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COMPARISON OF COMPANY MERGERS WITH EU MEMBERSHIP OF COUNTRIES: A SYSTEMS THINKING, APPROACH

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E-mail: ozan@students.yeditepe.edu.tr **Abstract**

In this article we are going to compare "Company Mergers with "EU Membership " from a systems thinking perspective. Both processes are complex, multi-dimensional, and needs multidisciplinary approach.

Since it seems impossible to shrink the results of either u merger or EU integration to a single result and arrive at a. conclusion that the result of u merge or EU integration is positive or negative, we analyze the impacts of different dimensions.

In the conclusion, we analyze-the impacts of different dimensions by extracting the cause and effect relations in each dimension and depicting the causal loop diagrams of their interactions.

Key words: *EU, Company Mergers, Systems Thinking, EU membership, Turkey*
JEL Classification: **M10**

1. INTRODUCTION

The increase in the number and volume of merger and acquisitions continues as a direct result of globalization, economic integrations, and deregulations. The fifth and the last merger wave peaked in 1999, and largest deals of all time occurred in the years 1998-2001 and featured many megamergers (Gaughan, 2007:4). As the multinational organizations grow and more mergers occur, the amount and dimensions of change increases and affects in every aspect of our lives, organizations, countries and the world as a whole. 1990s saw a wave of acquisition and merger driven consolidation throughout the world, accounting for approximately 70% of the total value of inward investment in developed countries, making M&As a more important component than Greenfield investments in foreign direct investment (UN, 1995, Zademach, 2003:1). For the cited reasons above, there is an increasing need to examine the reasons of mergers, success factors of mergers, and economic, social, and cultural effects of mergers.

Globalization also affects the pace of economic integrations between countries. Among them, European Union is the largest economic and political integration consisting of 27 members, having the largest GDP, and a population of nearly 493 million as of January 2006 (Eurostat, 2007). The EU continues to evolve with new members and enlargements, one of the biggest of which occurred in 2004, with the accession of 10 countries, and recently two new members. While EU is preparing for the next enlargements, the level of integration among current members and other political issues are being discussed in the public.

Mergers and EU enlargement are both global developments that have social, cultural, economic, political, ecological and technological effects on people, families, organizations, environment, countries, and on the world as a whole. These two topics are important because of the number and magnitude of their global effects. However, the main reason of our study of the both topic simultaneously is not their relative importance but because of their relatedness. Both processes are complex, multi-dimensional and need multi-disciplinary approach. The dynamics within the structure of both processes have similar properties and since the structure determines behavior, results these need to be understood by politicians and company managers for effective policy planning and decision making.

In this article, we choose the systems thinking methodology to discuss the dynamics of both topics for two reasons. First, systems thinking approach provides a common language which can be communicated through causal loop diagrams. This increases the readability of the article without sacrificing the holistic view.

Second, systems thinking is an appropriate way to show multi -dimensional and complex relations in diagrams which comparison of two related topics more understandable. We use the transferability and generic structures properties of systems thinking to enable this comparison. The relations will be extracted from the literature whose reliability and validity are already proved, so the causality is guaranteed, in which we focus on the behavior of the overall system that results from the interaction of these relations.

Next section gives brief literature review on company mergers, EU membership of countries and systems thinking. Then in Section 3, comparison of company mergers and EU membership is discussed first from a static perspective and then from a dynamic systems perspective. In the conclusion section, we are going to write about the implications of these two processes.

2. BRIEF LITERATURE REVIEW

2.1. Company Mergers

Mergers refer to various forms of combining companies. When companies decide to merge, there are a lot of issues to consider before the merge begins, during negotiations and after it is finalized. We agree with the authors suggesting "Mergers and Acquisitions are complex manouvers, which involve a high degree of uncertainty". (Hellgren et al, 2004:1) because when the number of things to consider increases, complexity increases accordingly. The complexity in a merger operation arises not only from the numerous issues, but also from the fact that these issues belong to different dimensions. Gaughan (2007:1) asserts that the world of mergers and acquisitions is clearly interdisciplinary, material from the fields of law and economics is presented along with corporate finance. Economists, consultants, organization theorists, management theorists, and financial theorists all work in the different aspects of this topic both practically and theoretically.

Another difficulty arises when different perspectives have contradicting findings. For example, empirical studies mainly from the field of finance suggest that mergers do not benefit the acquiring firm with a greater return than it would receive from other investment-prodüction activities with similar levels of risk, whereas, conceptual works from the field of strategic management suggest that merger may improve the performance of the acquiring firm (Lubatkin, 1983:218).

There is a need for better conceptual definitions before the search begins for clear properties that lead to better measures of the concept (Wacker, 2004:G32). Thus, first we reviewed current definitions of "merger" in Table 1.

Second, after analyzing the common properties of these definitions, we decide to use the term "merger" to define unification of two or more organizations, independent from their size, into a single one organization by the mutual consent of the companies, in which a company can be in a stronger position which can be called as acquirer, or dealer and the other as acquired. The emphasis on the consent of both companies is made deliberately to exclude hostile takeovers, or tender offers from the definition because the comparison of company mergers with EU membership will not be relevant. Obviously EU membership is a voluntaristic - process, so the merger definition should also include voluntarism so that they are comparable.

Table- 1: Selected merger definitions

Author(s)	**Definition**	**Properties**
Merriam-Webster	Absorption by a corporation of one or more others; any of various methods of combining	Combining companies
Gaughan	Combination of two corporations in which only one corporation survives and the merged corporation goes out of existence. When the combining firms are nearly same size, the term	Combining corporations, Different Size of corporations
Daft	Unification of two or more organizations into a single unit.	Single unit
Scott	Two or more independent organizations become a single collective actor.	Single actor
Wheelen and Hunger	Transaction involving two or more corporations in which stock is exchanged, but from which only one corporation survives. Mergers usually occur between firms of somewhat similar size	Same size of firms
Weston, Mitchell Mulherin	Negotiated deals that meet certain technical and legal requirements	Negotiatiated deal

2.2. **European Union Membership of Countries**

European Union (EU) Integration refers to a candidate country's being a member of the EU. When a country decides to be a member of EU, it applies for membership. If the inclination of EU towards the candidate is positive then EU investigates if the candidate meets the EU criteria (such as Copenhagen Criteria). After EU is sure that the candidate meets the EU criteria then negotiations begin. During the negotiations candidate country begins to accept and adopt EU acquis, and EU policies. After that the candidate successfully meets all the obligations of being a member of EU, then the integration is finalized.

As a candidate country applies to membership, the discussions about the impacts of the accession began immediately by the applicant country,, members of EU, and other countries as well. These discussions are held in public, in universities, by politicians, by journalists, lawyers, and the institutions of Europe Union. Different opinions and vast number of perspectives emerge as the discussions continue. At the same time, applicant country prepares for membership by adopting the acquis, and prepares her for accession. Although each country brings specific issues, opportunities and threats to EU, the accession criteria, and the process for each country are the same. Since the impacts are multifaceted, usually the discussions about the impacts of accession focus on only one dimension. Thus, the interconnectedness of all the dimensions is neglected and the discussion continues around subjective opinions, feelings, political views, rather than facts, and realities shaped by analyzing all the interactions of all dimensions.

Each enlargement brings EU specific problems and opportunities. In 1973 enlargement the nine members formed a less cohesive grouping than the original six, and all the member states suffered from mounting inflation and unemployment, and most of them saw their balance of payments slide into severe deficit (Leonard, 2005:14). On the other hand, official web site of EU suggests that the 2004 enlargement, with the entry of eight central and eastern European countries together with Greek Republic of Southern Cyprus and Malta into the European Union was a historic achievement, ending centuries of division. Europe reunited means a stronger, democratic and more stable continent, with a single market providing economic benefits for all. its 450 million citizens (EU Web Site, 2004). Thus, these two examples indicate that the accession of any country to EU is important for both the accession country and for the European Union with its existing members.

2.3. **Systems Thinking**

Systems thinking began to influence organization theory in 1966 following the Katz and Kahn's "The Social Psychology of Organizations" and Thompson's "Organizations in Action" in 1967. Their work is an application of systems perspective to organizations which derived its major concepts from Ludwig von Bertalanffy's "General Systems Theory" in 1951. Norberi Wiener's laid the theoretical perspective of systems perspective in his 1948 book called "Cybernetics".

Systems Theory views an organization as a complex set of dynamically intertwined and interconnected elements, including its input, processes, outputs, and feedback loops, and the environment in which it operates and with which it continuously interacts (Shafritz, 2001:242). The principles of systems thinking can be applied to any area because its methods are based on mathematics and "systems thinking" has a holistic approach. Thus, it can be applied to complex, interrelated, and multidisciplinary problems effectively.

Senge, the author of the "Fifth Discipline" says that "from a very early age, we are taught to break apart problems, to fragment the world. This makes complex tasks more manageable but we pay a hidden price. We can no longer see the consequences of our actions; we lose our sense of connection to a larger whole" (Serige, 1999:3).
One of the most influential developments in systems thinking is a discipline founded by Jay W. Forrester in the MIT Sloan School of Management in the late 1950s called System Dynamics (SD). System Dynamics Society defines SD "as a methodology for studying and managing complex feedback systems, such as one finds in business and other social systems like population, ecological and economic systems" (System Dynamics Society, 2007).

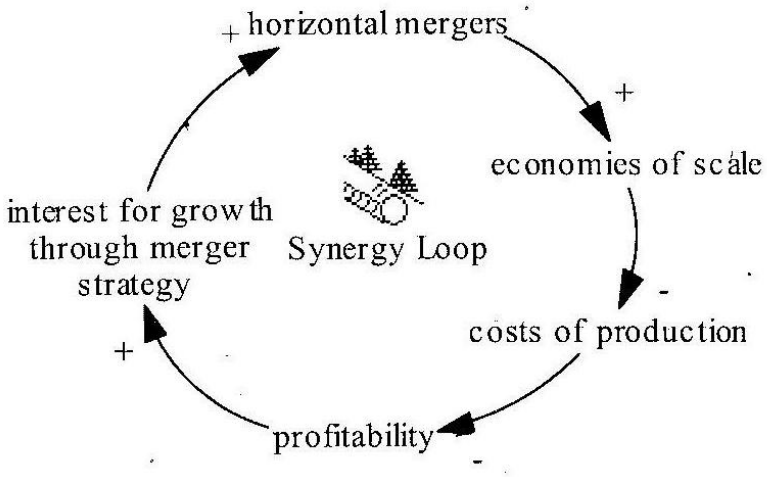
With the help of an SD model, a researcher can design a model, simulate this model with the aid of a computer program and interprets the results. In order to develop an SD model, one needs to know the underlying structure of interrelations and causal relations of the problem being studied.

In the initial phases of SD modeling, causal loop diagrams (CLD) are used. The most important feature of CLD is positive and negative feedbacks. The two types

of feedback, positive and negative, combine to create all of the behavior observed in complex systems, positive feedback drives growth and change, negative feedback negates change and stabilizes systems. (Martin, 1997:52).

An example of a causal loop diagram is shown in Figure 1. The "-+-" notation near the arrow indicates a causal effect in the same direction and "-" notation indicates a causal effect in the opposite direction. This causal diagram indicates that horizontal mergers are positively related with economies of scale, and when a company reached to economies of scale its costs are reduced (negatively relation), and when the cost of production decreases the profitability increases, and as the profitability increases company shows increased interest for growth through merger strategy. And when the interest increases, we see more horizontal mergers occurring. This causal loop is a positive reinforcing loop because an increase in one of the variables causes an increase in that variable through other chain of causal relations. The reinforcing loop is shown with a snow-ball effect figure in the center of the diagram, and we named this positive loop as "Synergy Loop".

Figure-1: An example ofa causal loop diagram



In this study we are going to adopt a systems approach and extract the causal relations belonging to company mergers and EU membership by applying a literature-based modeling. Not only these causal relations will provide insights and
' implications for both integration models of company mergers and EU but also they will pave the way for developing a System Dynamics modeling for our future studies.

We adopt a systems thinking approach, because processes of both "company mergers" and "EU membership" are complex, multi-dimensional, and multidisciplinary. This explains the reason of our selection of systems thinking approach in both cases. We could have examined these two problems separately. However, we chose to deal with these two problems simultaneously because of the generic
_ structures in them produce the same behavior. Transferability of structure between systems gives the study of generic structures its importance in SD, and the knowledge about a generic structure in one system is transferable to understand the behavior of other systems that contain the same structure (Albin, 1996:7). We` are going to depict the causal relations that have the same structure in "company mergers" and "EU membership".

3. COMPARISON OF COMPANY MERGERS AND EU MEMBERSHIP

3.1. From a static perspective

We can compare company mergers and EU membership from different perspectives outlined in Table 2. Types of mergers are horizontal mergers which includes mergers between firms that compete, vertical mergers which include mergers between firms that have a buyer-seller relationship, and conglomerate mergers which include firms that engage in unrelated types of products and markets. There are three types of conglomerate mergers, product extension, geographic extension and pure conglomerate mergers. In EU, a country can be a candidate, member or non-member country. A specific classification is not applicable to EU because a country is either a full-member or not.

Table- 2: Perspectives used in the static comparison

Comparison Perspectives	**Mergers**	**EU Membership**
Classification	Vertical, Horizontal, Conglomerate	Not a member, candidate, Member
History	5 merger waves	6 enlargements
Driving Factors	To create synergy, reduce risks, strategy for growth, increased market power, to become independent, reduce environmental	Political, Economic and Social factors
Phases	Courtship, marriage ceremony, honeymoon, after honeymoon	Interest of candidate, application for EU membership, negotiations, Integration process, and
Level of Integration	Full, Moderate, Minimal	Supranational level of government, Europe of nations, Multi-level system
Post-integration problems	Financial problems, Cultural problems, employee specific problems	Decision making problems

In company mergers, five merger waves are determined. Gaughan (2007) attributes each wave with specific characteristics: First wave between 1897 and 1904 were dominated by horizontal mergers, result of second wave between 1916 and 1929 was often an oligopolistic industry structure. Third wave between 1965 and 1969 was often known as the conglomerate period. Unique characteristic of the fourth wave between 1984 and 1989 is the role of hostile mergers. Fifth wave beginning

in 1992 was an international merger wave and faced with consolidation through large-scale acquisitions of companies.

Thomson report (2007:1) indicates that following 2006's record-breaking year for mergers and acquisitions, worldwide announced M&A activity in the first quarter of 2007 topped US$ 1.1 trillion.

Since its foundation by six countries in 1957, EU has completed six enlargements. In 1973, Denmark, Ireland and UK become a member, in 1981 Greece, in 1986 Portugal and Spain, in 1995 Austria, Finland and Sweden, in 2004 Greek Republic of Southern Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia, and recently in 2007 Bulgaria and Romania become a member of the Union.

A merger catches attention from the public when the volume of the transaction is high. The volume also matters for the EU integration of member countries. For this reason we calculated the GDP of current members and the new members GDP just before their accession to EU (data in appendix). We see that from Table 3 that the first enlargement is the largest integration in terms of volume, and recent enlargement of Bulgaria and Romania (1.0%) the smallest.

Another useful classification of EU enlargements can be made according to the level of development of nations based on the work of Alsan and Öner (2004:898) who, by using 1998 data, claimed that there are two groups -"leading" countries which fall under "knowledge" and "mature transformation" societies and "lagging" nations which fall under "industrial and "transformation" societies. The level of development of nations are given in Figure 2. Although this classification could be done according to the level of development of the country in the accession year, the data are expected to be almost same in 1998 so we take the values in 1998.

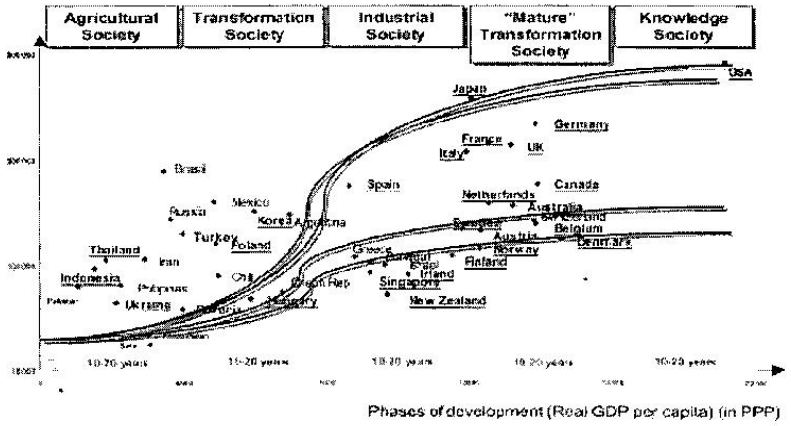
Table- 3: Comparison of Previous EU Enlargements

Enlargement Year	**% of new members' GDP to EU members**	**Number of countries joining**	**Level of development of countries joined**
1973	24.5%	3	Mature transformation Society
1981	1.4%	1	Industrial Society
1986	8.1%	2	Industrial Society
1995	7.6%	3	Mature transformation Society
2004	6.8%	10	Transformation Society
2007	1.0%	2	Transformation Society

From Table 3 it is seen that less developed nations became a member of the EU later than more developed countries, with the exception of 1995 enlargement. This data indicates the preference of both EU and the countries to have integration when the difference between their levels of development is low.

Figure-2: Economic Development Model

Level of development(Real GDP) (log. Scale)



Source: Alsan, Öner (2004 :897)

Fundamental reason for any kind of integration is the expectation and belief to have better future with a unified body rather than separate bodies. In company mergers these expectations are to create synergy, reduce risks by diversification, rapid growth by merging as opposed to slow internal growth, increase market power, to acquire resources and increase independency to critical resources, and reduce environmental uncertainties. The conceptual arguments for these expectations are discussed widely in the literature by strategic management, financial theory, and resource-dependence theories.

In EU membership, a country applies for membership for political, economical and social factors. By applying to EU a candidate country aims to integrate her economy with EU for sustaining growth, better functioning of economy, increase trade relations, guaranteeing democracy, peace and the functioning of institutions, and to provide its citizens better social rights.

In any kind of mergers, three broad categories of phases apply. Interest of parties began to emerge, negotiations or ceremony phase, and then the integration phase. For mergers an analogy is often made with marriage. One of these analogies assert that there are four phases in a merger, courtship, the marriage ceremony, honeymoon and after honeymoon phase (Fery, 1969:155). We compare the similar phases of mergers and EU Integration in Table 4.

Table- 4: Similar phases exist in Mergers and EU Integration

Phases	**Mergers**	**EU Integration**
I	Interest (of companies to merge)	Interest (of candidate and EU to integrate)
II	Showing Mutual Intentions	Applying for EU Membership
III	Negotiations	Negotiations (Accepting the Acquis)
IV	Handshaking	Finalizing Negotiations .
V	Integration Process	Integration Process
VI	New Company	Enlarged EU (with the new members)
Future	- A healthier corporation, - Separation	- Stronger EU - Disintegration

I

After a decision to merge, another strategic decision is the level of integration. In EU, this is straightforward, the integration ends with a full membership where the candidate country accepts the entire acquis, founding treaties, all the secondary legislation, directives and regulations. However, a three vision of Europe is discussed (Dervis, 2004:13):

- Emergence of a"European super-state" with a supranational level of government as a clear "federal" centre of authority

- Community of traditional nation states, having formed a common economic market, but retaining sovereignty at the national level in most domains

- Union as a set of overlapping circles, with a multi-level system of governance. Within the overall framework of the EU with some well-defined competencies, there would be flexible forms of enhances cooperation, with some member countries going further in integration various policies than others.

In company mergers, three level of integration can be considered (Galpin, 2000:15)

- Full integration: All areas and processes companywide (or function-wide) are to be merged and consolidated.

- Moderate integration: Certain key functions or processes will be merged and consolidated.

- Minimal integration: Selected corporate and staff functions will be merged and consolidated, primarily to achieve staffing synergies and cost-efficiencies.

Post-merger problems companies face are common. The literature reveals that the post-merger integration problems have proved to be an important stumbling block (Grossack, 1969:11). These problems mainly arise because of the change involved in this process. In any kind of change there are cultural and employee specific problems, such as resistance for change, anxiety, fear of uncertainty, stress, loss of key personnel and etc. Another critical problem occurs when the merged company

is neither able to exploit synergistic gains nor reduce costs, and thus not able to show a financial performance that is being aimed with the merge decision.

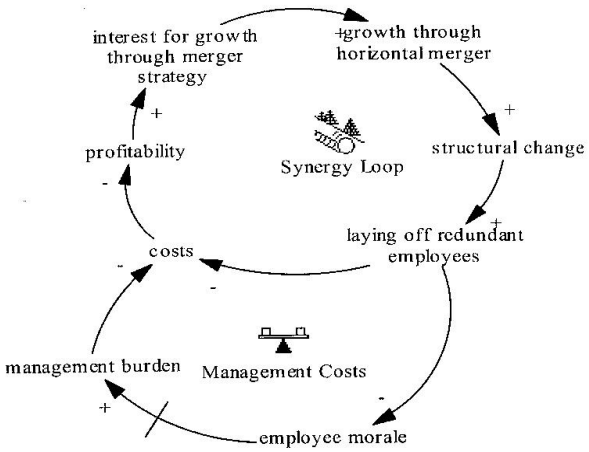
One of the Post-integration problems for EU is that with an enlarged EU, the diversity increases and as a result of this, decision making within the EU becomes even more difficult. During the early years of the Community most decisions within the council needed to be taken, under the terms of the Rome treaty, by unanimity. From 1966 onwards, a wide range of decisions should have been reached by qualified majority voting (Leonard, 2005:11).

3.2. From a dynamic systems perspective

When we refer to dynamic systems we mean that the system as a whole faces change, and the interrelations between the elements of the system and subsystems determine the behavior of the overall system.

Companies forming horizontal mergers might result in economies associated with larger scales of operation and the elimination of duplicate facilities (Grossack, 1969:3). The company, who chooses growth through horizontal mergers, reorganizes its structure to benefits the economies of scale. This structural change causes an increase in the layoff of the redundant personnel. When the redundant personnel leave the organization, production costs decrease, but at the same time the morale of the current personnel reduces. Fulmer and Gilkey (1988) listed the reactions in five themes as anxiety and uncertainty, helplessness and rejection, divided loyalties, and conflicts over new values. When the employee morale reduces, after a delay, reduced morale causes an increase in the burden of management which in turn increases the costs of managing. The causal diagram is depicted in Figure 3.

Figure-3: Example of "Limits of Success" Archetype for Mergers

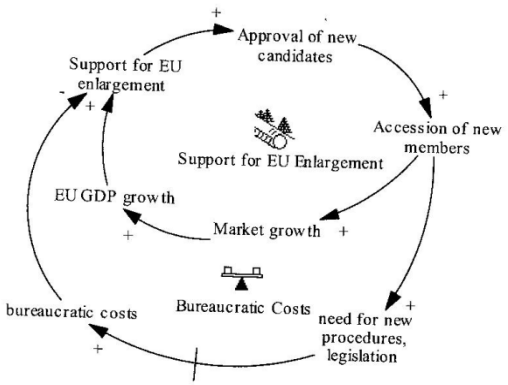


Actually, this system is one of the common archetypes which is called Limits of Success. Senge (1999:95) defines this archetype as "A reinforcing process is set in motion to produce a desired result. It creates a spiral of success but also creates inadvertent secondary effects which eventually slow down the process". In this merger dynamics, the desired result is growth. First, horizontal mergers cause economies of scale and thus decrease in costs, increase in profits which in turn increases the interest for growth through mergers. We name this loop as synergy loop which created the reinforcing process. Secondary effects are the reduced employee morale which increases the management burden and costs, thus slow down the process. We named this loop as management costs.

In Figure 4, the same structure is drawn for the dynamics involved in EU enlargement. In this limits of success structure, we see the same patterns. Support for EU enlargement within the EU, causes . an increase in the approval of new candidates which in turn increases the accession of new members to EU. When

new members accede, EU market enlarges, and thus total GDP of EU increases due to the market growth, and free trade. This further increases support for EU enlargement. However, at the same time accession of new members increases the need for new procedures and legislation for country specific problems and due to diversification. These new legislations increase the bureaucratic costs and thus, decrease efficiency and support for EU enlargement. This implies that there exists a limit for future EU enlargements.

Figure-4: Example of "Limits of Success" Archetype for EU Enlargement

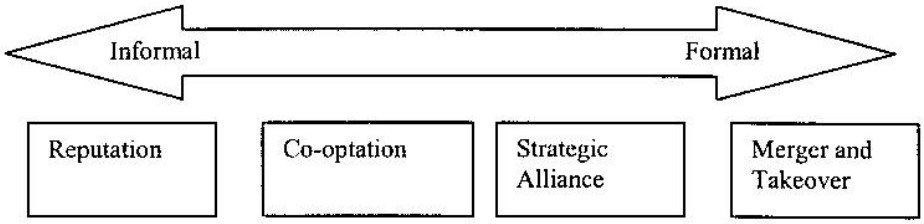


The Limits of Success archetype is also related with the discussion around "absorption capacity". We can recognize the two loops of Figure 4 in the words of Brok (2006): "Until now, enlargement had been the success story of EU foreign policy and a guarantee for peace and stability in Europe. With the ratification process for the EU Constitutional Treaty at a standstill, the European

Union is currently not a stable fundament for 25 Member States. Thus its absorption capability is insufficient under the present conditions". The "success part" indicates the reinforcing loop, and "absorption capability" indicates the balancing loop of limits of success archetype.

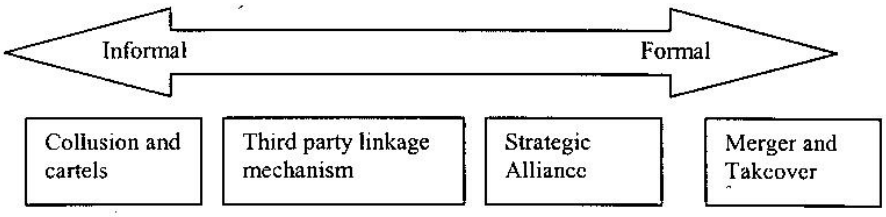
In resource dependence theory, the goal of an organization is to minimize its dependence on other organizations for the supply of scarce resources in its environment and to find ways of influencing them to make resources available (Peffer, 1978). Jones (2004:73) provides a continuum for inter-organizational strategies for managing symbiotic and competitive interdependencies as shown in Figure 5 and 6 respectively.

Figure-5: Inter-organizational Strategies for Managing Symbiotic Interdependencies



Source: Jones : 2004 :73

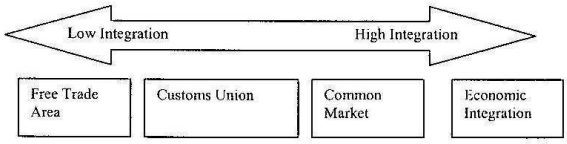
Figure-6: Inter-organizational Strategies for Managing Competitive Interdependencies



Source: Jones : 2004 :73

Similarly, countries like organizations try to decrease their dependencies to other countries, through economic and regional integrations, and cooperative agreements. Regional economic groups like EU in Europe, NAFTA in North America, LAFTA in Latin America, MERCOSUR in South America, ASEAN and APEC in Asia are examples of such regional integrations. In order to make a comparison with the continuum of inter-organizational strategies of Jones (2004:73) with strategies of economic integration of countries, we depict a similar figure below from the classification of Daniels, Radebaugh, Sullivan (2004:206).

Figure-7: Types of Regional Economic Integration between Countries



Source: Drawn by the authors of this article based on the definitons of Daniels et al.(2004:206).

Miczka and Grössler (2004:6) analyzed post-merger integration processes from a system dynamics perspective and divided their model into four interweaved submodels: capability transfer, cultural dynamics, employees and their perception of the integration process and managing the boundary between the two companies. This merger dynamics model can be useful for EU Integration dynamics. We give a list of possible discussions for EU Integration dynamics when compared to merger dynamics below. The concepts mentioned in the article of Miczka and Grössler (2004:6) is double quoted in the following list:

- "Value creation" effects of EU membership during pre-accession and accession talks

- The parallelism of "desired capabilities" with EU criteria

- "Transfer time" vs. opening and closing time of chapters during accession talks

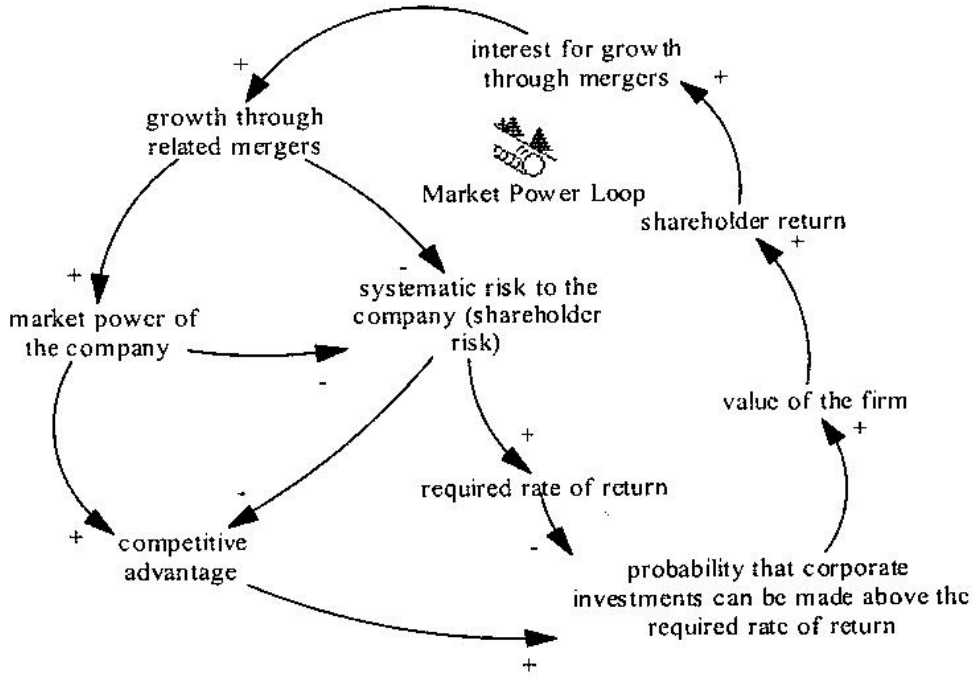
- "Increased market power" of merger dynamics can be used as increased political power in EU integration dynamics

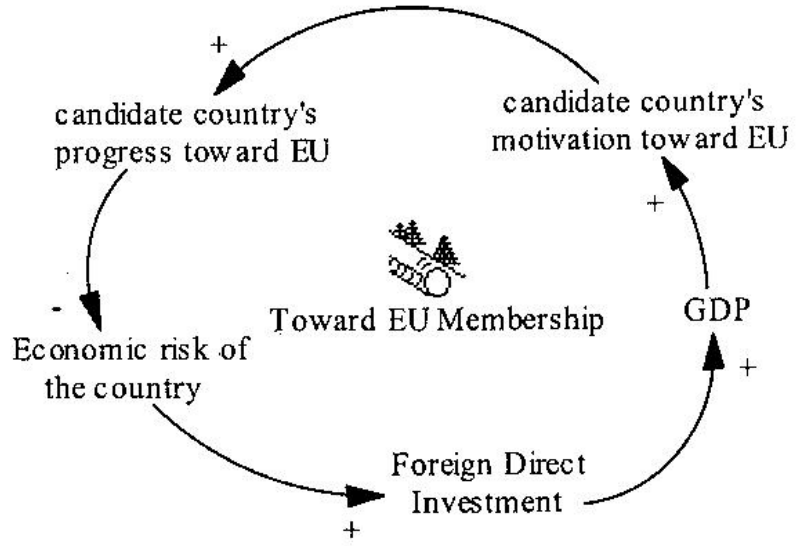
- "Employees and their perception of the integration process" of merger dynamics can be changed to "Citizens of the candidate countries and their perception of the membership process"

Lubatkin (1987:3) examines the relation between the relatedness of merging firms and systematic risk and suggests that related mergers decrease the systematic risk. In another article, Lubatkin (1988:5) asserts that "the lower the shareholder risk, the lower the required rate of return of an investment, the more likely that corporate investments can be made above the required rate of return, and hence the higher the value of the firm", and based on the previous studies Lubatkin (1988:5) states that as market power increases, systematic risk decreases. According to these relations, we depict the causal diagram in Figure 8. There is a reinforcing loop which we called as "Increased Market Power".

A similar causal loop diagram is drawn for EU membership of a candidate country in Figure 9. In this model, as the candidate country shows progress toward EU, the economic risk of the country decreases, and foreign direct investment increases, thus the GDP increases. These positive developments increase the candidate's motivation toward EU, and thus began to show more progress toward EU.

Figure-8: Market Power Loop





4. CONCLUSION

In this article we aimed to compare two globally important topics, company mergers and EU Integration with a systems thinking approach. These two topics have common structures and thus in some aspects they have the same dynamics. Thus, one structural problem in one of the system can be seen in the other and the solutions will be generated through a holistic approach which considers the interrelations among numerous variables.

A problem in company mergers can be faced in EU integration, and the same dynamics and leverage points can help both managers and politicians for implementing effective solutions. Likewise, a success dynamics in one of these related topics can be an example for the other topic.

We have drawn two causal loops, one indicated a"Limits to Success" archetype, and the other has a reinforcing loop. These two structures show the similarity of each topic in some aspect. However, the models need further development by adding new relations from the literature related with mergers and EU separately. As Miczka and Grössler (2004) suggest "completeness is a formal aim, but basically unattainable since the complexity of any research object that is of social nature unavoidably leads to a fragmentation of the knowledge base". Thus, in this article we aim to start building systemic models. Miczka and Grössler (2004) emphasized that there are only three contributions related to mergers and acquisitions in the last 15 years. Furthermore, when we searched "EU" in Systems Dynamic Review, we did not find any article related with an analysis of EU membership dynamics in system dynamics literature. Since, there is no study on SD related with EU accession, membership or integration, this article also is the first that discusses the EU dynamics, and its comparison with company mergers dynamics.

In our future studies, we plan to add new sub-systems, and to combine them in a system dynamics model with stock, flow and auxiliary variables, simulate the model for mergers and EU integration.

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APPENDIX

	Gross Domestic Product at market prices: current prices, millions of Euro						
	MEMBERS (year of accession)	**1973**	**1981**	**1986**	**1995**	**2004**	**2007**
EU-6	Belgium	38 646	90.423	117.533	217.418	289.508	327.708 (f)
	Italy	98.570	373.452	629.183	861.117	1 390.539	1.528.228 (f)
	Netherlands	54.617	133.828	188.621	320.502	489.854	554.630 (f)
	Luxemburg	2.121	537.092	5 913	15.811	26.996	35.760 (f)
	France	216.174	542.994	778.406	1.201.128	1.659.020	1.854.125 (f)
	Germany	316.124	689.406	1.012.515	1.929.422	2207,200	2.362.074 (f)
EU-9	Denmark (1973)	24.441	54 284	88 056	139.129	196.158	229.857(f)
	Ireland (1973)	5 954	17.856	28.870	51 324	147.569	188,657(o
	UK (1973)	147.355	457 691	568.515	868.432	1.733.603	2.011.693 (f)
	sub-total of new members (1973)	177.750	**529.830**	**884.441**	**1.058.885**	**2.077.330**	**2.430.207**
	Sub-total of EU members (1981)		**2.897.026**	**3.416.612**	**5.604.283**	**8.140.447**	**9.092.732**
EU-10	Greece (1981)		40.420	49.321	89.888	168.417	208.874 (f)

	sub-total of new members (1981)		**40.420**	**49.321**	89,888	168.417	208.874
	sub-total of EU members (1986)			3.465.933	5.694.171	8.308.864	9.301.606
EU-2	Portugal (1986)			37.050	87.038	144.274	160.915 (f)
	Spain (1986)		173.338	243.382	456.494	840.106	1.041.765 (f)
	sub-total of new members (1986)			**280.432**	**543.532**	**984.380**	1.202.680
	Sub-total EU members (1995)				6.237.703	9.293.244	10.504.286
	Austria (1995)		63.151	99.770	183.220	235.818	267.740(f)
EU 15	Finland (1995)		46.723	73.864	99.901	152.345	175,320(f)
	Sweden (1995)		106.382	140.839	191.588	281.123	331.482(f)
	sub-total of new members (1995)				**474.709**	669.286	**774.542**
	Sub-total of EU members (2004)					9.962.530	11.278.828
EU 25	Greek Rep. Of South. Cyprus (2004)				7.073	12.700	15.153 (f)
	Czech Republic (2004)				42.267	87.205	123.374 (f)
	Estonia (2004)				2.873	9.375	14.939 (f)
	Hungary (2004)				34.118	82.302	98.049 (f)
	Latvia (2004)				3.792	11.176	18.988 (f)
	Lithuania (2004)				4.961	18.125	27.083 (f)
	Malta (2004)				2.796	4.412	5.135 (f)

	Poland (2004)				106.362	203951	294.253 (f)
	Slovakia (2004)				15.072	33.862	47.213 (f)
	Slovenia (2004)				15.525	26.232	32.032 (f)
	sub-total of new members (2004)				**234.839**	**489.340**	**676.219**
	sub-total EU members (2007)						**11.955.047**
EU-27	Bulgaria (2007)				10.018	19.875	27.522 (f)
	Romaina (2007)					60.842	97.759 (f)
	sub-total of new members (2007)						125.281
	TOTAL EU 27						12.080.326

Source : Eurostat

(f) Forecast	(c) Missing values in Eurostat is calculated from OECD statistics