

The Innovative Activity of Graphisoft Team in the Light of
Complexity-Theory
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Introduction

Today, in highly developed industrial countries homogeneous corporations are no longer the fundamental unit of management, instead we have the business-network and the network-system. The firm-networks have replaced the former, monolithic institutions, and the bureaucratic and centralized hierarchy of organizations. The adaptation-skills, and the innovation-capacity of the external and internal networks seem to surpass the similar skills of the uniform companies.

The external and internal networks can be created by the following factors. The organizations are bigger than ever. They have to hold more and more information, faster and faster. Their surroundings change very fast. First of all the speedy development of information technology resulted in the acceleration of the information flow and environmental change. The result is that we can predict and foresee the future less and less. In this atmosphere long-term planning becomes almost impossible, and the strong, internal culture based on consensus can become dangerous. An internal culture may be more successful. Instead of all these. It gives the possibility to confront dissimilar opinions, so as to reveal new possible future prospects, and to advance the role of learning.

In this study we would like to demonstrate with an example, how the internal network of a company develops and how it joins with external networks. The company, which we present here, bases its success above all on its mental capital and learning ability, so its network-system can serve as a good example by the demonstration of an intelligent company.

2. The Company

Graphisoft was established in 1982, as one of the first Hungarian private enterprises by two technical intellectuals, the scientist Gábor Bojár and the engineer Gábor István Tari. All they possessed was mental capital. Both of them considered their future hopeless in the light of the professional „opportunities” which were offered by the bureaucratic state institutions. It was more attractive to create a workplace atmosphere, where the managers and subordinates work together in evolving their creative power.

The partner-founders spent all their working time on fulfilling this idea vision. The strategic question was, what kind of business should they carry on. The answer was quite evident in times of global expansion of the information technology: software development.

This activity didn't demand large financial capital and infrastructure, but demanded personal creativity. One of the founders, Gábor Bojár was occupied in programming of the 3D modelling at his former workplace. That is why it seemed to be sensible to make a profit from his professional competence in this narrower developing area with his partners and later co-workers.

2.1. The History and Mission of the Company

The most important stages of Graphisoft's development:

- 1982:
 - Graphisoft was set up.
- 1984:
 - Cooperation between Graphisoft and Apple Computer: ArchiCAD, the first personal computer compatible 3D architectural designer software appears.
- 1986:
 - Graphisoft built up its European trade-network.
- 1988:
 - Graphisoft became the leader trader of the Macintosh compatible architectural designer software in Europe.
 - Graphisoft Deutschland Ltd was established in Munich.
- 1989:
 - Graphisoft U.S. Inc. was established in San Francisco.
- 1991:
 - ArchiCAD, with its 5 million dollars turnover, became the leading architectural designer/editor of software for the Macintosh worldwide.
- 1993:
 - The version of ArchiCAD using the Microsoft Windows operating system appeared.
- 1994:
 - The annual turnover exceeded 10 million dollars; more than 15,000 people used ArchiCAD worldwide.
 - ArchiCAD won the „MacUser Editors'Choice Award, Best New CAD Software” (Eddy) prize.
 - Graphisoft began selling in Japan.
- 1995:
 - ArchiCAD was the first architectural CAD software, which used virtual representation (virtual reality) with the help of QuickTime VR.
 - ArchiCAD won the „Computer G. W's Editors' Choice Award” for the best architectural CAD software.
- 1996:
 - Internationally there were more than 25,000 ArchiCAD users internationally.

- Graphisoft joined the International Alliance for Interoperability (IAI).
- CSK Corporation and Nippon Investment Fund get 15.86% portion of property in the company for 7,5 million dollars.
- 1997:
- Users of ArchiCAD exceeded 40,000.
 - Graphisoft UK Limited (London) and ArchiCAD Espana S.A. (Madrid) was established.
 - ArchiCAD for TeamWork was launched on the market.
 - Graphisoft won the „Europen IT Prize”.
- 1998:
- ArchiCAD for TeamWork won the "Codie Award for Best Groupware" prize.
 - Graphisoft Park was set up, as new centre of the company.
 - The shares of the company were listed on the Frankfurt Neuer Markt stock exchange.
 - Number of ArchiCAD users surpassed 55,000 all over the world.
- 1999:
- The company bought the A.C (S) and G.B. (S P) came into existence.
 - ArchiCAD won the architectural CAD cup in the USA as the „best Architectural CAD”.
 - New products were the (ArchiCAD 6.5, and the ArchiFM 2000, GDL Object Tools).
 - The company contracted a strategic alliance with Price Waterhouse Coopers
 - Acquisitions: Division of Wiechers & Partner GmbH Bauplan, Cymap Ltd.
 - The company acquired a minority share from CETEC Vision Jsc
- 2000:
- The company received the „Technology Pioneer” prize in Davos (Switzerland) at the World Economy Forum (EWF) in 2000.
 - The company bought CADworks Inc. and became the minority shareholder in the Expressions Tools Company, Japan.
 - Kajima took aim at the electronic commerce market with the help of Graphisoft object-technology.
 - Graphisoft shares were listed on the Budapest stock exchange.
 - The USA government gave an important order for the American Drawbase subsidiary of Graphisoft.
 - Graphisoft and EBICON contracted a strategic net-alliance.
- 2001:
- Graphisoft founded GDL Technological Ltd.

- Graphisoft issued the ArchiCAD 7.0 version.
 - GDL Technologic Ltd made an exclusive object-developing contract with Office Depot.
 - APEH chose the Graphisoft ArchiFM system to handle with all the real estate in the country.
 - The whole, national real estate of MOL operated with Graphisoft ArchiFM.
- 2002:
- Graphisoft presented ArchiCAD 8, Plan2 Model and Cymap 9.2.
 - ArchiCAD 8 won CADENCE Magazine's „Editors' Choice” prize.
 - ArchiFM increased its sales, main clients: US Coast Guard, and TriGránit.
 - Graphisoft was the main sponsor of the XXI. World Conference of Contractors in Berlin.
- 2003:
- The biggest sawmill in Australia chose ArchiCAD.
 - The German multinational company, Friedhelm Loh Group started to use ArchiFM.
 - Berlin Trade Show and Convention Centre were made with ArchiFM.
 - Volkswagen AG started to use ArchiCAD 8.
 - Strategic alliance between Graphisoft and Synergis.
 - ArchiCAD 8.1. was first produced
 - ArchiFM Microsoft Windows XP received a certification.
 - Strategic cooperation with Hewlett Packard.

Mission:

The company would like to be the world's number one information, technological services of the architectural and building industry.

Graphisoft made a radical alteration in many fields of CAD. In 1984, they were the first who evolved 3D architectural design software for PCs. It is the company's firm belief, that all the accumulated and continuously expanding high-tech knowledge will assure technical superiority to Graphisoft in the future.

The most important elements of Graphisoft's strategy are the global coverage, and the full, absolute concentration on its main specialty, to develop 3D software results for architecture, building, engineering, construction and, for property management. The main markets of the company are in Europe, in North America and in the Asian/Pacific area.

2.2. Graphisoft in the World Market

Graphisoft started in 1982, as the first private enterprise in the early stages of economic liberalization. It was built upon Hungarian intellectual capital, which produced many eminent computer-experts through the high-level mathematics education and culture. There were many more, than the home industry could have employed economically. By the end of the 1970s became the „software export” became a flourishing business. (It used to mean „software-expert export”). Graphisoft wanted to export, but they tried it on higher level: not to sell themselves, but their products.

They specialized in a well-defined market, where advantages can be used in the best way, and disadvantages (lack of capital, marketing and management experience) disturb the least. They began to work with Apple computers, because the „garage” image was part of the Apple image. (At the beginning they didn’t have anything else, only an attic room less than a garage) and they developed for architects, because this market consists of little firms on the average, who is self-evident for small companies, to buy from similar small companies.

The strategy worked: Since 1987, Graphisoft has been the biggest Hungarian software exporter. They offer their product (ArchiCAD) for sale in 80 countries, on 5 continents, in 22 languages. Their income was 12 million dollars in 1994, 15 million dollars in 1995, 19 million dollars in 1996 and 22 million dollars in 1997 in the world market of the Apple Macintosh compatible architect CAD softwares. This turnover was more than the income of their biggest American or Western-European competitors. More than 300 people work in the development centre in Budapest and in the subsidiaries in Munich, Bristol, Madrid, Newton and Tokyo. Today more than 100,000 architects in the world design with ArchiCAD. ArchiCAD is now sold not only for Apple Macintosh, but for IBM compatible computers too. In the next few years, the company aims to make ArchiCAD the indisputable „industrial standard” among architecture CAD programs, independently of the type of machines.

When launching of Apple, 20 years ago, Steve Job’s dream was to put a computer in everybody’s hand, computer, which anyone can use, like a phone or a car. Graphisoft would like to achieve something similar in architecture. They want to put a tool in the hands of architects who are averse to CAD yet because of its automated, technical nature. We have to emphasize definitely not the services of the program or the quantity of its functions, but the

naturalness, and ease of handling, and how much these follow the logic of creative fantasy. We would like to prove that a computer doesn't restrict creative freedom and creativity, but it boosts it, like a telephone boosts freedom of communication, or a car boosts freedom of movement.

The car didn't become a mass product because it had more horsepower, air-conditioning or was faster, but because driving became easy enough that one did not need a professional driver.

Information technology started in this direction with the PC 20 years ago, but CAD still works mainly only in the hands of „professional drivers”. Only a minority of more than 500,000 architects in the world use CAD. It is not the fact that they don't have money that counts but because the handling is strange. ArchiCAD owes its success to standing close to the goal:

a high-performance, professional instrument, which the architect can use with pleasure. This aim is attractive not only, because it is about a more hundred million dollar market, but because use of CAD is increasing daily, just as the existence of the automobile increases traffic. It places architecture in new dimensions. CAD is not only a tool for production, but for visual communication too. The essential character of architecture is the unity of function and visual experience. If photo-realistic stereoscopic pictures and Virtual Reality animations can show the architect of the quality of his plans, maybe there will be less ugly houses surrounding us.

Graphisoft remedied their lack of capital with low salaries. At that time their salary was less than a tenth of similar western salaries. This particular difference is notified as a certain „credit”.

Of course, today the income of the workers, who make the products and sales, approaches the salary of western programmers.

Until now, it has been difficult to use this intellectual capacity to produce business profits in Eastern Europe. Graphisoft was the first Eastern European company to lead the world market in any segment of high-tech industry, not only with innovation, but transforming it into products and in sales. In the last century there was a revolution in transportation technology. Today the revolution in the flow of information is making the world unbelievably small.

Important markets for the use of CAD technology are architecture, building, engineering, and construction. These three branches of users (ACE) represented 13% of the world market for CAD software. In 1996 total sales were 7 million Dollars. In 1990

Graphisoft earned 3.2 million dollars by selling ArchiCAD in the PC-based CAD/AEC market. It means, Graphisoft owned 2.2% shares of the world market. By 1996 it grew strikingly. ArchiCAD programmes worth 17.2 million Dollars were sold. This turnover was 3.6% shares of the world market. In the same year the turnover exceeded Graphisoft's world market share of 50% of CAD/AEC Macintosh platform, so the company became the market leader in this narrower section. The most dangerous rival of Graphisoft, the trader of AutoCAD, Autodesk, merged with a successful CAD firm, Microstation, so the united company had the strongest position among the software developing companies in CAD/AEC branch. Autodesk – despite the gradual increase of the Hungarian company – had 60% of the market. It was roughly ten times more than Graphisoft's share.

Graphisoft had a net income of 26,211 Euros in 2002, 27,248 Euros in 2003. It means 3.96% growth. Let's see the turnover in each region:

In thousand EUR

Turnover/region	2003	2002	Change (%) 03/02
Europe	17,897	15,795	13.3
North-America	4,262	5,548	(23.2)
Asian/Pacific area	4,425	4,157	6.4
Rest part of the world	664	711	(6.6)
Total	27,248	26,211	4.0

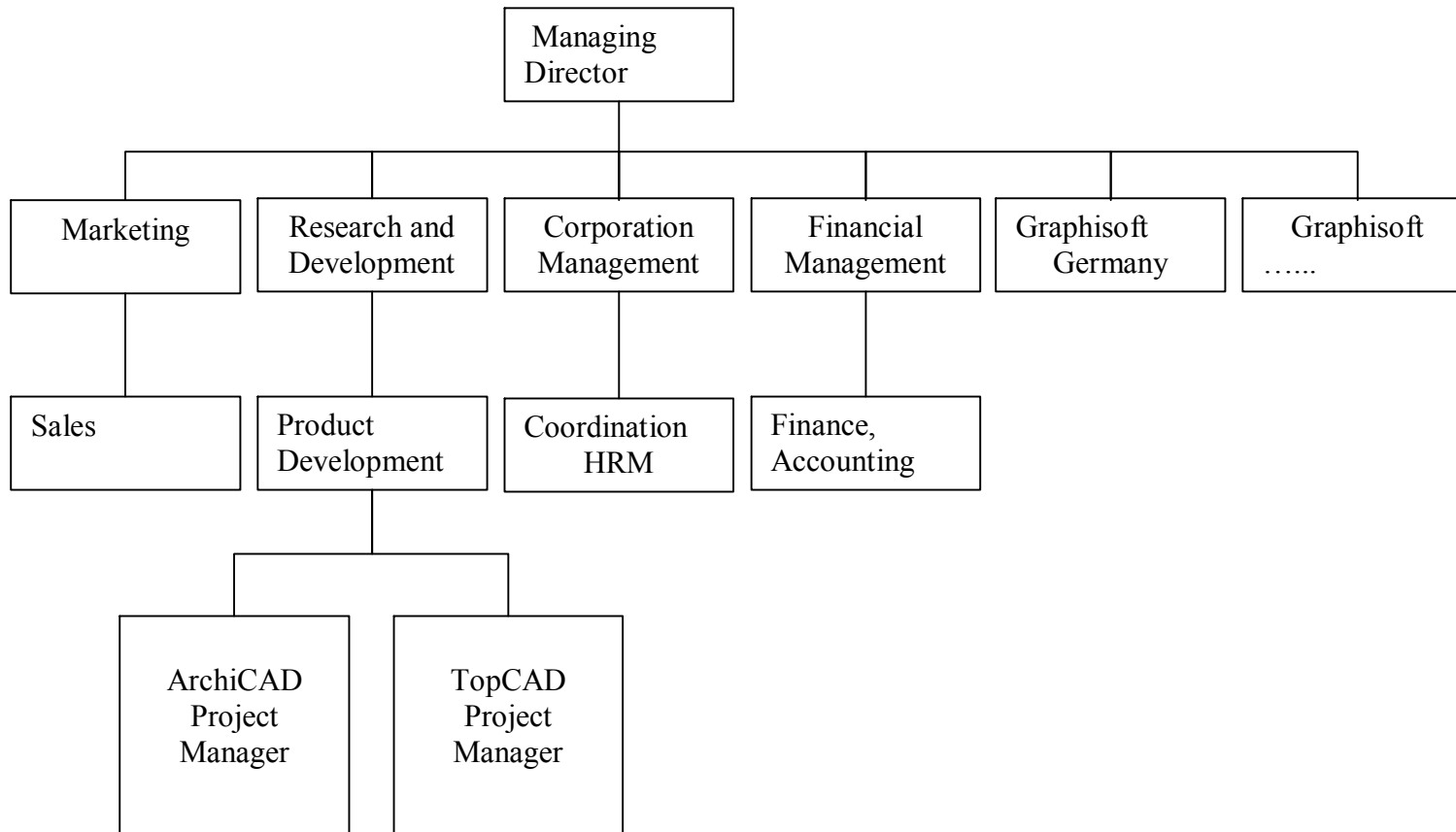
From the following schedule showing the income per product it is easy to see that today ArchiCAD is the leading product, and Graphisoft focuses on it best of all.

In thousand EUR.

Income/product	2003	2002	change (%) 03/02
ArchiCAD and additional softwares	19,943	18,409	8.3
Project management	3,373	3,283	2.7
HVAC/E*	466	619	(24.8)
GDL and individual development	1,365	1,407	3.0
Other income	2,101	2,493	(15.7)
total	27,248	26,211	4.0

*Heating, ventilation, air-conditioning and electric network's design supporting softwares

We can see clearly, that ArchiCAD, with its 73.19% share, is the most important product.



3. Innovation

In the course of sketching the conditions before and after innovation we emphasize the behaviour, development, continuous progress, which emerged as a result of the company's complex way of thinking. We will also mention a few major competitors and allies.

3.1. Position Before Innovation

In software development we cannot speak about one-time innovation, only about a chain of innovations. Accordingly we chose one of them, which can be regarded as the biggest in the company's history. This is connected with getting into the American market. At this time the company had to reorganize itself in a complex way, to innovate its products. On the following pages we will present this situation, examine the expansion of the company in the light of innovation activity forced by the market.

At the beginning of the year 1980, the development of computer software was the most fashionable trend of computer industry. While the role and importance of individual creativity and innovative approach stand out, the demand on capital and infrastructure is relatively low. Considering the long existing oversupply of good engineers and mathematicians and the economic context, the popularity of the field is surprising. The venture exhibited its 3D model program at the software exposition in Munich. The aim was to arouse the interest of bigger, western firms by its professional knowledge, and to get a chance to work as a subsidiary of them. The result surpassed all the expectations. The key to the success was that Graphisoft had relatively low-capacity computers. This coincided with one milestone of the computer industry's history, with appearance of professional PCs. The process was launched by the hardware manufacturer's need for software, which is able to reach spectacular, professional results on small, cheap computers. This produced significant interest in the 3D model method of Graphisoft. Similar products of western companies were much more expensive. In this case Graphisoft became innovative by chance. The enterprise could use only cheaper machines, so it had to develop software for them. The western software, which was developed on more expensive machines, wasted resources. The 3D designer program called ArchiCAD was created as a result of the alliance with Apple

The Apple Lisa PC failed because it was too expensive. After a breakdown brought the version running on Macintosh II. success on foreign markets in 1988. It was impossible to sell inland was because Macintosh was included on the COCOM list. In 1988 1,000 ArchiCAD were sold, and in 1989 2,000 were sold in the world.

3.2. History of Innovation

In software development, companies need continuous innovation, otherwise they would get lost in the competition. It is especially true, if the goal is to find an entrance into the huge national or world markets. The target of Graphisoft was to conquer the world market, so it had to appear in the Silikon-valley. In 1989 Graphisoft achieved success at the commercial exhibition called The Institute of American Architects. After that, Graphisoft U.S. Inc., (San Francisco) was set up.

Why did they turn their attention to the USA?

- There is no presence on the world market without presence in the USA. About 90% of modern technology we can find in the Silicon-Valley in California. None of the modern technology possessing companies can reach global presence, without being present here.
- Worldwide marketing can be established by American experiences. Although Graphisoft achieved the Number 1 position in the field in Europe, the change of European marketing have the typical characteristics of the USA market.
- Product development on the most developed users assure competitive advantage. The USA is qualified as precursor not only in relation to marketing, but with users too. There is no other place where the target market is based so much on Computers, as in the USA. If somebody is successful here, he will be also successful in Europe immediately when the market closes up.
- The base of development is the direct connection with the buyer. The key to success is to develop the kind of products, which keep abreast of the demands of the users. The distributors collected the European feedback. The company can be harmonized with the demand of the users. In the USA, where sales are done in direct form, Graphisoft felt is able to hold its ground in the market.

Innovation means, the consumer needs will be fulfilled at a higher level. That is why Graphisoft focused on the main products, ArchiCAD and TopCAD. The ArchiCAD is an amazing, all-embracing, architectural solution, which thinks and works in the same way, as the architects. The software package contains a 3D modelling program, parametric techniques, a 2D sketch -making program, and a statistical estimation program for cost accounting. The TopCAD exists also at a high level, which works with the help of Macintosh. This program is perfect for the user who wants to have a 2D modelling software with precision, excellent design, joint dimension and 2D parametric technology.

And now, let us see, where the firm started at the beginning, and where it is now, thanks to its innovation.

First of all we have to mention, that the Graphisoft USA was established by the best-qualified workers, but without any experiences in the American business life and logistics. Much later the firm started to collect experiences and worked out some innovative solutions and with the help of these ideas obtained a big part of the American business market.

At the beginning 200,000 USD were in the budget, a little bit later 400,000USD. The firm expected, that the American division would be self-financed by the end of 1990.

In 19 months the total income was 476,519 USD, and the total cost 864,644 USD on the American business market without travelling costs, or packing costs-which was done in Munich. In July of 1990 the company sold 150 units of software to 101 customers. In addition they disposed of 45discounted software units and 100 free editions. On average 23 out of 45 merchants sold nothing, and 22 disposed of more software, but not very often. In spite of it all, -based on the European success-, the Graphisoft Company wanted to have a 35% share of the American market as well. These targets were too optimistic. The company planed a lot of changes for the success, for example:

- Better infrastructure and corporate policy
- Better monitoring and supervision of the management with the help of telemarketing steps
- Better relationships between the dealers and the management
- Better sales turnover

By the end of 1990 the company staff doubled (from 6 to 12), and a better telemarketing strategy was established. We also have to say, that the cost of the different kind of advertising reduced -compared with the cost of the first half of the year (250,000USD) -but they expected better figures for the second half of the year and for 1991. The targets were the following: in April of 1991 100,000USD, in December 200,000USD turnover on the American market. This kind of strategy was successful. The relationship with the dealers was excellent, and the technology background developed very rapidly. The dealers and most of the users were satisfied with the products, and with the company support. But unfortunately some of the targeted audience could not be reached. The company staffs were reduced. Only 6 workers were necessary.

In 1992 the monthly income was 80,000 USD, which was enough for the different marketing plans, and ideas, and we have to say that the company had 5,000 USD left. (It was not even enough for the royalty-, and primary-costs). In this period it was necessary to reduce the price of each of the softwares on the American market. That was the only hope for Graphisoft to survive. (By 1992 there was a 1.5 million USD net cash investment, and a 1 million USD product investment). In spite of these figures, by the end of 1992 Graphisoft became number 1 in the American Apple Macintosh CAD market again.

With the direction of a more aggressive American manager-the subsidiary became more and more popular on the North-American market and therefore the income increased. It was a really great result after some very hard and bad years.

In the years 1994-1995 the Graphisoft Company came to a turning point. They began to produce for bigger designing offices.

The next destination was Japan. They set up a subsidiary in Tokyo. The analysis showed that the Japanese market is bigger and more progressive, than the German or the American one. The annual turnover in 1996 was 2 million USD, in 1997 4 million USD, which was really amazing. For the first time it was little bit hard to adapt to the Japanese architectural methods, but the firm surmounted all difficulties. With this step some foreign players came into an important role. (15-16%). Graphisoft wanted to share the risk with the foreign investors.

These are the following:

	2003. September 30.		2002. December 31.	
	Shares (%)	Shares by the piece	Shares (%)	Shares by the piece
Bojár Gábor	25.0	2,658,004	25,0	2,658,004
Orbach, Laurence	0.08	8,250	0,08	8,250
Dyson, Esther	0.0	-	0,0	-
Leventhal, Victor	0.09	10,000	0,09	10,000
Shimamoto, Kazumichi	0.0	-	0,0	-
Gallelo, Dominic	0.47	50,000	0,0	-
Hornung Péter	4.85	515,426	4,85	515,426
Reischböck, Johannes	0.75	80,000	0,75	80,000
Bihari Sándor	0,0	-	0,0	-
Other office-holder and employee	24.39	2,593,213	25,33	2,693,213
Own Shares	5.54	588,910	5,54	588,910
Common Use	38.83	4,127,871	38,36	4,077,871
Total	100.0	10,631,674	100,0	10,631,674

Sister companies:

- Japan, Tokyo (1994.)
- Hong Kong (1996.)
- United Kingdom (1997.)
- United Arab Emirates (1998.)
- Brazil, Chile (1999.)

We have to say, that this Hungarian company is very successful all over the world, thanks for the innovative solutions, ideas, and last but not least, for its excellent strategy.

It has got subsidiaries in 80 countries and the famous architectural software package; the ArchiCAD was translated into 25 languages. This great invention has the 3rd place in the world-ranking list.

In later years Graphisoft appeared in the Western-European stock exchanges in Frankfurt (high-tech section) with the help of the Dutch holding company. In 2000 the company was introduced at the Hungarian stock exchange in Budapest as well.

After increasing its capital, Graphisoft did not plan a new capital investment.

The owners, who had only 57% of the company shares, were ready to sell some of their own shares to make the annual turnover better, but they kept 50% of the shares plus 1, for security.

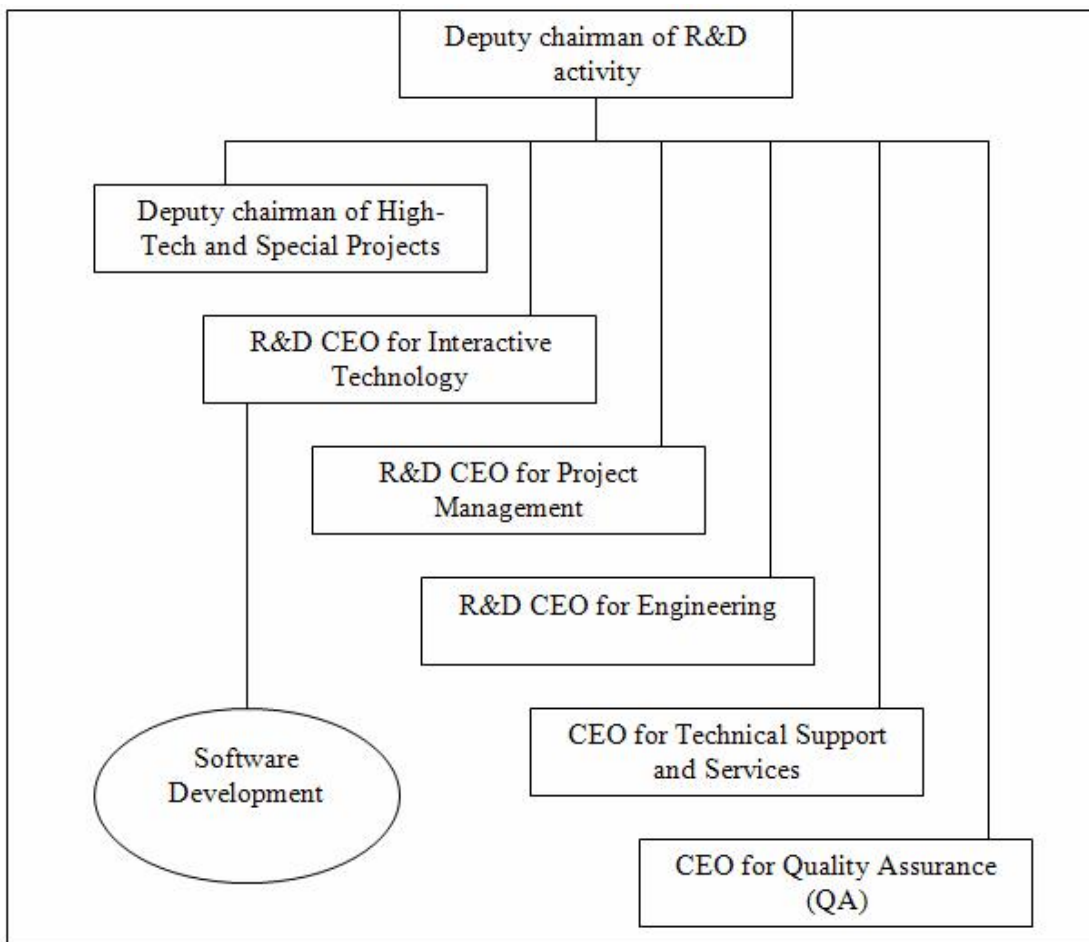
The real innovation began first of all with the ArchiCAD idea. With this software the firm became very popular all over the world. Its simplicity and effectiveness are very important characteristics, and it contains a lot of very useful information about the architectural plans.

The customers are mainly small designing offices, drafters, and contractors. The firm is very proud of its innovative solution, and of its program integration. The innovation begins with the appearance of the program. The ArchiCAD is supported by geometric language, and with an architectural simulation technology. After ArchiCAD another program, was composed. It was the ArchiCAD PC-platform. The expanding mind worked out a new Virtual Building conception, which was followed by the new adaptation of the Apple Quick Time VR. With the help of this brand new adaptation, a dream came true. The contractors could walk around in photorealistic surroundings. The following step (5.0 version) solved the further development of integrated planning and the conception of the digital buildings. The new software package became a very useful and easy to use.

Graphisoft worked out a new program, the ArciCAD for TeamWork for the bigger designing companies. Because a very big multinational company doesn't need the program integration, the different kind of planning phases are separated. Because of the slow business at the end of the 1990s, architects developed some brand new methods, for example: project management, upkeep of buildings, and real estate.

These steps and ideas were very important for Graphisoft as well, and at a fit and a proper time the firm made the right decision. There was nothing really useful and important on this segment of the market. For this reason Graphisoft developed the „Building/Facility Management” model, and the ArchiFM 2000 software became a universal favourite.

The chain of the acquisitions began in Germany and in the UK in 1999. The target of these acquisitions was very simple. Each country had and still has some special formalities and regulation in the software market; they wanted to make this way easier. The success of Graphisoft has worked for a long time, but it means a very hard and energetic Research and Development activity, which translates the innovation theory into practise. R&D activity:



The company met with complete success: software innovation in the right direction and in good time, and the whole fulfil of consumer needs.

October 4, 2004. was the next turning point in the company's life. Graphisoft established a brand new 5D architectural designing program.

3.3. Crucial Relationships

3.3.1. Cooperation with the Apple Company

Graphisoft was present at the Munich exhibition, and with this step collected a lot of strategic partners in the software market. The team of Gábor Bojár saw that without any marketing activity the firm does not have any chance, and they lacked this knowledge. Graphisoft thought that the really big multinational companies, like IBM, Hewlett-Packard, and Digital, could be very good strategic partners with a lot of knowledge, experience, and they have enough marketing power as well. Apple and Graphisoft made the alliance, which was very profitable.

In the 1980's Apple was only a little company without big success, but with time and with professional PC's Apple became quite important in the software business.

At that time the Apple Company researched powerful-programs for the small, and middle-sized PC's. So, it is not a surprise, that Apple met with the program of the Hungarian software firm, and with a little change of the Graphisoft software started the cooperation in the architectural modelling market.

Graphisoft decided to work out a long-term strategy, so the main partners are the smaller designing offices. Apple was squarely behind Graphisoft, gave 25,000 DM of free support for the upgrade of 3D modelling. The other sign of the cooperation came into sight in the marketing sector. These activities, and advice were priceless for Graphisoft. We have to mention as well, that in 1984 at a very important exhibition in Hannover, the Hungarian company took part, thanks for the help of the Apple.

After the COCOM-list, the Graphisoft made the best choice, Apple. They worked together in all walks of life and business, for example: new business management, Mac-culture, technological and marketing activity.

Since the beginning of the 1990's the big multinational companies instead of being opposition, cooperated. Graphisoft could not resist this tendency, and began to establish the ArchiCAD software package (with Windows) by September of 1993.

A little bit later Graphisoft received a really good figure background from North America, which showed that the earlier step was a good decision. (In 1992 there were more than 18 million users using Windows) The preliminary dates showed a 6 million USD expenditure (for program development, marketing- and advertising activity.) The big question was, how could the company cover the big expenses. It was the first time in the company's life to make a really big decision Maybe they could cover the expenditure with foreign investment. Graphisoft decided to sell the Apple agency, so the relationship was not so important anymore.

3.3.2. Price Waterhouse Coopers

In 1999 Graphisoft found a new big strategic partner; it was the consulting company, Price Waterhouse Coopers. Together they established brand new software, the ArchiFM 2000. With the help of this program, a perfect recording system, and a servicing system became possible.

3.3.3. Hewlett Packard

Another big partner was found in 2004. Working with HP was a very profitable decision for Graphisoft, they wanted to built a deeper relationship between the two companies, and making a bigger profit with their common ideas. In line with this tendency Graphisoft decided to improve their software skills together with HP.

3.3.4. Data Design System

The Data Design System Company and Graphisoft made a strategic relationship in 2003. The common fields were: building engineering, health, heating-, air-conditioning, ventilating-, and electrical system planning.

3.3.5. GIStec

Graphisoft and GIStec are strategic partners in 3D city modelling and GIS Technology (Geographic Information System).

3.4. Graphisoft and Education

The relationship between the Graphisoft and education has three very important pillars. The first of these is the Graphisoft Foundation for mathematical education in the grammar schools. The other one is a program to improve the architectural, and the civil engineering skills in colleges, and the third is for the university-, and research programs.

Additionally, the company gave the software packages free to universities all over the world, even in Hungary; the ArchiCAD 6.0 is free for the civil engineering students.

These steps belong to a really good strategy, because the students have a big variety of ideas in this field, and with the free software they can improve their technological skills, and become very useful members of the company in the future.

3.5. The relationship Between the Company and the Complexity-Theory

After all this information, we collected some news about the company's past and present, and now let us see how we can find a relationship between the complexity- theory and Graphisoft.

In the operation of the management, we can find some planned and casual steps. They belong to the complexity-theory as well.

In the beginning in the company staff were only two workers, and no long-term idea was on the agenda. The only and important target was to create a really good atmosphere with a lot of new and professional ideas. We have to mention here that a dynamic, full

energetic company and bureaucratic surroundings cannot operate together. A long time ago Graphisoft met with the dark side of the complexity theory, but they reacted very successfully; it was a casual step. With this reaction they began to establish foreign relationships. The company had a really big competitive advantage, which came to light at the Munich exhibition.

In spite of finding big multinational strategic partners, Graphisoft began to work with Apple. It is a beautiful example of cooperation because of the common target. (Apple needed software for small and middle-sized PC's; Graphisoft wanted customers.) The free support of Apple did not change the relationship between the two companies; they were of the same rank. It was a beautiful background to establish professional ideas for both companies. After a little time Apple had a quite big recession, but it was the right turning point for Graphisoft to put Mac.II. in the right direction. Holding on to the business partner who has problems is not a good behaviour to tell the truth. Graphisoft chose the best possibility, and changed direction. At that time the development in the software market was very rapid. The Hungarian firm was looking for something new, and suddenly found the American market. This was a turning point. Gábor Bojár's reaction was perfect. He and his team started to learn about the American needs and customs. It sufficed for a purpose, studying, which is one of the most important things in complexity-theory. The management have to focus on the studies. They have to build a study-focused company with their own intellectual capital, with intellectual content. Besides it was really important that there was not a bureaucratic system, inside of the company they wanted to set up a working-rotation without innovative barriers.

In the beginning Graphisoft didn't want to launch a long-term strategy, the company wanted only development. Some casual steps came to light and with the help of these actions the Hungarian firm became popular all over the world. In 1995 there was a change for better, but it was a casual event as well. The business environment changed rapidly, and therefore Graphisoft changed its profile. Not only the small designing offices are important; they started to focus on the bigger planning companies. Since this time one segment of the complexity theory transformed into one of the most important directions, thinking in long-term is needless.

With this study we tried to focus on the importance of the complexity-theory, which is operating in some companies, but the adoption of this method is not always necessary. The

direct, deliberate use of the complexity-theory isn't arguable, in most of the situations some casual steps help to find the right way to it.