has come up as a result of transforming trends in the world (Hall, 2007). In accordance with these transformations, tourism services has been reshaped to provide an integration of culture, nature and quality services, which is a valuable opportunity in bringing Nordic tourism on the spot.

Current alterations in tourism trends and recently developed concepts may prove to be beneficial for Nordic countries since the Nordic region has significant possessions and attractions which could be mobilized to promote alternative types of tourism. Contemporary developments in tourism industry offer a chance for turning weaknesses of the region into strengths and for endorsing tourism activities other than triple Ss. The following discussion outlines geographical, cultural-social and technological wealth of Norden and highlights the potential contribution of above stated drawbacks in the region for extending and improving tourism industry.

2.2.1 Geography

2.2.1.1 Icy, Cold Season and Winter Tourism

Seasonal characteristics of the Nordic region has been disadvantageous to promote Triple Ss and to attract tourists who seek sun-and-sea holidays. The Nordic world is characterized by a cold, snowy and long winter season, lasting from November to April although this time frame has been expanding with recent advances in technology (Hall, Müller & Saarinen, 2008a). Winter season, which makes the Nordic world an unpopular sun-and-sea destination, could be promoted as an appealing holiday opportunity and put into use as an alternative field of tourism advance.

"Winter tourism" has been one of the most widely known and promoted tourism activity in Norden. The region provides opportunities for winter sports or adventure tourism like snow-mobile trekking, ice sailing etc, with snow mobiling and skiing being the most frequently chosen activities (Hall, Müller & Saarinen, 2008b). Dog sledge safaris are among other popular activities which characterize Artic and Nordic countries (Jones & Hansen, 2008).

In recent years, progressive steps are taken in marketing, management and promotion of winter-based tourism. These steps have expanded the activities involved in winter tourism in terms of the scope and diversity of its attractions. One example of such alterations which become an international site of competition is the construction of ice hotels, attracting thousands of tourists all around the world (Olwig & Jones, 2008). Another alteration is the creation of Christmas tourism season, primarily in Finland throughout 1980s which become one of the major motivators of winter tourism in accordance with the commodification of Christmas and Santa Clause on a global scale (Synder & Stonehouse, 2007).

Through winter tourism and its promotion, Nordic countries can benefit from cold and icy winters, which contribute to the exotic image of the region. Zillinger (2007) highlights that needs and expectations of contemporary travelers are in a process of transformation. This transformation suggests that promotion of winter tourism and the image of coolness targets a different tourist profile and distinguishes the region from other destination places.

2.2.1.2. Harsh, Wild Geography and Adventure Tourism

The concept of adventure tourism has gained significance in the tourism industry in recent years and demonstrated a rapid rise in its popularity, prevalence and appeal. Defining adventure tourism has stimulated a substantial deal of debate in the literature, adopting different perspectives on the issue. In a general sense, adventure tourism includes activities which pose health-related risks and require active participation on the side of their performers. One distinguishing characteristic of adventure tourism is its high level of risk, taken up with a motivation of learning, experiencing and enjoying (Hall, 2007).

The Nordic region is a promising destination for adventure tourism especially in winter season, which provides enriching opportunities for tourists seeking risk, adventure and excitement. Gyimothy and Mykeletun (2004) demonstrate that risk, amusement and discovery are driving characteristics of Nordic adventure tourism and related-activities, such as winter trekking, snowmobile ski etc. (cited in Hall, Müller & Saarinen, 2008b). Norden provides an alternative to “sunlust” destinations by providing opportunities for camping and adventurous activities in the wild (Boniface & Cooper, 2005). Therefore, adventure tourism as a potential field of tourism-activity could be promoted, utilizing the images of wilderness, harshness and riskiness.

2.2.1.3. Natural Beauties and Eco-Tourism

Contemporary tourism trends involve popularization of natural images; illustrations of nature have been put into use to introduce new destinations recently (Hall, Müller & Saarinen, 2008a). With the advent of social transformations which put forward individualism and activity as the custom of post-modern life, the terms "eco-tourism" or "nature-based tourism" have come to the fore. In addition, environmental awareness has become a widespread concern which promotes eco-tourism (Nordon, 2008).

Eco-tourism involves traveling to natural beauties with an exclusive concern over preserving environmental resources and contributing to the enhancement of locals, and provides which ecological and social benefits. Eco-tourism consists of activities which aim to protect nature, to attain knowledge on nature and to experience it (Gössling & Hultman, 2006). Nordic region provides spectacular opportunities for improving eco-tourism and for marketing its nature-based wealth to promote tourism-related gains.

Geographical wealth in Norden is one characteristic which potentially advances tourism industry and renders possible to lean towards nature-based and sustainable tourism in the area. The region offers a diversity of landscapes from lunar volcanic grounds (Boniface & Cooper, 2005) (Sporrong, 2008) to shores, lakes, farmlands and forests of extraordinary natural beauty and preservation (Hall, Müller & Saarinen, 2008b). An unpopulated, uncontaminated landscape; a panorama of magnificent mountains and coasts of great purity and greenness; and unique cultural practices are tourism products of the region which could support the development of eco-tourism in the region. (Gössling & Hultman, 2006). Moreover, untouched natural beauties and unusual natural phenomena such as nights lasting 6 months or aurora borealis can be introduced as unique and remarkable attractions which could be experienced and observed in Nordic countries.

The term "ecomuseum", originated in France, has come to be used frequently for several Nordic countries. An ecomuseum is a holistic entity which occupies a particular region and reflects its unique social, cultural and physical characteristics, and thus provides an opportunity simultaneously with getting acquainted with Nordic culture and experiencing its unique landscape (Smith, 2003b).

Nature-based tourism, simultaneously relying on environmental resources and social networking for its sustenance, needs to be enhanced with an exclusive concern with the preservation of natural resources and appropriation of local networks in the Nordic region. Gössling and Hultman (2006) highlight that the term “ecotourism” has not been thoroughly comprehended by the community. Thus, integration among policy makers, tourism entrepreneurs and locals is significant for establishing a sustainable Nordic tourism niche (Nordon, 2008). In addition, promotion of wilderness and natural attractions characteristic of the region is necessary since these are natural resources which could be mobilized in the era of ecotourism (Hall, 2007) (Hall, Müller & Saarinen, 2008a).

2.2.2. Culture and Society

Culture-based tourism has become a frequently chosen tourism activity in recent years, especially for the retired. The new tourism trends respond to an intensified interest in meeting with different cultural practices and participating in them, as a major part of tourist preferences and expectations (Yeoman, Greenwood & McMahon-Beattie, 2009). Due to the rivalry aspect of tourism industry, hotel and restaurant managers encounter customers coming from different ethnic and cultural backgrounds even they are not involved in an international organization (Genc, 2009). Cultural tourism has been defined as traveling motivated by an attraction of different cultural practices in order to interact and get acquainted with people of other cultures, and it includes activities such as participating in festivals organized in different regions, visiting museums and sites etc. (McKercher & Cros, 2002). The concept of cultural heritage has come to the fore, which encompasses wider historical and cultural context of a region (Swensen & Jarpasen, 2008).

In Nordic countries, cultural tourism has been unrealized potential for tourism advancement (Smith, 2003a). It has been pointed out that stressing the chance to witness and take part in different cultural practices is an important step to overcome the obstacle of seasonality in tourism (Stonehouse, 2007). In a similar vein, Lew, Hall, Timothy and Dallen (2008) have identified indigenous peoples as one of the most important characteristics of the region conducive to cultural tourism. These trends highlight that meeting with locals and cultural heritage tourism may be emphasized more in marketing attempts like Lappish culture in Finland and Saami culture in Norway (Synder & Stonehouse, 2007). Viking history is another historical-cultural asset which could be promoted as a promoter of cultural tourism in the region.

Within the prevailing trend of cultural tourism, cultural and social images of the Nordic region has gained primary significance since culture has become one major determinant of tourists' destination choices and evaluations, which are shaped by tourists' culture of origin, cultural characteristics of the destination place and the discrepancy between them (Ng, Lee & Soutar, 2007). An investigation of international tourists' images of Norway demonstrates that it is regarded as a remote destination, which has not been heard of by a substantial number of tourists. The results suggests that a Nordic country is associated with complex cognitive images of "cold", "ice", "snow" and "dark" simultaneously with "friendly and kind individuals", "cleanliness" and "natural attractions" (Prebensen, 2007).

One aspect of the Nordic region which could support the development of cultural tourism is its safety and social security system. According to the report of UNWTO, events (e.g. terrorist attacks, sports festivals) taking place in a particular region of the world has implications for tourism development and tourist destination choices on a global scale. Current conflicts and catastrophic events, terrorist attacks like 9/11 trigger concerns with safety and uncertainty in today's world of travel and preoccupy tourists about the risks of traveling or destination place. Crimes and infectious diseases are among other factors which exacerbate travel-related worries (Larsen, Brun & Ogaard, 2009). Nordic society, possessing a highly developed and differentiated social security system, is a safe and low-risk destination which might appeal to a substantial crowd of travelers since terrorism, wars, inter-class conflicts are global occurrences that preoccupy international tourists.

Event tourism is another field of activity which could promote cultural tourism in Nordic region. Event tourism focuses on marketing and promoting events held in a particular region and aims to attain economic gains as well as social and cultural benefits by providing enriching experiences and constructing a positive image of the destination place. In today's world, participation in events which are organized in different parts of the world like cultural festivals, educational congresses, art and entertainment events has become a driving force for travel. In a study carried out in four Nordic cities (Helsinki, Stockholm, Copenhagen, Göteborg) reports that, Nordic tourism organizations in those cities have realized the significance of events for tourism development and highlighted that events increase the appeal of a destination, increase its hype and boost its image. Therefore, events have come to be incorporated in marketing strategies of tourism organizations in Nordic region (Sarrivaara, Paivi & Roosa, 2005) and; festivals and cultural events like Edinburg International Festival need to be emphasized.

One last significant area which may exert substantial impact on improving and sustaining cultural tourism in Nordic countries is cultural heritage management. State regulation of the cultural heritage notion and state approach to the notion of cultural heritage occupy a prominent place in improving the appeal of Nordic area for travellers motivated by a will to experience and share different cultural practices. For instance, Norway state is involved in the regulation of arrangements among modern establishments and cultural heritages, monuments or sites, and concerned with the preservation of historical attractions, providing acts of legislation and laws (Swensen & Jarpasen, 2008).

2.2.3. Technological Development

Nordic region is the vein of technological development, where quality standards of production and service have been set and, even the founder of a prize which determines the world standards has lived, namely Alfred Nobel. With a highly advanced technological infrastructure, Nordic area has the potential to improve its service sector (e.g. easing access, providing alternative ways of transportation) and tourism industry and to generate innovative ways of marketing (e.g. use of media or internet infrastructure, information management). In Nordic countries, technological developments may be put into use to overcome the problems of transportation, inaccessibility, infrastructure, satisfaction of customer needs (Nordon, 2008).

2.2.4. Policy Making

Development of Nordic tourism requires an action plan and a policy which involve organization, coordination and innovation to address the obstacles of employment, growth, competition. In the workshop on Nordic Innovation in the Tourism Sector (2008) several aspects of necessitated policies have been identified:

- The policies developed needs to facilitate interconnection and cooperation among countries in the region. Communication and transportation transgressing the boundaries of the nation states enhances cooperation, which supports growth of tourism industry. An example of the facilitation role of collaboration among different countries is joint-offerings, which provides tourists with an appealing opportunity to travel two or more countries in the region;

- Attempts to develop tourism industry in the region should emphasize preservation of natural and cultural resources of the region for their maintenance. The natural and cultural attractions of the region may become vulnerable to climatic changes or consumption patterns if sustainable development and protection of these tourism products has not been taken into consideration;
- Adoption of a strategic framework on a national and regional scale is necessary for policy development. It has been emphasized that more extensive and comprehensive strategic plans need to be set, which incorporate small and large scale tourism organizations, tourism operators and tourist preferences with a highly developed system of communication among different partners. An intensive system of interconnection provides the opportunity to expand information on regional tourism which remains isolated without such an effort.

Above stated suggestions for Nordic countries reveals that policy development needs to take a more integrative and comprehensive perspective on tourism development in order to attain competitive advantage on a global scale and to eliminate obstacles regional companies deal with.

3. Growth of Nordic Tourism: Major Challenges

In a general sense, marketing in Nordic tourism industry is a major challenge identified in the present paper for tourism advancement. Marketing in tourism industry functions to communicate organizational objectives of tourism facilities, to introduce and convey the tourism product to travellers/customers and to identify their preferences, motivations and needs. In hotel and restaurant management marketing approach and hotel or restaurant services marketing should be understood in hospitality context. So one should have marketing style that is beyond product or service marketing (Genc, 2009).

The Nordic context presents obstacles with respect to several marketing functions, discussed in detail: 1) Introduction and promotion of tourism opportunities in Nordic countries, 2) Identification of tourist preferences and incorporation of them into the policy making processes and, 3) Adaptation to global tourism trends.

The first major challenge in Nordic tourism development is improving marketing strategies and generating innovative techniques in order to promote reputation and image of Nordic countries and to outstand in a competitive industry. Finding new ways of promoting the region, finding appropriate means of communication and emphasizing characteristics unique to the region is the complication which requires a complex process of decision and policy making in Norden (Nordon, 2008). The fundamental priority within these processes is the enhancement and promotion of a Nordic image which constructs it as a landscape of natural beauty, cultural experience, adventurous activity and satisfactory service. This construction needs to incorporate elements of nature, culture, history, social processes, arts, music and literature, and to adopt a holistic perspective (Jones & Olwig, 2008) in order to be more appealing for a diversified tourist profile and, to emphasize all resources and tourist products of Norden.

The significance of prioritizing customer experiences and strengthening long-term relationships with service providers and tourists/travelers have been highlighted extensively in tourism management literature. The second challenge in Nordic tourism context is getting acquainted with tourist motivations and investigating tourist profiles. Tourists' motivations and expectations are altered in accordance with the destination place, of which landscape, space, topography, climate and technological advancement are significant characteristics. That is to say, in the Nordic context a detailed and ongoing examination of tourist preferences and motivations, their demographic and psychological characteristics is required in order to provide satisfactory services and to inform development of applicable strategies. The need to strengthen the link between tourism product development and knowledge on tourist preferences are highlighted (Nordon, 2008).

Another challenge is to make manoeuvres which enables Nordic tourism to face with global trends in tourism industry such as experience-based tourism, eco-tourism, adventure tourism. Contemporary traveller is in search of an unusual experience within current tourism trends which prioritize experiencing and participating rather than observing. Within current trends, locality, interactions with peoples of different cultures, experience with local foods and cultural practices have gained prominence. Attempts to develop Nordic tourism needs to acknowledge changing outlooks of tourism and tourists in a world of constant transformation; and highlight its natural, cultural, technological potentials to catch up with these trends and to offer more extreme and innovative experiences.

4. Conclusion

The term globalization asserts that every country or region has an attraction to offer for consumption as a tourism product (Yeoman, Greenwood & McMahon-Beattie, 2009). Norden is one region which has great potential for development of its tourism industry with its historical, cultural and natural resources although currently tourism is not a major source of economic gain in Nordic countries. As an initial progressive step, Nordic countries should focus on what seems to be a drawback for tourism development, and develop strategies to turn them into fundamental strengths.

Every region has its unique assets. Norden needs to highlight its uniqueness and emphasize its distinguishing characteristics in its tourism marketing attempts.

Tourism advances in the region should focus on promoting the resources it already has, and developing a marketing strategy which introduces it to tourists as an appealing travel choice and opportunity for unusual experiences. For sustenance of tourism activities and satisfied customers, a holistic and integrative perspective needs to be adopted for advancement, incorporating nature, culture, service and innovation.

5. References

Boniface, B.G., & Cooper, C.P. (2005). The tourism geography of Scandinavia. In Worldwide Destinations: *The Geography of Travel and Tourism* (pp. 151-166). Butterworth-Heinemann.

Genc, R. (2009). *International Hotel and Restaurant Management in Relation with Human Factor*. Istanbul: Beta Publishing Inc.

Gössling, S., & Jultman, J. (2006). An introduction to eco-tourism in Scandinavia. In *Ecotourism in Scandinavia: Lessons in Theory and Practice* (pp. 1-10). CABI.

Hall, C.M. (2007). North-south perspectives on tourism, regional development and peripheral areas. In Müller, D.K., & Jansson, B. (Eds.), *Toursim in Peripheries: Perspectives From the Far North and South* (pp. 19-40). CABI.

Hall, C.M., Müller, D. K., & Saarinen, J. (2008a). Nordic Tourism: Introduction to Key Concepts (1-25). In *Nordic Tourism: Issues and Cases*. Channel View Publications.

Hall, C.M., Müller, D. K., & Saarinen, J. (2008b). Tourism Marketing. In *Nordic Tourism: Issues and Cases* (pp. 25-52). Channel View Publications.

Jones, M., & Hansen, J.C. (2008). The Nordic countries: A geographical overview. In Olwig, K.R. & Jones, M. (Eds.), *Nordic Lanscapes: Region and Belonging on the Northern Edge of Europe* (pp. 543-568). University of Minnesotta Press.

Larsen, S., Brun, W., & Ogaard, T. (2009). What tourists worry about-Construction of a scale measuring tourist worries? *Tourism Management*, Vol 30, pp. 260-65.

Lew, A.A., Hall, C.M., Timothy, D.J., & Dallen, T.J. (2008). Europe and Euroasia. In World Geography of Travel and Tourism: A Regional Approach (pp. 49-112). Butterworth-Heinemann.

McKerchner, B. & Cros, H. D. (2002). Defining cultural tourism. In *Cultural Tourism: The Partnership Between Tourism and Cultural Heritage Management* (pp. 1-11). Routledge.

Ng, S.I., Lee, J.A., & Soutar, G.N. (2007). Tourists' intention to visit a country: The impact of cultural distance. *Tourism Management*, Vol 28, pp. 1497-1506.

Nordon (Nordic Innovation Centre). Nordic Innovation in the Tourism Sector. Retrieved at: http://www.nordicinnovation.net/_img/tourism_workshop_copenhagen_2008_paper.pdf, Copenhagen, 3-4 June 2008.

Olwig, K.R., & Jones, M. (2008*).* Introduction: thinking landscape and regional belonging on the Northern edge of Europe. In Olwig, K.R. & Jones, M. (Eds.), *Nordic Lanscapes: Region and Belonging on the Northern Edge of Europe*. University of Minnesotta Press.

Prebensen, N. K. (2007). Exploring tourists' images of a distant destination. *Tourism Management*, Vol 28, pp. 747-756.

Sarrivaara, E., Paivi, K., & Roosa, A. (2005). *Exploring event tourism strategies: A case study of four Nodic tourism organizations*. Unpublished master's thesis. Göteborg University.

Smith, M. K. (2003a). European cultural tourism: Integration and identity. In Issues in *Cultural Tourism Studies* (pp. 62-81). Routledge.

Smith, M. K. (2003b). *Cultural tourism, interpretation and representation*. In Issues in *Cultural Tourism Studies* (pp. 81-99). Routledge.

Sporrong, U. (2008). *Features of Nordic physical landscapes: Regional characteristics*. In Olwig, K.R. & Jones, M. (Eds.), Nordic Lanscapes: Region and Belonging on the Northern Edge of Europe (pp. 568-585). University of Minnesotta Press.

Synder, J.M., & Stonehouse (2007). The growing significance of polar tourism. In Prospects for *Polar Tourism* (pp. 3-15). CABI.

Swensen, G., & Jerpasen, G. B. (2008). Cultural heritage in suburban landscape planning: a case study in Southern Europe. *Landscape and Urban Planning*, Vol 87, pp. 289-300.

Yeoman, I., Greenwood, C., & McMahon-Beattie, U. (2009). The future of Scotland's international tourism markets. *Futures*, Vol. 41, pp. 387-395.

Zillinger, M. (2007). Organizing tourism development in peripheral areas: the case of the Subarctic project in Northern Sweden. In Müller, D. K., & Jansson, B. (Eds.), *Tourism in Peripheries: Perspectives from the Far North and South* (pp. 53-69). CABI.

The Study of Three Organizational Enigmas; Organizational Economy, Organizational Business and Organizational Skills

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Abstract: Organizational economics makes important contributions to management theory. The focus of structural contingency theory is on the phenomena of the economy significant in organizational management theory and other new paradigms of organizational theories. However, the theory of organizational economics has hardly taken the multiple disciplines of organizational behaviour, strategy and theory, but is aligned with the management theories of psychology, sociology and policy dealing with human motivation, induction and enforcement as distinct from the theories of structures, strategies and planning to deal with designs appropriate for a computer on which the will of member compliance is not problematic (Donaldson, 1990). This paper aims at reviewing the organizational economics in detail, its definitions, implications and feature and Elements of organizational economics and also the prescriptive and descriptive organizational economics.

Keywords: organizational business; organizational skills; organizational economics

JEL Classification: L21, L22, D86

Introduction

Organizational economics is one of the most important current researches of the general theory of organizations (Ulrich & Barney, 1984), including institutional theory (Meyer & Rowan, 1977), the theory of resource dependence (Pfeffer & Salancik, 1978; Thompson, 1967), and the model of population ecology (Hannan & Freeman, 1977).

The theory of organizational economics is a new paradigm that enters the field of administrative theory (Barney & Ouchi, 1986). But like any new paradigm, organizational economics has several questions for establishing management theories. As Donaldson (1990) the administrative relevance is achieved through the criticism of the managers' behaviour.

Organizational economics and organizational capabilities or resources are based on two streams of research contributing to the strategic organization (Argyres, Felin, Foss & Senger, 2009). Donaldson (1990) notes the need to determine the nature and potential of organizational economics in order to identify key issues and somehow pointing a path for resolution.

This paper will discuss some aspects and definitions and also implications of one of the most important paradigms of management science i.e. organizational economy.

Characteristic and elements of organizational economics, the methodological individualist perspective and other positive and negative approaches regarding the organizational economy will be detailed. Then the prescriptive and descriptive organizational economics, dynamic capability and opposition, complementarities and integration will be presented as well.

Definitions and implications of Organizational Economics

Organizational economics is defined as the area of knowledge that connects organizational capabilities with transaction costs, agency theory, property rights, and the information economy.

The theory of organizational economics is the internal activities of organizations and business firms to analyze the factors that shape organizational structures and relationships in and among business firms. The organizational economics theory makes important contributions to the theory of organizational structures, vertical disintegration and corporate governance.

The theory of organizational economics studies the nature of the obstacles to coordination of activities in and between firms.

Economics examines organizational tasks of coordination and motivation of human activities in organizations to contribute to the design of forms and arrangements efficient organizational structures.

The organizational economics theory takes into account the costs and benefits of institutional, organizational and contractual. Also Organizational economics identifies organizational alternatives with their costs and benefits. And organizational economics emphasizes organizational efficiency with implications for the organization of transactions. Because organizational economics plays an insignificant role in the evolution of knowledge management, little emphasis is placed on the costs of activities. Phenomena such as firm-specific learning, work teams, communities of practice, knowledge integration, etc., Are derived from organizational economics?

Organizational development of the economy

The roots theoretical - methodological discipline- has its beginnings in the economy, although about the agency theory there was some discussion on these issues before in political science (Mitnick, 1975). The organizational economic theory begins with the work on the theory of the firm of Coase (1937) and Williamson (1975). Since the early seventies of last century, organizational economics has recognized that social relationships and learning processes do not happen the political vacuum that otherwise occur in a range of interests and different positions and power relations (Easterby-Smith, Crossan & Nicolini, 2000, p. 793). It has recently been applied to the analysis of internal situations of organizations.

The theory of organizational economics studies the allocation of incentives and the influence of property rights on investment decisions and actions of individual agents. The theory of organizational economics studies the problems of coordination and motivation and incentive to the internal division of work and willing to functionality for performance measurement, redundant effort, etc. To resolve these problems, the proposed organizational economy organizational arrangements required by the different forms of governance, such as the allocation and delegation of authority, decision-making processes, compensation systems, etc.

Characteristic and Elements of organizational economics

The economic roots of organizational economics have led to characterize it under the following elements:

Individualistic level method – due to all organizational phenomena which is explained as a result of agents with individual choice behaviour which means that the levels of analysis between the theories of economic organization and the traditional administration are different. The organizational economy adopts methodological individualism reductionist (Broadbeck, 1968), while the theory of general administration focuses on an aggregate level of systems and organizations considering social facts Durkheim's (1938) have goals, objectives and realities beyond of individual attributes within systems and organizations (Buckley, 1967). However, the reductionist nature of organizational economics does not necessarily mean that they are inappropriate for tests done at the firm level. The reductionist nature of organizational economics cannot be disputed, as all economic models are based on organizational processes on human decision-makers and infer broader organizational phenomena (Barney, 1990) such as structure and strategy decisions and actions of individual managers. However reductionist models can coexist with non-reductionist models as an attribute of organizational economics does not prevent speech. The fact that organizational economics adopts a reductionist approach does not mean it cannot be applied in the analysis of organizational phenomena. And although organizational economics is reductionist does not mean or imply that firm-level analysis are not appropriate.

Organizational economics doctrine is held in the social sciences known as methodological individualism, which states that social and economic phenomena should be analyzed as emerging conscious actions of individuals. Organizational economics is based on the model of homo economicus rational focused on pursuing their own interests and to maximize personal benefits were calculated in terms of wealth, status, etc. An important aspect of the relationship between organizational economics and management theory is the economic nature of individual motivation that is designed on the assumption of rational economic man. The economic approach to the nature of human motivation emphasizes the relationships between economic theory and the theory of organizational management that is based on the assumption that individuals pursue their own interests and maximize their profits or personal income.

The methodological individualist perspective emphasizes that question neglects of knowledge management, which only operates at the firm level and it has a starting point strictly individualistic. Foss and Mahnke (2003) emphasize this individualistic methodological point of view that focuses more on the individual level rather than at the firm. The economy emphasizes organizational issues neglected in the literature of knowledge management which operates at the firm level and does not have an individual point of view explicitly.

Negative considerations of moral character of economic agents, managers, etc. are considered an inherent propensity to be opportunistic when maximizing their self-interest and behave in ways that are moral hazard. The new language economist of the organizational economic theory tends to consider evaluative tone on the administrator as an individual who is prone to evasion of responsibilities and commitments, to be opportunistic and maximize their self-interest, to act to achieve insidious malice objectives, and to behave in ways that are moral hazard (Williamson, 1985). This evaluation feature presents some problems for management theory to the extent that the economy is seen as too general organizational and cynicism, which corrodes the relationship between academics and practitioners. The economy generates a theoretical organizational methodology scenarios based on the principle that managers act opportunistically and has come to believe that administrative actions are anti social and anti-organizational (Barney & Ouchi, 1986). Any other administrative behaviour falls outside the theory (Williamson, 1975). This assumption of opportunism needs not to prevent the integration of organizational economics and traditional management theory. The economy lacks organizational descriptions, in the terminology of economic analysis is difficult to identify organizational and administrative behaviours that are less harmful and more benign in nature. Moreover, organizational economics does not describe the administrative behaviours are motivated more benign, it is very difficult to identify the administrative behaviours harmful. For some theoretical contributions from organizational economics to management theory are repellent and cynical, corrodes and corrupts the collaboration between researchers, academics and practitioners of management science. The economy has serious organizational problems of theoretical and methodological relationships with management theory to achieve integration. In the literature on organizational economics, the administrative model is double-edged, as in the theories of agency managers are considered as economic actors and agents with interests opposed to individual principals or owners of firms; in theory transaction costs that it considers the administrative team in the organization that acts as a secondary computer administration. The organizational economy presents some challenges for management theory with regard to their integration, realism, simplicity, validity and evaluative tone (Donaldson, 1990). Assuming that managers act in ways specified by organizational economics, the task of management theory is to accurately record these behaviours even if they are outside of that is the truth.

Normative or positivist theoretical approach

The organizational economics theory is developed within the management theory and focuses on developing a positive and normative theory. The foundations of the literature on organizational economics theory are positivistic and offer a deep appreciation of existing organizational arrangements. Positivist theories focus on an organizational economic management more focused on the original organizational economy that avoids criticism of administrators. The potential for positive organizational economics has been discussed in the matrix organizational structures and the vertical disintegration of the insurance companies for the reference to achieving credible commitments (Donaldson, 1990). Scholars and analysts of the discipline of the administration trying to criticize the administration's actions from the perspective of organizational economics delineate the behaviour of managers as opportunistic, self-interested, evasive of responsibilities and obligations (Kesner & Dalton, 1989).

The Prescriptive and Descriptive Organizational Economics

Donaldson (1990) argues that organizational economics would be more easily integrated with traditional management theory if its practitioners will focus on identifying the property description of the governance of institutions rather than on prescription. This shift in emphasis is necessary because the organizational requirements of the economy are essentially and necessarily anti administration suggesting that managers engage in opportunistic anti-social behaviours. Prescriptive pronouncements made in the organizational economics assume that administrative actions can be changed in ways that serve the best interest of the firm; however the likelihood of the offense of organizational economic analysis of prescriptive especially those who adopt the view administrative expediency contingent do not seem to outweigh the analysis of traditional management approaches prescriptive. From a broader perspective, the question of whether the organizational economics must also be prescriptive or descriptive in the centre of important concepts, such as balance, in some models according to Barney (1990). If the economy has important implications for organizational prescriptive and if the prescription is only relevant for social systems in organizational imbalance then economists should study the social systems of balance which does not necessarily imply that social economists must leave and leave all the concepts and models balance, but it is suggested that the understanding of resources and sources of imbalance in social systems is an important organizational component of the economy. The phenomena of imbalance are more important in economic organization than many of the traditional economic theories. The observation that prescriptive organizational economics studies the phenomena of imbalance has important implications for the argument of Donaldson (1990) that organizational economics and traditional management theory can not be integrated. The traditional management models are relevant in models of organizational economics prescriptive. The attempt of prescriptive organizational economics and traditional management theory provide additional points of integration.

Efficiency is a theoretical concern that the allocation of resources could contribute to the maximum possible value. This concept of efficiency derived the implications of organizational economics for creating and maximizing value depending on the forms of organization and economic governance. The rationality of the actors favors the election of organizational forms, structures of governance and contracts to maximize value.

Organizational economics refers to the agency theory (Eisenhardt, 1989) (Jensen & Meck-ling, 1976) and the theory of transaction costs (Williamson, 1985) theories that are only a part of everything. The two main components of organizational economic theory are agency theory and the theory of transaction costs (Barney & Ouchi, 1986); it considers managers as economic actors. The economic theory is aligned with organizational management theories of psychology, sociology and policy dealing with human motivation, induction and compliance with the theories of the structure, strategy and organizational planning (Donaldson, 1990). Therefore, the model of organizational economic management is peculiarly a double meaning because they have ambivalence between economic theory and administrative theory and a challenge to management theory that quickly absorb organizational economics (Donaldson, 1990).

The agency theory looks at systems of payments (Holmström, 1979), delegation of decision rights (Aghion & Tirole 1997), multitasking (Holmström & Milgrom 1991), cases of asymmetric information and moral hazard, administrative commitments (Baker, Gibbons & Murphy 1999). In agency theory, organizational economics organizational systems can analyze in terms of their constituent individual actors rational economic man.

Transaction cost economics (Williamson 1985, 1996), relates to arrangements for variables influence the motivation, knowledge, information, etc. In creating and maximizing value. However, the motivational assumptions of organizational economics are still in critical discussion because it is considered from the organizational behaviour, the analysis of organizational economics are driven by cynical assumptions of human nature. In the prisoner's dilemma model of transaction costs do not imply complex mechanisms of governance specified by the economy but rather organizational axioms in their original forms and basic scenarios under more credible than those of an extended theory. The original focus of the transaction costs of organizational economics tends to focus on the perversity of distrust and a narrow economic calculus that put into question the arguments and reasoning extended on the basis of the economy so that organizational and body of theory may have convergence to traditional theories of management.

Property rights in the allocation of rights and contract design in specific human capital investments to the firm when contracts are incomplete and agents acting opportunistically (Hart 1995).

Motivation Theory

The organizational economic theory offers a simple count of human motivation as opposed to the progress that has been in the organizational behaviour field. Organizational economics adopts a set of assumptions about what motivates human behaviour. Bounded rationality and opportunism are two attributes of human decision-making central to the analysis of organizational economics. This approach to human motivation in organizations is considered close to a wide range of existing motivational theories in the study of organizational behaviour and represents a challenge for research synthesis Logar motivational theory administrative theory approaches organizational economics and behaviour of organizations. Donaldson (19 909 notes that organizational economics theory emphasizes a very simplified motivation by reducing the chances that the model is integrated into the traditional theory of the administration because it requires the generation of ideas, approaches and more sophisticated models. I critique the organizational economy by adopting a narrow view of human motivation and behaviour neglecting and ignoring important scientific contributions of the models of organizational behaviour approach. For this reason, the economy is charged with having taken an organizational simplistic model of motivation individual human although there have been some attempts to develop a more sophisticated model of motivation, which in some way reflects that the model of motivation focused on simple self interest as adopted is robust. The account that makes the theory of organizational economics of human motivation is closely related to the pre-existing theory of motivation in organizational behaviour, which, in terms of Donaldson (1990) presents a challenge to management theory from the theory of traditional organizational behaviour and new approaches organizational economic theory. The organizational economics has adopted the assumption that managers always behave opportunistically, assuming that simplifies the motivational structure of decision makers; despite the assumption that managers are prone to behaviour opportunist is not a required course for organizational economics (Barney, 1990). This limitation of the economy does not reduce organizational possibilities of theoretical integration with traditional management theories, but on the contrary increased integration of these possibilities. The simplified model of human motivation requires ideas and approaches of the more advanced models, more sophisticated reasoning, even though there have been few attempts to integrate these more sophisticated models in organizational economics. The simplistic motivational theories that emphasize the economy organizational integration rather than preventing provide important opportunities for such integration. The themes of the narrowness of motivational models in organizational economics and their offensive and prejudice against the system-level analysis and against the traditional management theory are discussed Donaldson (1990b).

Theory of equipment is the optimal design of organizational structures under conditions of bounded rationality of individuals and absence of conflicts of interest (Casson, 1994). The organizational economics foresees the conflicts that may arise from these situations. The organizational economics perspective suggests that the successful creation of the efforts of the teams depends on the size of the team, negotiations between the individual and team incentives, rules of exclusion and the candidates of various degrees of uncertainty in design incentives (Foss and Mahnke (2003). The organizational economics urges managers to encourage individual contributions of team performance.

Confidence

The organizational theory of the economy has room for study and research of the relations of trust. Theories focused on the study of trust rather than being classified in the field of organizational economics is considered within the broad range of conventional theories of organizational sociology.

Knowledge Management

Organizational economics provides the elements for the practice of knowledge management. The analysis of organizational economics is essential to sustain disciplinary knowledge management and processes of creation and integration of knowledge. Organizational economics research advances knowledge management with refutable propositions relevant to the practice. Approaches to organizational economics have applications to the creation as knowledge integration. Organizational economics (Coase, 1937, Demsetz, 1988, Jensen and Meckling, 1992, Williamson 1985) study of knowledge of the organizations that characterize firms as institutions of the knowledge (Conner & Prahalad, 1996).

The organizational economics perspective on the creation of knowledge shows that incentives for knowledge creation teams prevail in practice firms, as Foss and Mahnke (2003) suggest that teams rebuttable proposition using combinations of individual incentives and exclusion rules that are more effective in creating the knowledge that teams rely on the control of the clan. They also argue as irrefutable proposition based on the economics of organizational knowledge creation, the teams that use combinations of individual incentives, team incentives and rules of exclusion are more effective in creating the knowledge that teams that rely on control clan. It is believed that the theory of organizational economics is an approach that offers little to the learning processes in organizations (Madhok 1996) and do not necessarily conceptualize firms as knowledge-based entities. But we must recognize that the perspective of organizational economics has much to offer to give support to the knowledge generated in the signatures, so understanding the creation of this knowledge is not trivial. The organizational economics perspective suggests that learning-based team, is a costly mechanism of knowledge creation need not be limited to the provision of incentives. Therefore, organizational economics suggests that firms investing in common knowledge and engage in substantive knowledge sharing in the presence of high interrelatedness of firms performing tasks under conditions of low uncertainty.

Foss and Mahnke (2003) argue that organizational economics theories, such as the theory of transaction costs, agency theory, team theory, the theory of property rights have significant contributions to the development of knowledge management and can extend the theory and practice of knowledge management. The perspective of organizational economics suggests that learning-based computers are a costly mechanism of knowledge creation and the provision of incentives requires the solution of other problems. The organizational economics approaches take into account that the creation of knowledge in teams leads to substantial cost benefits.

Corporate Governance

Organizational economics is the corporate governance in terms of agency theory to rival the stewardship theory (stwardship) research of organizational behaviour and tends to be ignored. With regard to a potential positive approach organizational economics research contributes to organizational structures and corporate governance structures (Williamson, 1985) and also has the potential to develop into other directions relating to different aspects of organizational structures. Organizational economics may be sufficiently flexible to act as a law covering the proposals on corporate governance opposite to those brought against him (Donaldson, 1990).

Foss and Mahnke (2003) develop proposals based on organizational economics with respect to how firms can encourage employee investment in firm-specific knowledge, solve problems of incentives to create knowledge and equipment to make choices between alternative media in the creation, integration and sharing of knowledge.

While the researchers conclude that organizational economics has an important role in the disciplinary foundations of knowledge management, literature neglects its study. Corporate culture is essentially an embodiment of signals (Kreps, 1990) that makes credible incentive provisions which confirm that the administration is committed to approaches that are opportunistic in dealing with subordinates and employees that they induce high levels of learning investments.

The theoretical and empirical research in organizational economics emphasizes the contributions to the recruitment vertical integration (Lajili, Madunic and Mahoney, 2007). There is sufficient empirical evidence in support micro analytical approach organizational economics to analyze the behaviour of vertical integration

(Mahoney, 2005). Organizational economics has tried very little about the organizational heterogeneity and differences in the sustainable performance of organizations.

Organizational Capabilities

The organizational capabilities approach emphasizes the theory of organizational diversity and differences of sustainable performance.

The organizational capabilities approach has not investigated the organizational forms and governance arrangements relating to the creation of differences in organizational capabilities. Capacity building implies organizational governance issues through the design of structures, forms and organizational arrangements to improve decision-making processes. Organizational capacity building and resource acquisition are essentially decisions about organizational boundaries using approaches of transaction costs and property rights. Human capital is an important component of organizational capabilities. Jones, George and Kosnik (1989) developed a growth model of the firm that combines elements of organizational economics to the concept of bias and heuristics drawn from research in cognitive psychology (Tversky & Kahneman, 1974). The resulting model suggests that firms can grow and be bigger than traditional organizational economics course with simple self-interest. Additional work that integrates organizational economics approaches of organizational behaviour, social psychology, anthropology and related disciplines will be very successful (Barney, 1990).

Opposition, Complementarity and integration

Scholars argue that organizational economics and organizational capabilities are different and opposite, others argue that although each has different theories, are complementary to organizational strategy. The complementarities of the organizational elements such as payment plans, delegation of duties, monitoring methods (Milgrom & Roberts, 1990, 1995) lend support to the notion of stable governance structures (Thompson, 1967) (Williamson, 1996) combined with elements organizational predictable as evidenced by empirical research (Shelanski & Klein, 1995) (Prendergast, 1999).

Finally, others argue that both approaches are integrated into a theoretical methodological significant. The processes of deep and systematic integration between these two important fields, organizational economics and organizational capabilities, contribute to make major approaches to organizational behaviour, especially in regard to relations between the forms and arrangements with organizational and inter organizational processes and outcomes of organizational capacity building.

There have been so far some approaches integrating between transaction costs, agency theory, property rights, the information economy and building organizational capabilities. The integration of economic approaches and organizational development of the organizational capabilities can contribute to the design of structures and forms of governance arrangements.

Although there are differences in assumptions between organizational economics and traditional management theory, these differences are not the kind that prevents inter theoretical course and the integration between these models according to Barney (1990). The criticisms of organizational economics have been numerous and strong arguments. Barney (1990) distinguishes between two kinds of critiques of organizational economics, the scene where criticism and puts the emotional and questions about the spirit that gives rise to these criticisms of organizational economics to conclude that since the rational bases are very weak to doubt the organizational economics and organizational opposition to the economy should be based more on emotional reactions to having to share the territory of the theories of the organization and management with the economy. Have been tolerated different levels of analysis in traditional management theory and do not represent the only problems for theoretical discourse between organizational economics and traditional management theories. If the connections between specific models in organizational economics and traditional management theory are examined, the possibility of integration is very clear, because there are similar parallels. The dynamics of long-term population model emphasizes the ecology of the population that is different from the model of the driving forces towards equilibrium systems in organizational economics. Also the roles that they play opportunities and uncertainties in determining the performance of a firm are important in the ecological population and the prospects of organizational economics (Barney, 1986). However, Barney (1990) does not suggest that the traditional economy and traditional management theory are the same thing because they have important differences in the assumptions and methods that do not necessarily prohibit the intellectual discourse and theoretical integration between the two models. Both Barney (1990) and Donaldson (1990b) consider organizational theory and organizational economics are two equal intellectually and potentially can have collaborations theoretical - methodological productive. However, Donaldson (1990b) admits that there are obstacles in the mutual learning in the organizational economic approach that takes human motivation and interpersonal relationships at the level of analysis and value judgments about the administration, but a discussion reconsiders this issue can help break down any barriers between the emerging organizational theory and organizational economics. Donaldson (1990b) argues that the requirement that there must be an open dialogue for mutual learning and some form of synthesis between organizational economics and traditional management theory is not exceptional but questioned if it is a real possibility. Donaldson (1990b) believes that Barney (1990) offers an apology for the economy more however organizational obstacles and difficulties remain.

Criticism of Organizational Economics Theories

The criticisms of organizational economics are many and some of them very strong considering the impact it has had organizational economics in the general theory of organizations. It criticizes the Organizational economics literature that is not supported and acknowledges the important contributions of traditional management theories. Perrow (1986:2359 criticism of agency theory and organizational economics generally as dangerous and insidious compared to the critique of other theoretical models of organization. The negative reaction of Perrow's theory is based agency that considered to be more inclined to favour the main by the agent and therefore is more critical than other economic organizational theories, organizational position may be considered more of political sentiment in this debate.

The discussion of Donaldson (1990) on organizational economics is a systematic critique of the difference from other traditions and calls for further research to understand the wide range of organizational phenomena that can be analyzed. Donaldson (1990) argues that differences in assumptions and scientific methods organizational economics separate from other approaches in organizational research and differences in the assumptions and methods are of conflicts, once settled theoretical integration is possible. Donaldson (1990) criticizes the attributes of the organizational model of the economy that hinder the intellectual discourse and theoretical integration with traditional management theory. Donaldson (1990) cites four attributes differences between the models of organizational economics and traditional management theory and discourse prevent the integration of the two models. These differences in the attributes are different assumptions about human nature and the assumption of opportunism, different levels of analysis used, the theories of motivation used in the different models and the prescriptive and descriptive of the economy and other organizational different models.

This debate that goes between the descriptive and the prescriptive is at the heart of economic analysis with implications for organizational models underpinning and organizational economics has been defined as mandatory. This economy develops prescriptive organizational issues that are relevant to models of phenomena of imbalances that could serve as a basis for organizational integration of the economy with the traditional theory of management.

For prescriptive organizational economics, rather than the traditional economy, the analysis of the phenomena of imbalance is fundamental to understanding why you cannot integrate traditional administrative theory. Donaldson (1990) suggests that these differences are not a sufficient explanation of the response of traditional management theorists on organizational economics. Barney (1990) accepts the differences between the approaches of organizational economics and organizational research other approaches in terms of methods and assumptions, but feels that these differences are not sufficient to guarantee the extreme response to organizational economics put into evidence by some organizational scholars, who do not explain fully both the number and depth of the criticism, so that additional barriers must be sought in the theoretical discourse and integration. On the contrary, says Barney (1990), the emphasis of organizational economics simplistic motivational theories can provide important opportunities to support the economic integration of organizational management with the traditional theory, as long as both share a prescriptive intent. For its part, Barney (1990) argues that the relationship between these two models has many attributes of conflict between groups and argues that the winner of this debate between advocates of theories of organizational economics and management theories traditional organizational theories are considered as a field of study in general. The possibilities for integrating organizational economics with traditional management theory based on the connections between specific models Barney (1990) also raises the hypothesis that academic organizational response to organizational economics is economic imperialism or import of reasoning, methods and economic values to other scientific disciplines and also suggests that this debate is a conflict between groups that can be studied by social psychologists. Donaldson (1990b) replicates the criticisms of Barney (1990), noting that there are grounds for doubting a synthesis between organizational economics and traditional management theory. For Donaldson (1990b) criticism of Barney (1990) ranks as the most emotional critique of organizational economics centred on criticism of Perrow (1981 and 1986) who reacts negatively to organizational theory and considers the agency theory with some quickly to be ready next to the main against the officer which is consistent with his position. A stay more critical to organizational economics to organizational theories is not surprising. Barney (1990) proposed the intellectual separation of the emotional but it would be more comfortable for the proponents of organizational economics is to consider all opposition to the organizational functioning of the economy as purely emotional, without any rational substance. The strength of the reaction of Perrow's economy is partly organizational explicable in terms of his long career in literature and who can see beyond the organizational political economy. There may therefore underlying basis of political sentiment in more than one side of the debate on organizational economics. Donaldson (1990b) points out that the strength of their criticisms of organizational economics are based on the apprehensions about the negative impact on management theory and argues that there are reasons to doubt that organizational economics lend themselves to synthesis the traditional management theory. Donaldson (1990b) notes that its position is not neither left nor right, but that is a concern of what organizational economy is doing to the traditional management theory, the academic profession of management and at least as practicing managers is outlined. Considers that it should fight like a turf war would be a dirty war in which the organizational economics tend only to provide the basic reasons for individuals without really considering the arguments of value.

The reaction to the economy in general by the theory of organizations may differ to the reactions of organizational economics understood as agency theory and the theory of transaction costs and what is at stake is the relationship between management theory and organizational economics defined as agency theory and the theory of transaction costs.

Conclusions

The organizational economic theory was developed to give greater significance to the role of management in marketing organizations. The organizational economics theories focus on the neglected category of the economy as traditional theory of government, which complicates the relationship between academics and administrators. It is difficult to determine a priori the potential contributions of the organizational economic theory, but only until this research paradigm has more findings.

Organizational economics focuses on the compatibility of incentives to investment issues for the production and sharing of knowledge, but neglected the costs of incentives and benefits of the practices of knowledge management. According to Foss and Mahnke (2003), organizational economics suggests three options to provide incentives to employees to investment in firm-specific knowledge, such as high-powered incentives, promotion rules and give access to critical resources.

Organizational economics addresses deal with these situations of conflict of interest that are central to the practice of knowledge management. Economic theories that focus on organizational conflict of interest and that are positive by nature live in what is known as credible transactions.

Future Challenges

Future research on organizational economics must develop and articulate the theories and hypothesis that complement derive new hypotheses and theories existing traditional organizational and administrative approaches to generate new theoretical - methodological and empirical approaches can enhance the scope of organizational theory. Organizational economics can make important contributions to management theory only if it enhances their development in variables such as motivation.

The methodological individualist approach motivation and the systems approach for the coordination of team efforts, require research in the processes of integration and synthesis. Barney (1990) suggests that in their understanding of the limitations and potential is encouraged by the analysis of Donaldson (1990) and hoped that the limitations and potential of traditional management theories are encouraged by a careful study of organizational economics.

References

Aghion, P. & J. Tirole (1997). Formal and real authority in organization. *Journal of Political Economy* 105, pp. 1-29.

Argyres, Nicholas; Felin, Teppo; Foss, Nicolai & Senger, Todd (2009). Special issue: Organizational economics and organizational capabilities: From opposition and complementarity to real integration. *Organization Science*, Vol. 20, No. 4, July-August, 2009, pp. 832-834.

Baker, G.; Gibbons, R. & K. J. Murphy (1999). Informal authority in organizations. *Journal of Law, Economics and Organization,* 15, pp. 56-73.

Barney, J. B. (1990). The deabte between traditional management theory and organizational economics: Substantive differences or intergroup conflict. *Academy of Management Review,* Vol. 15, No. 3 (Jul. 1990), pp. 382-393.

Barney, J. B., & Ouchi, W. G. (1986). *Organizational economics*. San Francisco: Jossey-Bass.

Broadbeck, M. (1968). Methodological individualism: Defini-tion and reduction. In M. Broadbeck (Ed.), *Readings in the philosophy of the social sciences* (pp. 280-303). New York: Macmillan.

Buckley, W. (1967). *Sociology and modern systems theory*. Englewood Cliffs, NJ: Prentice-Hall.

Casson, M. (1994). Why are firms hierarchical?. *International Journal of the Economics of Business* 1, pp. 47-76.

Coase, Ronald H. (1937). The nature of the firm. in Nicolai J. Foss, ed. 2000. *The theory of the firm: Critical perspectives in business and management, vol II*. London: Routledge.

Conner, K. R. & C. K. Prahalad (1996). "A resource based theory of the firm: Knowledge versus opportunism." *Organization Science*, 7 5: 477-501.

Demsetz, H. (1988). The theory of the firm revisited. *Journal of Law, Economics, and Organization* 4, pp. 141-161.

Donalson, Lex (1990). The Ethereal Hand: Organizational Economics and Management Theory. *The Academy of Management Review*, Vol. 15, No. 3 (Jul., 1990), pp. 369-381.

Donalson, Lex (1990b). A Rational Basis for Criticisms of Organizational Economics: A Reply to Barney. *The Academy of Management Review*, Vol. 15, No. 3 (Jul., 1990), pp. 394-401.

Durkheim, E. (1938). Rules of the sociological method. New York: Free Press.

Easterby-Smith, M., M. Crossan & Nicolini, D. (2000). Organizational learning: Debates past, present and future. *The Journal of Management Studies* 38 (6), pp. 783-796.

Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review,* 1, pp. 57-74.

Foss, N. J. & Mahnke, V. (2003). Knowledge management: What can economics management contribute? in Mark Easterby-Smith and Marjorie Lyles, ed., *The Blackwell Companion to Organizational Learning and Knowledge Management,* Oxford: Basil Blackwell.

Hannan, M. T., & Freeman, J. (1977). The population ecology of organizations. *American Journal of Sociology*, 82, pp. 929- 964.

Hart, O. (1995). *Firms, contracts, and financial structure*. Oxford: Oxford University Press.

Holmström, B. (1979). Moral Hazard and Observability. *Bell Journal of Economics* 10, pp. 74-91.

Holmström, B. & Milgrom, P. (1994). The Firm as an Incentive System. *American Economic Review*, 84, pp. 972-991.

Jensen, M. C. & Meckling, W. H. (1992). Specific and general knowledge and organizational structure. in Lars Werin og Hans Wijkander, eds. 1992. *Contract Economics*. Oxford: Blackwell.

Jensen, M. C. & Meckling, W. H. (1976) Theory of the firm: Managerial behaviour, agency costs and ownership struc-ture. *Journal of Financial Economics,* 3(4), pp. 305-360.

Jones, G.; George, J. & Kosnik, R. (1989). *Internalization and growth: On the psychology of organizational transacting.* Unpublished manuscript, Strategic Group Working Paper Series #89-019, Texas A&M University, Department of Management, College Station.

Kesner, I. & Dalton, D. R. (1989, August). *The role of share-holders and the board of directors in the corporate gover-nance process*. Paper presented at the meeting of the Academy of Management, Washington, DC.

Kreps, D. (1990). Corporate culture and economic theory. In: J. Alt and K. Shepsle, (eds.) *Perspectives on positive political economy*. New York: Cambridge University Press.

Lajili, K.; Madunic, M. & Mahoney, J. T. (2007). *Testing organizational economics theories of vertical integration*. http://www.business.uiuc.edu/Working_Papers/papers/07-0104.pdf.

Madhock, A. (1996). The organization of economic activity: Transaction costs, firm capabilities, and the nature of governance. *Organization Science,* 7, 5, pp. 577-590.

Mahoney, J. T. (2005). *Economic Foundations of Strategy*. Thousand Oaks, CA: Sage Publications.

Meyer, J. W. & Rowan, B. (1977). Institutional organizations: Formal structure as myth and ceremony. *American Journal of Sociology,* 83, pp. 340-363.

Milgrom, P. & Roberts, J. (1995). Complementarities and fit strategy, structure, and organizational change in manufacturing. *Journal of Accounting and Economics,* 19, pp. 179-208.

Milgrom, P. and Roberts, J. (1990). The Economics of Modern Manufacturing: Technology, Strategy and Organization. *American Economic Review,* 80, pp. 511-528.

Pfeffer, J. & Salancik, G. (1978). *The external control of or-ganizations.* New York: Harper & Row.

Perrow, C. (1986). *Complex organizations: A critical essay* (3rd ed.). Glenview, IL: Scott, Foresman.

Perrow, C. (1981). Markets, hierarchies, and hegemony: A critique of Chandler and Williamson. In A. Van de Ven & J. Joyce (Eds.). *Perspectives in organization design and be-havior* (pp. 371-386, 403-404). New York: Wiley.

Prendergast, Canice (1999). *The Tenuous Tradeoff of Risk and Incentives. Working paper*.

Shelanski, H. & Klein, P. G. (1995). Empirical research in transaction cost economics: A review and assessment. *Journal of Law, Economics and Organization*, pp. 335-61.

Thompson (1967). *Organizations in Action*. New York: Wiley.

Tversky, A. & Kahneman, D. (1974). *Judgement under un-certainty: Heuristics and biases.* Science, 185, pp. 1124-1131.

Ulrich, D., & Barney, J. B. (1984) Perspectives in organiza-tions: Resource dependence, efficiency, and population. Academy of Management Review, 9, pp. 471-481.

Williamson, Oliver E. (1996). *The Mechanisms of Governance*. Oxford: Oxford University Press.

Williamson, Oliver E. (1985). *The Economic Institutions of Capitalism*. New York: Free Press.

Williamson, Oliver E. (1975). *Markets and hierarchies*. New York: Free Press.

General Considerations on a Report of Research about the Company's Risk Assessment and Forecast for Bankruptcy Evaluation and Prognosis

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Abstract: The research rapport is a synthesis concerning the conclusions of an already done research. This is a project laying at the basis of the theoretical, methodological and practical aspects of the process. The research project implies the existence of specific knowledge and skills acquired by means of personal experience. The research proposal has to include the stages as provided in the present paper. This plan is just an option which will be further improved in order to make an action schedule.

Keywords*:* bankruptcy; draft; risk; evaluation; forecast; investigation; report; strategy; analysis.

JEL Classification: G0, G33, C35

1. Introduction

Due to the present possibilities of access to a great amount of economical information, a thorough analysis of the companies is required. Being very important for investors, managers as well as banks, such a study about the analysis and prognosis of bankruptcy is more than welcomed.

If a company manages to work on long terms, than it means that the managers and the owners are skilful and they develop their activity on an available market. The companies need time to make debts and the debtors have to foresee the need of time so that they shouldn't become anxious to close it. "Therefore time is a filter that separates the success and failure". (Anghel, 2002, p. 11)

Information about competitors, their weaknesses or strengths as well as the rapport between the offer and the demand are highly important for companies.

None of the economic agents will have an adequate behaviour unless they are explorative and inquisitive, no matter its status, because of the daily inevitable changes within the business world.

This will highlight the need and the sensible decision making, but for this correct information is needed. Obtaining such information is the result of a specially designed strategy.

The strategies have to follow the already established objectives. If the established means do not provide continuous information the image may be altered due to the lack of some of the parts. The risk is due to the fact that information is not easy to find and it is entirely useful. (Prunea, 2003, p. 25)

This is why the necessary information has to deal with the past, present and the near future. This kind of information is necessary for establishing the causes of the past events and the predictions of the future situations. But the actual state of a company is not the effect of only the previous evolution as unpredictable factors may influence it.

It is highly important for the purpose of the present paper as any society is interested in knowing the evolution of the events and its impact on the market and on the economical and financial situation. Once these tendencies are known, any company can adjust the resources to the established target.

2. Resources - Stages

2.1 Identification and list of the main ideas related to the research. The Concept of the way to bankruptcy

As for the main ideas I will extract some concepts from the special literature meant to frame the relevance if the bankruptcy.

The term “bankruptcy” is used as a generic term which includes those companies with financial difficulties. Some of the specialists even consider that failed means bankrupt.

The two terms “bankruptcy” and “failure are changeable in some authors’ definitions. Băileșteanu does not define the term, he only lists the stages that precede the bankruptcy: impossibility of making the current payments, lack of financial resources to pay the credits, cashing very late, losses.

“Bankruptcy points to the impossibility for a company to make the monthly payments. From the operational point of view, the company is bankrupt when the following happen: bankruptcy declaration, incapacity of paying the credits, withdrawal of the support of the creditors”. (Beaver)

According to Blum “bankruptcy is an event that points to the incapacity of paying the debts, entering the liquidation procedure or an agreement to reduce the debts”.

“The company which is in liquidation procedure or any other kind of reorganizing process for the benefit of the creditors is bankrupt”.

“Bankruptcy is defined as the business closed due to the decision of the Court.”(El Hanawy & Marris)

“Bankruptcy is defined as the declared incapacity of payment of the liquidation following a decision of the Court” (Taffler)

However, the financial failure is necessary but not enough as a condition for bankruptcy. It is difficult to predict the bankruptcy. A company is supposed to be in a bankruptcy procedure when it has financial problems related to the entire accountancy, to the cease of the payments to creditors, incapacity to buy the issues, etc.

There are three alternative types of bankruptcy procedure, named after obvious medical terms. The same way as the doctor recognizes the disease checking the symptoms, the same way is known the bankruptcy:

I. Chronic bankruptcy, indicating the fact that the company’s performances do not increase before the failure. Such a situation usually occurs when the company has a poor financial and economical situation and the trend has been constantly unfavourable.

II. Bankruptcy by means of insufficient income is present in the economical reality. After a long period of financial success, the company suddenly collapses after which there is a period of constant insignificant variation of the financial indicators when the company has an average level of debts, before the real bankruptcy. Only after a few more years there comes a rapid decline and then the bankruptcy. This is the classical situation as the initiative of the share holders, when they decide to close the company in order to avoid further loss. It is likely that the share holders try an intermediary operation reducing at minimum the activity waiting for a sale opportunity. If this does not come along, they decide the closure of the company.

III. Sharp bankruptcy supposes a high increase of the indicators (in contrast with the previous period of time), followed by a sudden bankruptcy, although the trend in the previous period did not allow for an unfavourable conclusion regarding the future of the company. "The way to bankruptcy" is followed from two perspectives, that of the financial balance and that of efficiency as follows:

a) The lack of financial balance occurs when the available actives do not concord with the current obligations (short term debts). The actives have a major implication in the effectiveness as well as the risks of a company.

There are 6 stages leading to the decrease in the liquidities and to the lack of balance between the liquid actives and the current debts, which eventually lead to bankruptcy:

1) The company has no problems in paying the debts, fact demonstrated by a good correlation between the current obligations and the current cash-flow, between the long-term investments and the cash.

2) The company makes other credits to solve temporary needs or the financing of an increase of the business rate.

3) The company postpone the debts to the suppliers and the instalments for the credits;

4) The company renegotiates the contracts with the suppliers, being in the impossibility of paying the debts on due time.

5) The company transforms a part of the immobility in cash;

6) If in the above mentioned stages the company has not managed to change its situation, the collapse is inevitable.

b) The effectiveness perspective

The term Market Value Added" (MVA) is very frequently used in the economical and financial analysis. The formula is the following: **MVA = V – (Ci+Pr)**

V= the market value of the company

Ci = the actual value of the capital invested by the share holders

Pr = the actual value of the reinvested profit

The initial rational expectations of the share holder are higher than the initially invested capital. (Ci+Pr).

The investor's perspective is highly important.

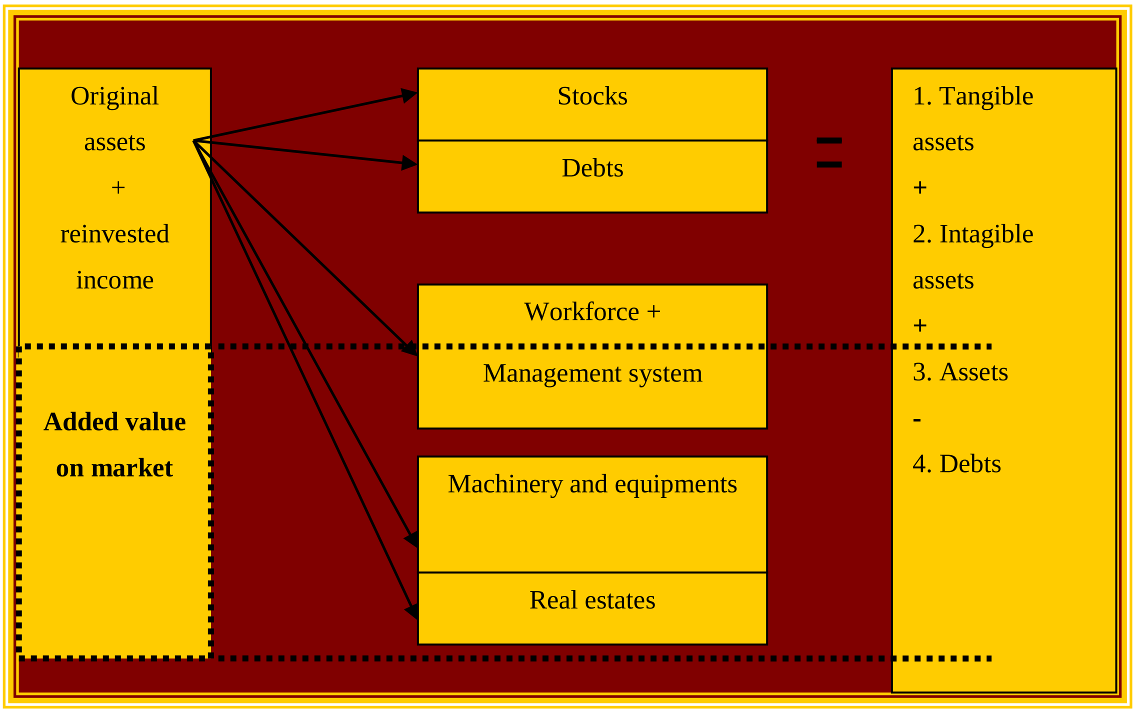

Figure 1. Undertaking in terms of investor

Within the efficiency perspective there are 5 stages leading to the bankruptcy:

1. The company is a market leader and it has a high profitability.
2. The company has an average profitability, the shareholders benefit of a positive MVA, therefore a normal situation

3. The company ensures a free of risk efficiency, so MVA=0 and no significant increase is expected in the near future, the owners being able to decide whether to sell the business of the actives.
4. The company has losses and it cannot pay the debts and the situation may not improve, the owners and the creditors will start the forced liquidation procedure.
5. The company has the biggest losses ever for the shareholders and creditors due to lack of demand, loss of the supplying market, the appearance of substitutable goods, equipment usage, all these determine the impossibility of selling the business or the actives, the cassation being necessary. (Anghel, 2002, p. 17)

2.2. Formulating a hypothesis, a possible solution.

Bankruptcy versus success

Why is it easier to define bankruptcy than success?

Many studies within the economical and financial analysis focus on the prediction of bankruptcy, and it is not because of pessimism of the analysts, but it is due to the fact that it is easier to define methodologically bankruptcy than success.

From our point of view it is necessary that a company find its own "fate", meaning being able to stop the business on time in order to retrieve something, and the invested capital and the employees being encouraged to leave for a more rentable domain.

Predicting the bankruptcy is very important as the costs of the liquidation are far less small than with the collapse, when nothing can be retrieved anymore.

2.3. Brief exposition of the target, objectives and main ideas of the research.

The aim of the project is the study of the theoretical basis, the development of the methodology concerning the bankruptcy risk at company level and fundament the different types of methods highlighting the situation of the company at a certain moment and discovering strategies to prevent risk, if it exists.

Achievement of this aim is conditioned by the following research tasks:

- The concept of bankruptcy in the specialised literature;

- Justification of the financial lack of balance;
- Analysis of the problems regarding the prediction limits of the bankruptcy;
- Highlighting the general methodological aspects of the risk of bankruptcy;
- The methodology of the experience in predicting bankruptcy;
- Economical factors differentiating the activity branches of the various industries;
- Opinions about the main controversies related to the prediction of bankruptcy;
- The prediction of the company analysed within the project;
- Elaboration and establishing the strategies of the bankruptcy risk within the analysed company.

2.4. The Research Plan (succession of stages)

After the documentation stage, the study of the theoretical development of the notion of bankruptcy, we will provide a frame including the steps to be followed. The project about the evaluation and the prognosis of the bankruptcy risk of the company will be structured as follows:

1. General considerations regarding the analysis and diagnosis of the risk,
2. Statistical methods of evaluation and prognosis of the bankruptcy risk,
3. Economic and financial analysis as a starting point in evaluating the bankruptcy risk;
4. Strategic and financial diagnosis - method of analysing the bankruptcy risk;
5. Conclusions and proposal about the analysis and prognosis of the bankruptcy risk.

2.5. Establishing the Research Strategy (methods, techniques instruments reported to the aim and objectives of the research)

As for the research problem, the aim and the objectives I will mix the methods, the techniques, rules and principles, the specific instruments. I will make ample use of the experimental, comparative, statistic, interact ional, qualitative and quantitative strategies.

The material will be logically structured starting with the main notions about the risks that the companies may face.

Function of the activity, the result of a company is more or less sensitive to events such as: energy cost rise, rise of the resources, rise of salaries, increase of the market competition, technological progress.. Any action is more or less risky according to the result.

The risk does not depend only on the above mentioned factors, but it depends on the costs and on their behaviour within the activity. Another risk factor for a company is the financial policy and the strategy of the respective company.

The evaluation of the bankruptcy risk can be made by **means of statistical methods of analysis** using the analysis of the financial balance as based on the patrimonial or functional balance, or by **statistical methods of analysing the dynamics** using the highlighted flux of the financial view.

The main operational instruments used by the financial analysis to investigate the bankruptcy risk are:

- The Circulating fund – its presence determines the absence of the insolvability risk, and its insufficiency indicates a sign of the lack of cash and consequently the risk of the non-payment.
- The Accountancy active – represents the guarantee of the creditors for the unfavourable activity of the company.
- The reliability indicator – is calculated by the banks and it expresses the capacity of a company to pay a credit.
- Instalment method - means solvability instalments such as: the general or patrimonial liquidity instalment, the rapid liquidity instalment, the financial levier, the patrimonial solvability instalment, the financial instalment, the short term instalment debt. All these are important for the analysis of the financial situation when compared to other companies in the dame field of activity or to the same instalments in the past.

The analysis of the dynamics if the bankruptcy risk is the elaboration of the financing layout, considered an overview of the resources explaining the variation of the patrimony of the company within a time limit.

Another statistical method is the analysis of the influence of factors on the bankruptcy risk, which is: regression and correlation analysis, chain substitution method, bankruptcy risk analysis using the law (Gauss – Laplace), being the most familiar and the most used probability law, as it catches the best the evolution of the economical and financial phenomena.

Many experts and many financial organizations have attempted to establish a basis on which to predict the risk of bankruptcy a given society. Been used statistical method called analysis of discrimination, with which were analyzed in terms of financial companies that went bankrupt and companies that have made profits. With this analysis we determine the best linear combination of rates which lead to the clear distinction between the two companies, or different periods of the same company. This linear combination is known as function scores; whereas results in a value called score and the score obtained is assessed on the likelihood that the company considered to fail in the coming years.

Among the most well-known *scor functions* are the models of the scoring method. Beaver model, Altman Method, Conan and Holder Model, The French Bank Model, the „credit – men" Model or Security-analysis, as well as Romanian models: Manecuta si Nicolae Model, B Model – Bailesteanu, The Scor function Model – Paul Ivoniciu, The A Model – Ion Anghel. Another analysis is the strategic one of the respective company which supposes taking the following steps:

1. Evaluating the current results of the company by analysing the financial indicators and by analysing the objectives and the strategies of the company;
2. Evaluation of the managerial capacity;
3. Analysis of the business environment of the company;
4. The analysis of the strategic factors.

Two models are provided by the specialists to make the strategic analysis of the bankruptcy risk: The BCG Model - Boston Consulting Group and the A.D. Little Model.

The strategic approach of the bankruptcy risk, together with the other methods represents a useful and efficient instrument for the strategic financial diagnosis.

2.6. The Elements of the Validity of the Research Project and the Results to be obtained.

Bankruptcy is a major business problem and it is not limited to a certain industry, a certain company with a certain dimension or of a certain age. It is considered the way the market uses to get rid of the uncompetitive companies. Note should be taken that not always the bad management is the cause of the bankruptcy of a company, but the economical environment too.

Many of the studies related to bankruptcy ignored the economical environment variables, some even suggested that the macro economical variables should be included in the prediction of the bankruptcy of the company.

The inflation rate should also be taken into consideration within the time period so that it shouldn't overate 10,5%, meaning that this conclusion can differ when we deal with hyperinflation.

Therefore using a specific *deflator* from the analysed branch the increase of the relevance of the prediction models of the bankruptcy is obvious. Such an example of specific *deflators* to adjust the financial information in the metallurgic industry could be the following:

Variable	Deflator
Actives in the balance	Steel Price increase indicator
Debts in the balance	Interest rate
Information from the loss and gain folder	Indicator of the increase of the steel price

An adjusted model for the analysed company can be the usage of the macro economical variables dividing the stage of the analysed years into economical stages: economical increase, recession, stagflation, etc.

A study made (Mensah, 1984) showed that the prediction model of the bankruptcy including heterogeneous stages is inferior to the model developed in more stable periods from economical point of view.

In conclusion, by a thorough analysis of the factors concerning the branch and the general economic environment a more precise prediction of the bankruptcy can be achieved.

There is, however, a limit that must be taken into consideration, that is the inclusion of such variables expressing the characteristics of the industry and of the economical environment generates highly geographically limited models as compared to those based only on the financial rates.

3. Conclusions

We believe that such a research was necessary in order to improve our knowledge of the chosen domain, and the main purpose is that of bringing a series of corrections to the models which do not correspond to the Romanian reality, or may be the construction of our own model to adjust within the Romanian practice in the analysed activity.

The initial plan is just a variant which will be further improved to shape a more consistent action program.

4. References

Anghel, I. (2002). *Bankruptcy - radiography and prediction*. Bucharest: Economic.

Dalotă, M.D. & Dalotă, S. (2000). *Analysis and evaluation company*. Timişoara: Orizonturi Universitare.

Petrescu, S. (2008) *Financial analysis and diagnosis - accounting. Theoretical guide - Applied,* second revised and added edition. Bucharest: CECCAR.

Pripoaie, R. (2004). *Statistical analysis and forecasting of business bankruptcy risk*. Bucharest: Didactică şi Pedagogică, R.A.

Prunea, P. (2003). *The risk business. Aspects. Factors. Ways to reduce*. Bucharest: Economic.

Zaiţ, D. & Spalanzani, A. (2006). *Research in Economics and Management - Epistemological and methodological highlights*. Bucharest: Economic.

Fair Value Considerations during the Current Financial Crisis

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Abstract: In the current economic conditions, accounting applications seem to face new and complex challenges. Especially, these challenges are on the basis of fair value. Recent crisis has highlighted the complexity and difficulty of valuing financial instruments when market information is not available or not sufficient to give better economic decisions. FASB 157 "Fair Value Accounting" became effective by January 1, 2008 for most U.S. companies and some believe that this caused the problem. Oppositely, a wider group of interested parties and investors believe that fair value increases transparency and give relevant information for decision making. Depending on the financial reporting framework and the going concern assumption, this paper investigates the process for determining fair value measurements and its in-depth effects in financial reports. Also, the paper will try to highlight the question: "Can fair value be really the main reason of the global financial crisis?" from the aspect of an accounting academician.

Keywords: Fair Value; Accounting; Crisis

JEL Classification: M1, M41

1. Introduction

Within the last decade, it is obvious that there is a move toward principle-based accounting standards based on an improved conceptual framework. The objective of the financial statements is to provide more transparent and useful information by reducing the complexity through main qualitative characteristics such as understandability, relevance, reliability and comparability. The Sarbanes Oxley Act of 2002 required also SEC to incorporate the principle-based standards and in 2004 FASB agreed to converge to International Accounting Standards. The studies indicate that progress has been made nearly in all areas but a more detailed work is needed to meet the original goals of principle-based standards.

The primary goal of principle-based standards is to provide broad guidance so that the standard can be applicable to many different situations. This means that when the situation can not be covered in all aspects, the preparers will turn to principles. This will require the principles to be clearly stated in such a way that they can be easily understandable and not buried with the rules and exceptions to those rules (Greenspan, Hartwell, 2009).

The current financial crisis in US has turned into a big liquidity crisis and financial market meltdown. In recent years, financial innovation brought a group of new financial products into the markets such as Collateralized Debt Obligations and Credit Default Swaps. These instruments were mainly used for speculation instead of hedging purposes (Deloitte Canada, 2009). In respect of these new financial instruments, the causes of the crisis become clearer. In the heart of the crisis lies extreme amount of debts which are created imprudently and much of it in the form of credit securitizations that were held off-balance sheet. The high default risk of some of these financial assets and uncertainty about the losses made the creditors reluctant to create more credit. Then the liquid markets became illiquid and the assets could not be priced reasonably. Within these difficulties another major concern comes into stage which is “valuation”. Financial reporting standards offers key measures for valuations, income and cash flows. In recent years, fair value issues increased for the valuation of some assets and liabilities. Especially, valuation of financial instruments require market values that are available from a liquid market in order to represent information that is useful to all types of contracting parties to facilitate investment and credit decisions. In the absence of reliable market prices, this fair value concerns also caused a problem within the merits of the trend.

This paper includes the review of the events that causes the crisis and accounting complexities in areas such as determination of fair value and off-balance sheet structuring.

2. Fair Value Accounting

Fair value measurement has been an important part of Generally Accepted Accounting Principles and the Financial Reporting Standards for many years. As stated by Young (Robinson 2008), the determination of fair value is one of the oldest debates in accounting in comparison to historical cost. Within the financial reporting standards fair value defined as “the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction. US Accounting Standard FAS 157 defines fair value as “the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date." Both definitions concentrate on the "value in use" between market participants that refers to the companies' solvency which is an important aspect of the current crisis. The discussion of historical cost versus market value is not new but a challenging subject. This is due to how the value can be best represented; the value at which it was purchased or the value in the current market. Table 1 briefly shows the key features of historical cost and fair value.

Table 1. Key Features of Historical Cost and Fair Value

HISTORICAL COST	FAIR VALUE
Stewardship	Investment Decisions
Income Statement	Balance Sheet
Exclusion of unrealized profit	Inclusion of unrealized profit
Confirmatory value (transaction based)	Predictive value (present value, models, estimates)
	Disclosures

Source: Fujioka, Seko, Hoontrakul, 2008

International Financial Reporting Standards (IFRS) are the standards that are used all over the world including nearly all Europe. Formerly, these standards were known as International Accounting Standards (IAS). IAS 32, IAS 39 and IFRS 7 prescribe the accounting and disclosure for financial instruments. IAS 32 covers how to present the financial instruments by setting out definitions, accounting classifications of instruments and specifically addressing the accounting treatment for these instruments. IAS 39 includes when to recognize or derecognize a financial instrument, and how the different types of financial instruments are measured especially for derivatives. IAS 39 requires financial assets to be classified as follows:

- At Fair Value through Profit and Loss (FVTPL);
- Held-to-Maturity (HTM);
- Available for Sale (AFS);
- Loans and Receivables (LR).

The recognition and measurement differs for each category of financial asset. The first category FVTPL has also two subcategories as held for trading and fair value option. FVTPL and AFS type of assets are measured at fair value while the other two (HTM and LR) are measured at amortized cost using the effective interest method. IAS 39 sets out three key areas for determining the fair value:

- An active market with quoted prices;
- No active market: valuation technique;
- No active market: equity instruments.

Quoted prices are the prices that are readily and regularly available from a dealer, broker or pricing agencies. Also bid or ask prices for assets to be acquired or liabilities to be held can be considered as quoted prices. If there is no active market then the company determines the fair value by using an acceptable valuation technique which incorporates all factors that market participants would consider in setting a price, is consistent with accepted economic methodologies for pricing financial instruments, and relies as little as possible on entity-specific inputs (Deloitte, 2008). When there is no active market for an equity instrument or derivatives that are linked to it and the estimates cannot be made reliably then the equity instrument must be measured at its cost less any impairment. This complex and well structured standard IAS 39 offers a more favorable treatment than US GAAP offers.

Statement of Financial Accounting Standard (SFAS) 157 “Fair Value Measurements” was issued in 2006 to be effective for fiscal year 2008, starting from November 15, 2007. FAS 157 provides three different levels for determining the fair value of an asset or a liability (Rossi, 2009; Fujioka, Seko, Hoontrakul, 2008):

- Level 1: Quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date.
- Level 2: Observable market inputs other than quoted prices such as prices for

similar items, interest rates, yield curves, volatilities, prepayment speeds, credit risks, foreign exchange rates, published indexes. Level 2 inputs might not be directly observable for the item being valued, but they might be derived from observable inputs. Level 2 inputs include:

(a) Quoted prices for similar assets or liabilities in active markets;

(b) Quoted prices for identical or similar assets or liabilities in markets that are not active, that is, markets in which there are few transactions for the asset or liability, the prices are not current, or price quotations vary substantially either over time or among market makers (i.e. some brokered markets), or in which little information is released publicly (i.e. a principal-to principal market);

(c) Inputs other than quoted prices that are observable for the asset or liability (i.e. interest rates and yield curves observable at commonly quoted intervals, volatilities, prepayment speeds, loss severities, credit risks, and default rates);

(d) Inputs that are derived principally from or corroborated by observable market data by correlation or other means (market-corroborated inputs).

– Level 3: Inputs that are not observable in the marketplace, but are developed by the entity and are not derived from, or corroborated by, market inputs. Level 3 is subject to special disclosure requirements, including information in the annual financial statements, about the valuation techniques used. Unobservable inputs for the asset or liability reflect the reporting entity's own assumptions about what market participants would use to price the asset or liability and especially developed using the best information available according to FASB. Unobservable inputs shall be used to measure fair value to the extent that observable inputs are not available, or there is little, for the asset or liability at the measurement date.

FAS 157 and so fair value accounting was stated as the main reason of the financial crisis. Most of the critics argue that mark to market in an inactive market distorts the financial results because fair values derived from an inactive market cannot be the representative of the true value of the assets. This is relevant especially for level 2 and level 3 inputs for fair value determination. Despite all these concerns, SEC advised that "the suspension of fair value accounting by historical based measures would likely increase investor uncertainty". On September 2008, SEC released the amendment of FAS 157 where the main attention was on level 3 inputs. The amendment states that: "When an active market does not exist, the use of management estimates that incorporate current market participant expectations of future cash flows, and include appropriate risk premiums is acceptable. In some cases, multiple inputs from different sources may collectively provide the best evidence of fair value. In these cases, expected cash flows would be considered alongside other relevant information. The weighting of the inputs in the fair value estimate will depend on the extent to which they provide information about the value of an asset or liability and are relevant in developing a reasonable estimate".

In response to the amendment of FAS 157, IASB also declared the amendments of IAS 39 and for additional disclosures IFRS 7. The scope of the amendments include that: "The amendments will only permit reclassification of certain non-derivative financial assets recognized in accordance with IAS 39. Financial liabilities, derivatives and financial assets that are designated as at FVTPL on initial recognition under the 'fair value option' cannot be reclassified. The amendments therefore only permit reclassification of debt and equity financial assets subject to meeting specified criteria". The other issues clarified by IAS 39 are as follows (Fujioka, Seko, Hoontrakul, 2008):

- Using own assumptions when relevant market inputs do not exist;

  In an inactive market it is justifiable to use own assumptions for future cash flows and discount rates that are adjusted for various market risks;

- Broker Quotes;

  Broker quotes cannot be the representative of fair value in an inactive market if they do not reflect the transactions in that market.

- Forced transactions and distressed sales.

Due to involuntary liquidations and distressed sales market becomes illiquid. In such markets it is not appropriate to use the inputs derived from involuntary transactions or distressed sales for determining the fair value.

In parallel to the amendments to IAS 39 and to make reclassifications more transparent additional disclosures were required within IFRS 7:

- the amount reclassified into and out of each category;
- for each reporting period until derecognition, the carrying amounts and fair values of all financial assets reclassified in the current or previous reporting

periods;

- if the financial asset has been reclassified based on the ‘rare circumstances’ exception, details of those circumstances – including the factors that indicated that the situation was rare;
- the fair value gain or loss recognized in profit or loss or OCI for the reporting period in which reclassification occurs and in the previous period;
- in the period of reclassification and in subsequent periods until the financial asset is derecognized, the gain or loss that would have been recognized in profit or loss or OCI had the financial asset not been reclassified, and the actual gain, loss, income and expense recognized in profit or loss; and
- the effective interest rate and estimated cash flows the entity expects to recover as at the date of reclassification of the financial asset.

3. Fair Value and the Crisis

In the context of fundamental changes in the world economy and in financial markets the causes of the crisis can be easily understood. The roots of the crisis are basically the mortgage defaults but in fact it is only a symptom or a component of a deeper financial storm. In fact, the main problem are the financial instruments which are derived from the mortgages such as mortgage backed securities (MBSs), Collateralized debt obligations(CDOs) and Credit Default Swaps (CDSs).

Home loans which are the basis for MBSs in 2008 were divided into too many parts and spread across financial markets. MBSs were restructured into a wide variety of financial instruments with different levels of risk. If interest rates increase security bring profit but if falls brings loss (Clark, 2008). (MBS bring down the US Economy)CDOs are a type of structured asset backed security (ABS) or mortgage-backed security (MBS) whose value and payments are derived from a portfolio of fixed-income underlying assets. CDOs are assigned different risk classes, or parts, whereby "senior" parts are considered the safest securities. Interest and principal payments are made in order of seniority, so that junior tranches offer higher coupon payments (and interest rates) or lower prices to compensate for additional default risk. Some CDOs do not own cash assets like bonds or loans. Instead, they gain credit exposure to a portfolio of fixed income assets without owning those assets through the use of credit default swaps, a derivatives instrument. Under such a swap, the credit protection seller, the CDO, receives periodic cash payments, called premiums, in exchange for agreeing to assume the risk of loss on a specific asset in the event that asset experiences a default or other credit event (Vink, Thibeault, 2008).

In order to protect themselves institutions especially banks created CDSs. Credit swaps are generally the most favorite of the all other types of credit derivatives. In such swaps, payment to the buyer is triggered by an event which is included in the contract. To highlight the mechanism and the role in the crisis, credit default swap tried to be explained by an example.

A Basic Credit Swap

On November 15, 2008 Bank A used credit from Bank C of $1.000.000, with an interest LIBOR+1%, for 6 months. At the same time, Bank A enters into a swap contract with Bank Z, $1.000.000, fixed interest rate 7.25%, for 6 moths and will get premium from Bank Z LIBOR+0.25%.

First case: 31.12.2008 LIBOR = 6%

1.000.000 x 0.0625 x 45/360 = 7812.5

1.000.000 x 0.0725 x 45/360 = 9062.5

$1250 LOSS

Second case: 31.12.2008LIBOR = 7.5%

1.000.000 x 0.0775 x 45/360 = 9687.5

1.000.000 x 0.0725 x 45/360 = 9062.5

$625 PROFIT

In this event, Bank A pays Bank Z a fixed amount. The most common form of credit swap is called a default swap. A would pay Z, if termination triggered by the default of Bank C, an amount that is the difference between face value and the market value of a designated note issued by Bank C. In the current crisis, this designated notes usually derived from instruments like Mortgage-Backed-Securities (MBSs). When borrowers had difficulty in making payments on the mortgages MBSs began to perform poorly. As CDOs were comprised of subprime mortgages they began to lose value and the banks began to write-down huge losses depending on mark-to-market applications. Many of these banks own CDSs on their subprime securities. Swaps didn’t work out as the one side of the contract failed. Then the exchange of money stopped which caused "The Credit Crunch" (Mizen, 2008).

The difference between the mortgage crisis and the CDS crisis is that if you depend on a mortgage and if the borrower defaults on a loan, the bank still can cover the loss by selling the house but CDSs are based on actions or events especially credit ratings which is something intangible, this means there is no source or funding to cover the losses (Clark, 2008). Additionally, under distressed sales and illiquid market conditions financial instruments were fair valued in a market where the prices do not reflect the real and accurate cash flows that can be derived from the realized sales of these instruments. Forced sales cannot be the valid determinants of market prices because the accounting frameworks presume that a reporting entitity is a going-concern that does not need to liquidate its assets (Scarlata, J., Novoa., A., Sole, J., 2008). As banks are holders of these financial instruments which are valued under these circumstances, losses have been passed through the banks' capital. The weak capital structure of these banks then directly affected the whole financial system.

Currently, it is obvious that there is a perfect storm which brings the question whether this is because of the fair value or not. In fact, the causes of the crisis are clear enough; newly created complex structured securities that are sold widely at the same time transferring the risk of borrowers' default to the buyers as a result of the new "originate and distribute" concept of banking system.

Table 2 indicates the advantages and disadvantages of fair value.

Table 2. Advantages and Disadvantages of Fair Value

ADVANTAGES	DISADVANTAGES
• Clarity	• Problems of definition
• Transparency	• Adds to procyclicality
• Additional information	• Based on a price the entity has chosen not to sell at
• Accounts properly for derivatives	• Difficult treatment of liabilities
• Less subject to earnings management	

Source: Scarlata, J., Novoa., A., Sole, J., 2008

The current developments of derivative contracts led to criticism that under historical cost system a wide range of assets and liabilities were not on the balance sheet as they were created with no or little cost, though they gain or lose value as interest rates, exchange rates, libor rates, etc...changed. In these circumstances fair value accounting offers the most appropriate way to bring these transactions into the balance sheet and fully disclose (ACCA, 2008).

4. Conclusion

Achieving understandable, comparable, relevant and reliable financial reports will always be the most important objective for the fully informed financial markets. The recent crisis have raised two different situation:

1. Increased financing costs;
2. Difficulty in the valuation of debt securities.

The second situation also brings the problem with the fair value. It is true that fair value tends to increase procyclicality and make valuation difficult in case of illiquid markets. The main problem in fact are those financial instruments that the banks hold trading in an active market but then the market disappeared which makes the valuation more difficult not the fair value.

Additionally, within the global convergence and harmonization, fair value plays a very important role because investors appreciate the transparency provided by the fair value. Despite its disadvantages, fair value seems the most effective method that reflects the economic realities best in comparison to historical cost applications ignoring the current market values of financial instruments. Fair value, as a market based approach, results with more transparent and additional information that best fits to the following accounting objectives:

– Accurately reflect the current situation of a company which can be stated as “true and fair view”.
– Comparable and understandable financial reports

Financial reports with the most reliable, objective and relevant information.

The use of fair value seems to be criticized widely and continuously. Within the current crisis, it was well understood the risks of using unreliable values. From the crisis many have learned that the way of judgment for valuation should be changed and the risks should be handled more carefully. Overall, this is not an accounting crisis rather it is a credit crunch.

References

Wade, R. (2008). *The First World Debt Crisis of 2007-2010 in Global Perspective*. Challenge. Vol. 51. No. 4, July-August, pp. 23-54.

Darrell, D. (1999). Credit Swap Valuation. *Financial Analysts Journal, January-February*, pp. 73-87.

Murphy, A. (2009). *An Analysis of the Financial Crisis of 2008: Causes and Solutions*. Http://www.ssrn.com/abstract=1295344.

ACCA (2009). *Fair Value: An ACCA Policy Paper*. http://www.accaglobal.com/economy.

Deloitte (2008). *Amendments to IAS 39 and IFRS 7*. http://www.iasplus.com. October.

Mizen, P. (2008). The Credit Crunch of 2007-2008: A Discussion of the Background, Market Reactions, and Policy Responses. *Federal Reserve Bank of St. Louis Review*. September-October. 90(5). pp. 531-67.

Greenspan, J., Hartwell, C.L. (2009). Are FASB Statements Becoming More Understandable?. *CPA Journal*. January. New York.

Deloitte Canada (2009). *Derivatives Gone Wild.* Http://www.deloitte.com/article.

Robinson, D. (2008). Fair Value Issues and the Sub Prime Crisis. Prepared for the 13th Melbourne money and Finance Conference. June.

Fujioka, T., Seko, S., Hoontrakul, P. (2008). *The State of Fair Value Accounting, Global Financial Crisis and Implications to Thailand.* Http://www.ssrn.com/abstract=1303351

Rossi, J. (2009). Weighing Your Financials: A Look At the Impact of Fair Value. *Pennsylvania CPA Journal*. Spring.

Vink, D. & Thibeault, A. (2008). ABS, MBS and CDO Compared: An Empirical Analysis. *The Journal of Structured Finance.*

Clark, J. (2008). *What Are Credit Default Swaps*. http://www.howstuffworks.com/swap.htm.

Scarlata, J.; Novoa., A. & Sole, J. (2008). *Fair Value Accounting and Procyclicality*, IMF Global Financial Stability Report, Chapter 3, www.imf.org/external/pubs/ft/gfsr/2008/02/pdf/chap3.pdf.

Mathematical and Quantitative Methods

A Generalization of Some Production Functions

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Abstract: In this paper we shall give a generalization of Cobb-Douglas, CES, Lu-Fletcher, Liu-Hildebrand, VES, Kadiyala production functions. We compute the principal indicators like the marginal products, the marginal rate of substitution, the elasticities of factors and the elasticity of substitution. Finally we formulate two theorems of characterization for the functions with a proportional marginal rate of substitution and for those with constant elasticity+ of substitution (for n=1).

Keywords: production functions, Cobb-Douglas, CES, Lu-Fletcher, Liu-Hildebrand, VES, Kadiyala

JELL Classification: C70

1. Introduction

In the economical analysis, the production functions had a long and interesting history.

A production function is defined like $P:\mathbf{R}_+\times\mathbf{R}_+\to\mathbf{R}_+$, $P=P(K,L)$ where P is the production, K - the capital and L – the labor such that:

(1) $P(0,0)=0$;

(2) P is differentiable of order 2 in any interior point of the production set;

(3) P is a homogenous function of degree 1, that is $P(rK,rL)=rP(K,L)\ \forall r\in\mathbf{R}$;

(4) $\frac{\partial P}{\partial K}\geq 0,\ \frac{\partial P}{\partial L}\geq 0$;

(5) $\frac{\partial^2 P}{\partial K^2} \leq 0$, $\frac{\partial^2 P}{\partial L^2} \leq 0$.

For any production function, we have a lot of indicators like:

(6) $\eta_K = \frac{\partial P}{\partial K}$ - the marginal product of K;

(7) $\eta_L = \frac{\partial P}{\partial L}$ - the marginal product of L;

(8) RMS= $\frac{\frac{\partial P}{\partial L}}{\frac{\partial P}{\partial K}}$ - the marginal rate of substitution;

(9) $E_K = \frac{\frac{\partial P}{\partial K}}{\frac{P}{K}}$ - the elasticity of K;

(10) $E_L = \frac{\frac{\partial P}{\partial L}}{\frac{P}{L}}$ - the elasticity of L;

(11) $\sigma = \frac{\frac{\partial P}{\partial L}\frac{\partial P}{\partial K}}{P\frac{\partial^2 P}{\partial K \partial L}}$ - the elasticity of substitution.

In [0] Charles Cobb and Paul Douglas formulate the well-known production function: $P(K,L)=\alpha K^p L^{1-p}$ where $p \in [0,1]$ which have many applications in various economical problems.

In [0] the authors generalize the preceding, obtained the CES production function: $P(K,L)=\alpha\left(\beta K^\rho + (1-\beta)L^\rho\right)^{\frac{1}{\rho}}$, which for $\rho=0$ becomes Cobb-Douglas function.

The Lu-Fletcher production function generalized also, the CES function into the form: $P(K,L)=\alpha\left(\delta K^{\beta}+(1-\delta)\eta\left(\frac{K}{L}\right)^{-c(1-\beta)}L^{\beta}\right)^{\frac{1}{\beta}}$, which for c=0, η=1 becomes CES function.

In [0] T.C. Liu and G.H. Hildebrand made a new generalization of CES function: $P(K,L)=\alpha\left((1-\delta)K^{\eta}+\delta K^{m\eta}L^{(1-m)\eta}\right)^{\frac{1}{\eta}}$ for m=0.

N.S. Revankar introduced the VES function: $P(K,L)=\alpha K^{\rho(1-\delta\mu)}[L+(\mu-1)K]^{\rho\delta\mu}$ which for $\mu=1$, $\rho=1$ is also a generalization of Cobb-Douglas production function.

In [0], K.R. Kadiyala made an important generalization with:

$P(K,L)=E(t)\left(c_{11}K^{\beta_1+\beta_2}+2c_{12}K^{\beta_1}L^{\beta_2}+c_{22}L^{\beta_1+\beta_2}\right)^{\frac{\rho}{\beta_1+\beta_2}}$ where $c_{11}+2c_{12}+c_{22}=1$, $c_{ij}\geq 0$, $\beta_1(\beta_1+\beta_2)>0$, $\beta_2(\beta_1+\beta_2)>0$.

For $c_{12}=0$, $\rho=1$ Kadiyala obtain the CES function, $c_{22}=0$ generates directly the Lu-Fletcher function, for $c_{11}=0$, $c_{22}=0$, $\rho=1$ – the Cobb-Douglas function and, finally, for $\beta_1=\frac{1}{\delta\mu}-1$, $\beta_2=1$, $c_{22}=0$ – the VES function.

In what follows, we shall make a new generalization, from another point of view, of these functions.

2. The sum production function

Let the production function:

(12) $P(K,L)=\sum_{i=1}^{n}\alpha_i\left(c_{i1}K^{p_{i1}+p_{i2}}+c_{i2}K^{p_{i1}}L^{p_{i2}}+c_{i3}L^{p_{i1}+p_{i2}}\right)^{p_{i3}}$, $n\geq 1$

where:

(13) $\alpha_i>0\ \forall i=\overline{1,n}$;

(14) $p_{i3}\in(-\infty,0)\cup[1,\infty)$, $p_{i1}p_{i2}>0$, $p_{i3}(p_{i1}+p_{i2})=1\ \forall i=\overline{1,n}$;

(15) $\sum_{i=1}^{n}\left(c_{i2}+c_{i1}c_{i3}\right)>0$, $c_{ij}\geq 0\ \forall i=\overline{1,n}\ \forall j=\overline{1,3}$.

From (14) follows that if $p_{i3}<0$ then p_{i1}, $p_{i2}<0$. If $p_{i3}\geq 1$ then p_{i1}, $p_{i2}>0$ and $p_{i1}+p_{i2}=\frac{1}{p_{i3}}\leq 1$ therefore: $1-p_{i1}\geq p_{i2}>0$, $1-p_{i2}\geq p_{i1}>0$.

We have then the following cases:

(16) a) $p_{i1}, p_{i2}, p_{i3}\in(-\infty,0)$ and $p_{i3}(p_{i1}+p_{i2})=1$;

b) $p_{i1}, p_{i2}\in(0,1)$, $p_{i3}\in[1,\infty)$ and $p_{i3}(p_{i1}+p_{i2})=1$.

From (15) we have that $\exists i=\overline{1,n}$ such that $c_{i2}+c_{i1}c_{i3}>0$ therefore, if for such an i, we have $c_{i2}=0$ follows that c_{i1}, $c_{i3}>0$ and if $c_{i2}>0$ follows that c_{i1}, c_{i3} are arbitrary (of course non-negative).

If we note:

(17) $\frac{K}{L}=\chi$

follows:

(18) $P=L\sum_{i=1}^{n}\alpha_i\left(c_{i1}\chi^{p_{i1}+p_{i2}}+c_{i2}\chi^{p_{i1}}+c_{i3}\right)^{p_{i3}}$

Because $\chi\geq 0$ and for any $i=\overline{1,n}$ we have that $\alpha_i>0$ and at least one of c_{i1}, c_{i2} or c_{i3} is greater than 0 we obtain $P\geq 0$. Also from (12): $P(0,0)=0$ and P is differentiable of order 2 in any interior point of the production set.

We have now:

$P(rK,rL)=rL\sum_{i=1}^{n}\alpha_i\left(c_{i1}\chi^{p_{i1}+p_{i2}}+c_{i2}\chi^{p_{i1}}+c_{i3}\right)^{p_{i3}}=r^1P(K,L)$ therefore P is homogenous of first degree.

Le note now:

(19) $A_i(\chi)=c_{i1}\chi^{p_{i1}+p_{i2}}+c_{i2}\chi^{p_{i1}}+c_{i3}>0$, $i=\overline{1,n}$

From (18) and (19) we have that:

(20) $P=L\sum_{i=1}^{n}\alpha_i A_i(\chi)^{p_{i3}}=L\Phi(\chi)$

where:

(21) $\Phi(\chi)=\sum_{i=1}^{n}\alpha_i A_i(\chi)^{p_{i3}}$

From (19) we obtain easily:

(22) $A_i'(\chi)=\chi^{p_{i1}-1}\left[c_{i1}(p_{i1}+p_{i2})\chi^{p_{i2}}+c_{i2}p_{i1}\right]$, $i=\overline{1,n}$

(23) $A_i''(\chi)=\chi^{p_{i1}-2}\left[c_{i1}(p_{i1}+p_{i2})(p_{i1}+p_{i2}-1)\chi^{p_{i2}}+c_{i2}p_{i1}(p_{i1}-1)\right]$, $i=\overline{1,n}$

From (17) we obtain after partial derivation:

(24) $\frac{\partial\chi}{\partial K}=\frac{1}{L}$, $\frac{\partial\chi}{\partial L}=-\frac{K}{L^2}=-\frac{\chi}{L}$

From (20) we have:

(25) $\frac{\partial P}{\partial L}=\Phi(\chi)-\chi\,\Phi'(\chi)$, $\frac{\partial P}{\partial K}=\Phi'(\chi)$

therefore:

(26) $\frac{\partial P}{\partial L}=\frac{P}{L}-\chi\frac{\partial P}{\partial K}$

who can be derived also, from Euler's formula for homogenous functions.

By derivation with L and after with K in (26) we obtain:

$$\frac{\partial^2 P}{\partial L^2}=\frac{\frac{\partial P}{\partial L}L-P}{L^2}+\frac{\chi}{L}\frac{\partial P}{\partial K}-\chi\frac{\partial^2 P}{\partial L\partial K}=-\chi\frac{\partial^2 P}{\partial L\partial K}$$

$$\frac{\partial^2 P}{\partial L\partial K}=\frac{1}{L}\frac{\partial P}{\partial K}-\frac{1}{L}\frac{\partial P}{\partial K}-\chi\frac{\partial^2 P}{\partial K^2}=-\chi\frac{\partial^2 P}{\partial K^2}$$

therefore:

(27) $\frac{\partial^2 P}{\partial L^2}=-\chi\frac{\partial^2 P}{\partial L\partial K}$

(28) $\frac{\partial^2 P}{\partial K^2}=-\frac{1}{\chi}\frac{\partial^2 P}{\partial L\partial K}$

(29) $\frac{\partial^2 P}{\partial L^2}=\chi^2\frac{\partial^2 P}{\partial K^2}$

therefore $\frac{\partial^2 P}{\partial L^2}$ and $\frac{\partial^2 P}{\partial K^2}$ have the same sign.

We have now, from (20):

(30) $\eta_K = \frac{\partial P}{\partial K} = \sum_{i=1}^{n} \alpha_i A_i(\chi)^{p_{i3}-1} \chi^{p_{i1}-1}(c_{i1}\chi^{p_{i2}} + c_{i2}p_{i1}p_{i3})$

(31) $\eta_L = \frac{\partial P}{\partial L} = \sum_{i=1}^{n} \alpha_i A_i(\chi)^{p_{i3}-1}(A_i(\chi) - \chi p_{i3} A_i'(\chi))$

Because:

$A_i(\chi) - \chi p_{i3} A_i'(\chi) = (c_{i1}\chi^{p_{i1}+p_{i2}} + c_{i2}\chi^{p_{i1}} + c_{i3}) - \chi p_{i3}(c_{i1}(p_{i1}+p_{i2})\chi^{p_{i1}+p_{i2}-1} + c_{i2}p_{i1}\chi^{p_{i1}-1}) =$
$c_{i2}p_{i2}p_{i3}\chi^{p_{i1}} + c_{i3}$

we obtain from (31):

(32) $\eta_L = \frac{\partial P}{\partial L} = \sum_{i=1}^{n} \alpha_i A_i(\chi)^{p_{i3}-1}(c_{i2}p_{i2}p_{i3}\chi^{p_{i1}} + c_{i3})$

From (13)-(16) we can see easily that $\frac{\partial P}{\partial K} \geq 0$.

We have now the following lemma which will be useful in all what follows:

Lemma Let $q_i \in \mathbf{R}^*$, $i=\overline{1,m}$, $m \geq 1$, $q_i \neq q_j$ $\forall i,j=\overline{1,m}$, $i \neq j$. Therefore the functions χ^{q_i}, $i=\overline{1,m}$ and the constant function 1 are linear independent, that is from the equality: $\sum_{i=1}^{m} \beta_i \chi^{q_i} + \beta_{m+1} = 0$ follows $\beta_i = 0$, $i=\overline{1,m+1}$.

Proof. Differentiating the equality $\sum_{i=1}^{m} \beta_i \chi^{q_i} + \beta_{m+1} = 0$ m-times, we obtain:

$$\sum_{i=1}^{m} \beta_i \binom{q_i}{k} \chi^{q_i - k} = 0,\ k=\overline{1,m}$$

where $\binom{q_i}{k} = \frac{q_i(q_i-1)...(q_i-k+1)}{k!}$, $k=\overline{1,m}$.

Let compute now the determinant of the system. We have:

$$\begin{vmatrix} \binom{q_1}{1}\chi^{q_1-1} & \binom{q_2}{1}\chi^{q_2-1} & \cdots & \binom{q_m}{1}\chi^{q_m-1} \\ \binom{q_1}{2}\chi^{q_1-2} & \binom{q_2}{2}\chi^{q_2-2} & \cdots & \binom{q_m}{2}\chi^{q_m-2} \\ \cdots & \cdots & \cdots & \cdots \\ \binom{q_1}{m}\chi^{q_1-m} & \binom{q_2}{m}\chi^{q_2-m} & \cdots & \binom{q_m}{m}\chi^{q_m-m} \end{vmatrix} =$$

$$\chi^{q_1-m}\ldots\chi^{q_m-m} \begin{vmatrix} \binom{q_1}{1}\chi^{m-1} & \binom{q_2}{1}\chi^{m-1} & \cdots & \binom{q_m}{1}\chi^{m-1} \\ \binom{q_1}{2}\chi^{m-2} & \binom{q_2}{2}\chi^{m-2} & \cdots & \binom{q_m}{2}\chi^{m-2} \\ \cdots & \cdots & \cdots & \cdots \\ \binom{q_1}{m} & \binom{q_2}{m} & \cdots & \binom{q_m}{m} \end{vmatrix} =$$

$$\chi^{q_1-m}\ldots\chi^{q_m-m}\chi^{\frac{(m-1)m}{2}} \begin{vmatrix} \binom{q_1}{1} & \binom{q_2}{1} & \cdots & \binom{q_m}{1} \\ \binom{q_1}{2} & \binom{q_2}{2} & \cdots & \binom{q_m}{2} \\ \cdots & \cdots & \cdots & \cdots \\ \binom{q_1}{m} & \binom{q_2}{m} & \cdots & \binom{q_m}{m} \end{vmatrix} = \chi^{q_1-m}\ldots\chi^{q_m-m}\chi^{\frac{(m-1)m}{2}} D.$$

The degree of the determinant like function of $q_1, q_2, \ldots, q_m$ is:

$$1+2+\ldots+m=\frac{m(m+1)}{2}$$

If $q_i=q_j$, $i\neq j$ we have that columns i and j are equals then D=0. Also, if $q_i=0$ for an $i=\overline{1,m}$ follows that D=0. From this follows that: $D=\alpha\prod_{i=1}^{m} q_i \prod_{\substack{i,j=1\\ i\neq j}}^{m}(q_i-q_j)$ with α a constant (because the degree of the right side is $m+\frac{m(m-1)}{2}=\frac{m(m+1)}{2}$. For m=2 we have that $D=q_1q_2(q_2\text{-}q_1)$ therefore $\alpha=1$.

We have that now the determinant of the system is:

$$\chi^{q_1-m}\ldots\chi^{q_m-m}\chi^{\frac{(m-1)m}{2}}\prod_{i=1}^{m}q_i\prod_{\substack{i,j=1\\i\neq j}}^{m}(q_i-q_j)\neq 0$$

From the system we obtain that $\beta_i=0$, $i=\overline{1,m}$ and from the initial equality follows that $\beta_{m+1}=0$. **Q.E.D.**

Returning at the production functions we have from (30) that if $\frac{\partial P}{\partial K}=0$ follows that: $c_{i1}\chi^{p_{i2}}+c_{i2}p_{i1}p_{i3}=0\ \forall i=\overline{1,n}$ therefore from the lemma:

$c_{i1}=c_{i2}=0\ \forall i=\overline{1,n}$ which is a contradiction with (15). We have finally that $\frac{\partial P}{\partial K}>0$.

From (32) we have that $\frac{\partial P}{\partial L}\geq 0$. If $\frac{\partial P}{\partial L}=0$ we have: $c_{i2}p_{i2}p_{i3}\chi^{p_{i1}}+c_{i3}=0$ therefore:

$c_{i2}=c_{i3}=0\ \forall i=\overline{1,n}$ which is a contradiction with (15). We have finally that $\frac{\partial P}{\partial L}>0$.

Let compute now the second derivatives.

(33) $$L\frac{\partial^2 P}{\partial K^2}=\sum_{i=1}^{n}\alpha_i p_{i3}(p_{i3}-1)A_i(\chi)^{p_{i3}-2}A_i'^2(\chi)+\sum_{i=1}^{n}\alpha_i p_{i3}A_i(\chi)^{p_{i3}-1}A_i''(\chi)=$$

$$-\sum_{i=1}^{n}\alpha_i A_i(\chi)^{p_{i3}-2}\chi^{p_{i1}-2}\left[c_{i2}^2p_{i1}p_{i2}p_{i3}^2\chi^{p_{i1}}+c_{i3}c_{i2}p_{i1}p_{i3}(1-p_{i1})+c_{i1}c_{i3}(1-p_{i1}-p_{i2})\chi^{p_{i2}}+\right.$$
$$\left.c_{i1}c_{i2}p_{i2}p_{i3}(1-p_{i2})\chi^{p_{i2}+p_{i1}}\right]$$

From (13)-(16) follows that $L\frac{\partial^2 P}{\partial K^2}\leq 0$. If $\frac{\partial^2 P}{\partial K^2}=0$ we have that:

$$c_{i2}^2p_{i1}p_{i2}p_{i3}^2\chi^{p_{i1}}+c_{i3}c_{i2}p_{i1}p_{i3}(1-p_{i1})+c_{i1}c_{i3}(1-p_{i1}-p_{i2})\chi^{p_{i2}}+c_{i1}c_{i2}p_{i2}p_{i3}(1-p_{i2})\chi^{p_{i2}+p_{i1}}=0$$

and from the lemma we have: $c_{i2}=0$, $c_{i1}c_{i3}=0$ which is a contradiction with (15). We have therefore $\frac{\partial^2 P}{\partial K^2}<0$. From (29) we obtain that $\frac{\partial^2 P}{\partial L^2}<0$ and from (28) that $\frac{\partial^2 P}{\partial L\partial K}>0$.

The marginal rate of substitution is:

(34) $$\text{RMS}=\frac{\frac{\partial P}{\partial L}}{\frac{\partial P}{\partial K}}=\frac{\frac{P}{L}-\chi\frac{\partial P}{\partial K}}{\frac{\partial P}{\partial K}}=\frac{P}{L\frac{\partial P}{\partial K}}-\chi=\frac{\sum_{i=1}^{n}\alpha_i A_i(\chi)^{p_{i3}-1}\left(c_{i2}p_{i2}p_{i3}\chi^{p_{i1}}+c_{i3}\right)}{\sum_{i=1}^{n}\alpha_i A_i(\chi)^{p_{i3}-1}\chi^{p_{i1}-1}(c_{i1}\chi^{p_{i2}}+c_{i2}p_{i1}p_{i3})}.$$

The elasticities of L and K are:

(35) $$E_L=\frac{\frac{\partial P}{\partial L}}{\frac{P}{L}}=1-\chi\frac{\frac{\partial P}{\partial K}}{\chi\frac{P}{K}}=\frac{\sum_{i=1}^{n}\alpha_i A_i(\chi)^{p_{i3}-1}(c_{i2}p_{i2}p_{i3}\chi^{p_{i1}}+c_{i3})}{\sum_{i=1}^{n}\alpha_i A_i(\chi)^{p_{i3}}}.$$

(36) $E_K=1-E_L$

The elasticity of substitution:

(37) $$\sigma=\frac{\frac{\partial P}{\partial L}\frac{\partial P}{\partial K}}{P\frac{\partial^2 P}{\partial K\partial L}}=$$

$$\frac{\sum_{i,j=1}^{n}\alpha_i\alpha_j A_i(\chi)^{p_{i3}-1}A_j(\chi)^{p_{j3}-1}\chi^{p_{j1}-1}(c_{i2}p_{i2}p_{i3}\chi^{p_{i1}}+c_{i3})(c_{j1}\chi^{p_{j2}}+c_{j2}p_{j1}p_{j3})}{\chi\sum_{i,j=1}^{n}\alpha_i\alpha_j A_i(\chi)^{p_{i3}}A_j(\chi)^{p_{j3}-2}\chi^{p_{j1}-2}\left[c_{j2}^2p_{j1}\chi^{p_{j1}}p_{j2}p_{j3}^2+c_{j3}c_{j2}p_{j1}p_{j3}(1-p_{j1})+c_{j1}c_{j3}(1-p_{j1}-p_{j2})\chi^{p_{j2}}+\right.}$$
$$\left.+c_{j1}c_{j2}\chi^{p_{j2}+p_{j1}}p_{j2}p_{j3}(1-p_{j2})\right]$$

For n=1 we have:

(38) $P(K,L)=\alpha\left(c_1K^{p_1+p_2}+c_2K^{p_1}L^{p_2}+c_3L^{p_1+p_2}\right)^{p_3}$

where the conditions (13)-(15) becomes:

(39) $\alpha>0$;

(40) $p_3\in(-\infty,0)\cup[1,\infty)$, $p_1p_2>0$, $p_3(p_1+p_2)=1$;

(41) $c_2+c_1c_3>0$, $c_1, c_2, c_3\geq 0$

From (30), (32)-(37) we obtain:

(42) $$\eta_K=\frac{\partial P}{\partial K}=\alpha A(\chi)^{p_3-1}\chi^{p_1-1}(c_1\chi^{p_2}+c_2p_1p_3)$$

(43) $\eta_L = \frac{\partial P}{\partial L} = \alpha A(\chi)^{p_3-1}(c_2p_2p_3\chi^{p_1} + c_3)$

(44) $L\frac{\partial^2 P}{\partial K^2} = -\alpha A(\chi)^{p_3-2}\chi^{p_1-2}\left[c_2^2p_1\chi^{p_1}p_2p_3^2 + c_3c_2p_1p_3(1-p_1) + c_1c_3(1-p_1-p_2)\chi^{p_2} + c_1c_2\chi^{p_2+p_1}p_2p_3(1-p_2)\right]$

(45) RMS= $\frac{\alpha A(\chi)^{p_3-1}\left(c_2p_2p_3\chi^{p_1} + c_3\right)}{\alpha A(\chi)^{p_3-1}\chi^{p_1-1}(c_1\chi^{p_2} + c_2p_1p_3)} = \frac{c_2p_2p_3\chi^{p_1} + c_3}{\chi^{p_1-1}(c_1\chi^{p_2} + c_2p_1p_3)}$

(46) $E_L = \frac{\alpha A(\chi)^{p_3-1}(c_2p_2p_3\chi^{p_1} + c_3)}{\alpha A(\chi)^{p_3}} = \frac{c_2p_2p_3\chi^{p_1} + c_3}{c_1\chi^{p_1+p_2} + c_2\chi^{p_1} + c_3}$

(47) $E_K = \frac{\chi^{p_1}(c_1\chi^{p_2} + c_2p_1p_3)}{c_1\chi^{p_1+p_2} + c_2\chi^{p_1} + c_3}$

(48) $\sigma = \frac{(c_2p_2p_3\chi^{p_1} + c_3)(c_1\chi^{p_2} + c_2p_1p_3)}{c_2^2p_1\chi^{p_1}p_2p_3^2 + c_3c_2p_1p_3(1-p_1) + c_1c_3(1-p_1-p_2)\chi^{p_2} + c_1c_2\chi^{p_2+p_1}p_2p_3(1-p_2)}$.

3. Particular cases

3.1. The Cobb-Douglas production function

For n=1, $p_1=1-\gamma$, $p_2=\gamma$, $\gamma\in(0,1)$, $c_1=0$, $c_2=1$, $c_3=0$ we have: $P(K,L)=\alpha K^{1-\gamma}L^{\gamma}$.

3.2. The CES production function

For n=1, $p_1=-\frac{\gamma}{2}$, $p_2=-\frac{\gamma}{2}$, $c_1=\delta$, $c_2=0$, $c_3=1-\delta$, $\delta\in(0,1)$ we have:

$P(K,L)=\alpha\left(\delta K^{-\gamma} + (1-\delta)L^{-\gamma}\right)^{-\frac{1}{\gamma}}$.

3.3. The Lu-Fletcher production function

For n=1, p_1=-γ(1-β), p_2=γ(1-β)+β, c_1=δ, c_2=1-δ, c_3=0, δ∈(0,1) we obtain:

P(K,L)=$\alpha\left(\delta K^{\beta}+(1-\delta)K^{-\gamma(1-\beta)}L^{\gamma(1-\beta)+\beta}\right)^{\frac{1}{\beta}}$.

3.4. The Liu-Hildebrand production function

For n=1, p_1=δη, p_2=(1-δ)η, c_1=1-β, c_2=β, c_3=0, δ∈(0,1) we have:

P(K,L)=$\alpha\left((1-\beta)K^{\eta}+\beta K^{\delta\eta}L^{(1-\delta)\eta}\right)^{\frac{1}{\eta}}$.

3.5. The VES production function

For n=1, p_1=$\frac{1}{\delta\mu}$-1, p_2=1, c_1=μ-1, c_2=1, c_3=0, δμ∈(0,1), μ≥1 we have: P(K,L)=

$\alpha\left((\mu-1)K^{\frac{1}{\delta\mu}}+K^{\frac{1}{\delta\mu}-1}L\right)^{\delta\mu}$ =$\alpha K^{1-\delta\mu}\left((\mu-1)K+L\right)^{\delta\mu}$ a particular case of VES production function.

3.6. The Kadiyala production function

For $c_1+c_2+c_3=1$ and $c_2\neq 0$ or $c_2=0$, but c_1, $c_3>0$ we obtain a particular case of Kadiyala production function.

4. Theorems

Theorem 1 The only case when RMS=k$\frac{K}{L}$ where k is a positive constant is the Cobb-Douglas function with γ=$\frac{1}{k+1}$.

Proof. From (34) we have that:

$$\sum_{i=1}^{n}\alpha_i A_i(\chi)^{p_{i3}-1}\left(c_{i2}p_{i2}p_{i3}\chi^{p_{i1}}+c_{i3}\right)=k\sum_{i=1}^{n}\alpha_i A_i(\chi)^{p_{i3}-1}\chi^{p_{i1}}(c_{i1}\chi^{p_{i2}}+c_{i2}p_{i1}p_{i3})$$

therefore:

(49) $\sum_{i=1}^{n}\alpha_i A_i(\chi)^{p_{i3}-1}\left[c_{i1}\chi^{p_{i1}+p_{i2}}+c_{i2}p_{i3}(p_{i1}-kp_{i2})\chi^{p_{i1}}+c_{i3}\right]=0$

Let note I={i=$\overline{1,n}$ | p_{i1}, p_{i2}, $p_{i3}<0$} and J={j=$\overline{1,n}$ | p_{j1}, p_{j2}, $p_{j3}>0$}

Because (49) holds for every χ, we have with (16):

(50) $\lim_{\chi\to\infty}\sum_{i=1}^{n}\alpha_i A_i(\chi)^{p_{i3}-1}\left[c_{i1}\chi^{p_{i1}+p_{i2}}+c_{i2}p_{i3}(p_{i1}-kp_{i2})\chi^{p_{i1}}+c_{i3}\right]=$

$\lim_{\chi\to\infty}\sum_{i\in I}\alpha_i A_i(\chi)^{p_{i3}-1}\left[c_{i1}\chi^{p_{i1}+p_{i2}}+c_{i2}p_{i3}(p_{i1}-kp_{i2})\chi^{p_{i1}}+c_{i3}\right]+$

$\lim_{\chi\to\infty}\sum_{i\in J}\alpha_j A_j(\chi)^{p_{j3}-1}\left[c_{j1}\chi^{p_{j1}+p_{j2}}+c_{j2}p_{j3}(p_{j1}-kp_{j2})\chi^{p_{j1}}+c_{j3}\right]=$

$\sum_{i\in I}\alpha_i c_{i3}^{p_{i3}}+\sum_{i\in J}\alpha_j c_{j1}^{p_{j3}}\infty$.

(51) $\lim_{\chi\to 0}\sum_{i=1}^{n}\alpha_i A_i(\chi)^{p_{i3}-1}\left[c_{i1}\chi^{p_{i1}+p_{i2}}+c_{i2}p_{i3}(p_{i1}-kp_{i2})\chi^{p_{i1}}+c_{i3}\right]=$

$\lim_{\chi\to 0}\sum_{i\in I}\alpha_i A_i(\chi)^{p_{i3}-1}\left[c_{i1}\chi^{p_{i1}+p_{i2}}+c_{i2}p_{i3}(p_{i1}-kp_{i2})\chi^{p_{i1}}+c_{i3}\right]+$

$\lim_{\chi\to 0}\sum_{i\in J}\alpha_j A_j(\chi)^{p_{j3}-1}\left[c_{j1}\chi^{p_{j1}+p_{j2}}+c_{j2}p_{j3}(p_{j1}-kp_{j2})\chi^{p_{j1}}+c_{j3}\right]=$

$\sum_{i\in I}\alpha_i c_{i1}^{p_{i3}}\infty+\sum_{i\in J}\alpha_j c_{j3}^{p_{j3}}$.

From (50), (51) we have that: $c_{i1}=c_{i3}=0$ $\forall i\in I$ and $c_{j1}=c_{j3}=0$ $\forall j\in J$ therefore $c_{i1}=c_{i3}=0$ $\forall i=\overline{1,n}$.

From (49) we have now:

(52) $\sum_{i=1}^{n}\alpha_i A_i(\chi)^{p_{i3}-1}\chi^{p_{i1}}c_{i2}p_{i3}(p_{i1}-kp_{i2})=0$ where $A_i(\chi)=c_{i2}\chi^{p_{i1}}$

that is:

(53) $\sum_{i=1}^{n}\alpha_i c_{i2}^{p_{i3}}\chi^{p_{i1}p_{i3}}p_{i3}(p_{i1}-kp_{i2})=0$.

From the lemma we have:

(54) p_{i1}-kp_{i2}=0 $\forall i=\overline{1,n}$

and with the notation p_{i2}=p we have that: p_{i1}=kp, p_{i2}=p, $p_{i3}=\frac{1}{(k+1)p}$, p≤$\frac{1}{k+1}$.

The production function becomes:

(55) $P(K,L)=\sum_{i=1}^{n}\alpha_i\left(c_{i2}K^{kp}L^p\right)^{\frac{1}{(k+1)p}} = \alpha K^{\frac{k}{(k+1)}}L^{\frac{1}{(k+1)}}$

after obvious notations. **Q.E.D.**

Theorem 2 The only cases when for n=1, σ=k where k is a positive constant are the Cobb-Douglas function and CES function with $\gamma=\frac{k}{1-k}$.

Proof. From (37) we have that:

$$(c_2p_2p_3\chi^{p_1}+c_3)(c_1\chi^{p_2}+c_2p_1p_3)=$$
$$k\left[c_2^2p_1\chi^{p_1}p_2p_3^2+c_3c_2p_1p_3(1-p_1)+c_1c_3(1-p_1-p_2)\chi^{p_2}+c_1c_2\chi^{p_2+p_1}p_2p_3(1-p_2)\right]$$

that is:

$$\left(kc_1c_2p_2p_3(1-p_2)-c_1c_2p_2p_3\right)\chi^{p_1+p_2}+\left(kc_2^2p_1p_2p_3^2-c_2^2p_1p_2p_3^2\right)\chi^{p_1}+$$
$$\left(kc_1c_3(1-p_1-p_2)-c_1c_3\right)\chi^{p_2}+kc_3c_2p_1p_3(1-p_1)-c_2c_3p_1p_3=0$$

From lemma, we obtain that:

(56) $c_1c_2p_2p_3\left(k(1-p_2)-1\right)=0$

(57) $c_2^2p_1p_2p_3^2(k-1)=0$

(58) $c_1c_3\left(k(1-p_1-p_2)-1\right)=0$

(59) $c_2c_3p_1p_3\left(k(1-p_1)-1\right)=0$

If $c_2\neq0$ follows from (57) that k=1 and from (56) we have that c_1=0 and c_3=0. The function is: $P(K,L)=\alpha\left(c_2K^{p_1}L^{p_2}\right)^{p_3}=\beta K^pL^{1-p}$ with obvious notations.

If c_2=0, from (58) we have that: k(1-p_1-p_2)-1=0 that is k=$\frac{p_3}{p_3-1}$. and the function is: P(K,L)=$\alpha\left(c_1K^p + c_3L^p\right)^{\frac{1}{p}}$ and k=$\frac{1}{1-p}$. **Q.E.D.**

5. References

Arrow, K.J.; Chenery, H.B.; Minhas, B.S. & Solow, R.M. (1961). *Capital Labour Substitution and Economic Efficiency*, *Review of Econ and Statistics* 63, pp. 225-250.

Cobb, C.W. & Douglas, P.H. (1928). A Theory of Production. *American Economic Review.* 18, pp. 139–165.

Ioan C. A. (2007). Applications of the space differential geometry at the study of production functions, *Euroeconomica*. 18, pp. 30-38.

Ioan C.A. (2004). Applications of geometry at the study of production functions. *The Annals of Danubius University, Fascicle I, Economics*, pp. 27-39.

Kadiyala, K. R. (1972). Production Functions and Elasticity of Substitution. *Southern Economic Journal*, 38(3). pp. 281-284.

Kmenta, J. (1967). On Estimation of the CES Production Function. *International Economic Review*. 8(2). pp. 180-189.

Liu, T.C. and Hildebrand, G.H. (1965). *Manufacturing Production Functions in the United States.* 1957. Ithaca: Cornell University Press.

Mishra, S.K. (2007). *A Brief History of Production Functions*. India: North-Eastern Hill University. Shillong.

Revankar, N.S. (1971). A Class of Variable Elasticity of Substitution Production Functions. *Econometrica*. 39(1), pp. 61-71.

Sato, R. (1974). On the Class of Seperable Non-Homothetic CES Functions. *Economic Studies Quarterly*, 15, pp. 42-55.

A Method of Determination of an Acquisition Program in Order to Maximize the Total Utility Using Linear Programming in Integer Numbers

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Abstract. This paper solves in a different way the problem of maximization of the total utility using the linear programming in integer numbers. The author uses the diofantic equations (equations in integers numbers) and after a decomposing in different cases, he obtains the maximal utility.

Keywords: utility, maximization, Simplex, Gomory

Jell Classification: C70

A method of maximization the total utility

Let a consumer which has a budget of acquision of r goods $G_1,...,G_r$, in value of S u.m. The prices of the r goods G_i, $i=\overline{1,r}$ are p_i, $i=\overline{1,r}$. The marginal utlities corresponding to an arbitrary number of doses are in the following table:

No. of dose	U_{m1}	…	U_{mr}
1	u_{11}	…	u_{1r}
…	…	…	…
i	u_{i1}	…	u_{ir}
…	…	…	…
n	u_{n1}	…	u_{nr}

We propose, in what follows, the determination of the number of doses a_i from the good G_i, $i=\overline{1,r}$ such that the total utility: $U_t=\sum_{j=1}^{r}\sum_{i=1}^{a_j} u_{ij}$ be maximal.

Let note: $x_{ij} = \begin{cases} 1 \text{ if the i-th dose from the good j is used} \\ 0 \text{ if the i-th dose from the good j is not used} \end{cases}$

Because the impossibility of using the (i-1)-th dose involved the existence's impossibility of the i-th dose, we shall put the condition that: $x_{ij}\in\mathbf{N}$, $0\le x_{ij}\le x_{i-1,j}$ for $i>1$ and $j=\overline{1,r}$.

We have also: $\sum_{i=1}^{n}\sum_{j=1}^{m} p_j x_{ij} \le S$.

The problem consists in the determination of x_{ij} such that to have max $\sum_{j=1}^{r}\sum_{i=1}^{n} u_{ij}x_{ij}$.

The problem is therefore:

$$(1) \qquad \begin{cases} \max \sum_{j=1}^{r}\sum_{i=1}^{n} u_{ij}x_{ij} \\ \sum_{i=1}^{n}\sum_{j=1}^{m} p_j x_{ij} \le S \\ x_{ij} \le x_{i-1,j},\ i=\overline{2,n},\ j=\overline{1,r} \\ x_{ij} \le 1,\ i=\overline{1,n},\ j=\overline{1,r} \\ x_{ij} \ge 0,\ i=\overline{1,n},\ j=\overline{1,r} \end{cases}$$

Finally we shall have: $a_j=\sum_{i=1}^{n} x_{ij}$, $j=\overline{1,r}$.

Because the problem (1) is in integer numbers, we shall apply the algorithm of Gomory.

After the solving of (1) using the Simplex algorithm, we shall have two cases:

<u>Case 1</u>

If $\bar{x}_{ij}\in\mathbf{N}$, $i=\overline{1,n}$, $j=\overline{1,r}$ the problem is completely solved.

<u>Case 2</u>

If $\exists\ \bar{x}_{kp}\notin\mathbf{N}$, $k=\overline{1,n}$, $p=\overline{1,r}$ the variable $\bar{x}_{kp}$ is obvious in the basis.

In this case, let note y_{kpts} the element of the Simplex table at the intersection of x_{kp}-row with x_{ts}-column. In order to simplify the notations, let: $v_{kpts}=\{y_{kpts}\}\in[0,1)$, $v_{kp}=\{\overline{x}_{kp}\}\in[0,1)$ the fractional part of these quantities, $B=\{(g,h) \mid x_{gh}$ is a basis variable$\}$ and $S=\{(t,s) \mid x_{ts}$ is not a basis variable$\}$.

We have now, from: $x_{gh}=\overline{x}_{gh}-\sum_{(t,s)\in S} y_{ghts}x_{ts}$ $\forall(g,h)\in B$:

(2) $$x_{kp}=\overline{x}_{kp}-\sum_{(t,s)\in S} y_{kpts}x_{ts}=\left[\overline{x}_{kp}\right]+v_{kp}-\sum_{(t,s)\in S}\left[y_{kpts}\right]x_{ts}-\sum_{(t,s)\in S} v_{kpts}x_{ts}$$

We can write (2) also in the form:

(3) $$x_{kp}-\left[\overline{x}_{kp}\right]+\sum_{(t,s)\in S}\left[y_{kpts}\right]x_{ts}=v_{kp}-\sum_{(t,s)\in S} v_{kpts}x_{ts}$$

In order that the problem has integer solution it therefore necessary and sufficient that: $x_{kp}-\left[\overline{x}_{kp}\right]+\sum_{(t,s)\in S}\left[y_{kpts}\right]x_{ts}\in\mathbf{Z}$ or, in other words: $v_{kp}-\sum_{(t,s)\in S} v_{kpts}x_{ts}\in\mathbf{Z}$.

Let now:

(4) $$v=v_{kp}-\sum_{(t,s)\in S} v_{kpts}x_{ts}$$

from where:

(5) $$\sum_{(t,s)\in S} v_{kpts}x_{ts}=v_{kp}-v,\ v\in\mathbf{Z}$$

From the hypotesis, v_{kpts}, $v_{kp}\in[0,1)$ and $\sum_{(t,s)\in S} v_{kpts}x_{ts}\geq 0$ from the positive character of variables.

We have now three cases:

<u>Case 2.1</u>

If $v>0$ we have $v\in\mathbf{N}^*$ therefore $0\leq\sum_{(t,s)\in S} v_{kpts}x_{ts}=v_{kp}-v$. From this: $v_{kp}\geq v\geq 1$ – contradiction with the choice of v_{kp}.

<u>Case 2.2</u>

If $v=0$ we have that $\sum_{(t,s)\in S} v_{kpts}x_{ts}=v_{kp}\geq v_{kp}$.

Case 2.3

If v<0 we have from the condition that v is integer: $v \le -1$ which implies: $-v \ge 1$. Finally: $\sum_{(t,s)\in S} v_{kpts} x_{ts} = v_{kp} - v \ge v_{kp} + 1 > v_{kp} > 0$.

From these cases, we have that the condition to be integer for x_{kp} is: $\sum_{(t,s)\in S} v_{kpts} x_{ts} \ge v_{kp}$.

After all these considerations, making the notation: $y = \sum_{(t,s)\in S} v_{kpts} x_{ts} - v_{kp}$ we shall obtain the new problem:

$$
(6)\quad \begin{cases}
\max \sum_{j=1}^{r} \sum_{i=1}^{n} u_{ij} x_{ij} \\
\sum_{i=1}^{n} \sum_{j=1}^{m} p_j x_{ij} \le S \\
y - \sum_{(t,s)\in S} v_{kpts} x_{ts} = -v_{kp} \\
x_{ij} \le x_{i-1,j},\ i = \overline{2,n},\ j = \overline{1,r} \\
x_{ij} \le 1,\ i = \overline{1,n},\ j = \overline{1,r} \\
x_{ij} \ge 0,\ i = \overline{1,n},\ j = \overline{1,r},\ y \ge 0
\end{cases}
$$

If the problem (6) will has at finally an integer solution the problem will be completely solved. If not, we shall resume the upper steps.

Example

No. of dose	U_{mx}	U_{m3}	U_{mz}
1	10	12	15
2	8	10	12
3	7	5	10
4	6	2	7

$p_x=6$, $p_y=5$, $p_z=4$, $S=50$.

The linear programming problem is:

$$\begin{cases} \max(10x_{11}+8x_{21}+7x_{31}+6x_{41}+12x_{12}+10x_{22}+5x_{32}+2x_{42}+15x_{13}+12x_{23}+10x_{33}+7x_{43}) \\ 6(x_{11}+x_{21}+x_{31}+x_{41})+5(x_{12}+x_{22}+x_{32}+x_{42})+4(x_{13}+x_{23}+x_{33}+x_{43}) \le 50 \\ x_{ij} \le x_{i-1,j},\ i=\overline{2,4},\ j=\overline{1,3} \\ x_{ij} \le 1,\ i=\overline{1,4},\ j=\overline{1,3} \\ x_{ij} \ge 0,\ i=\overline{1,4},\ j=\overline{1,3} \end{cases}$$

After the application of the Simplex algorithm we obtain:

$x_{11}=1$, $x_{21}=1$, $x_{31}=1$, $x_{41}=1/6$, $x_{12}=1$, $x_{22}=1$, $x_{32}=1$, $x_{42}=0$, $x_{13}=1$, $x_{23}=1$, $x_{33}=1$, $x_{43}=1$

We shall add the restriction:

$y-0{,}8x_{42}=-1/6$

and we obtain now the problem:

$$\begin{cases} \max(10x_{11}+8x_{21}+7x_{31}+6x_{41}+12x_{12}+10x_{22}+5x_{32}+2x_{42}+15x_{13}+12x_{23}+10x_{33}+7x_{43}) \\ 6(x_{11}+x_{21}+x_{31}+x_{41})+5(x_{12}+x_{22}+x_{32}+x_{42})+4(x_{13}+x_{23}+x_{33}+x_{43}) \le 50 \\ y-0{,}8x_{42}=-1/6 \\ x_{ij} \le x_{i-1,j},\ i=\overline{2,4},\ j=\overline{1,3} \\ x_{ij} \le 1,\ i=\overline{1,4},\ j=\overline{1,3} \\ x_{ij} \ge 0,\ i=\overline{1,4},\ j=\overline{1,3} \end{cases}$$

Finally, we have:

$x_{11}=1$, $x_{21}=1$, $x_{31}=1$, $x_{41}=1$, $x_{12}=1$, $x_{22}=1$, $x_{32}=0$, $x_{42}=0$, $x_{13}=1$, $x_{23}=1$, $x_{33}=1$, $x_{43}=1$

and: $a_1=x_{11}+x_{21}+x_{31}+x_{41}=4$, $a_2=x_{12}+x_{22}+x_{32}+x_{42}=2$, $a_3=x_{13}+x_{23}+x_{33}+x_{43}=4$ and the maximal utility will be $U_t=97$ for 4 goods x, 2 goods y and 4 goods z.