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BUSINESS PLAN 2012 - 2016

Case company: X Group

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ABSTRACT

This study deals with business planning for an existing company. The goal is to provide a five-year business plan for the case company to facilitate business growth, development and financing of investments. The thesis attempts to identify targets of development, future prospects and potential risks from the basis of vision and objectives set by the corporate management and the board. The outcome of the thesis, an updatable basis for further, detailed action planning, is based on Finnvera business planning model with certain modifications.

The case company, with facilities located in Finland and Russia, is a subcontractor of toolmaking in international plastics and metal industry. It sells and manufactures standard and custom-made components for mold toolmakers in Europe and Russia. Competition on the market is fierce because of a large number of competitors. Therefore strategic planning and right decisions are in remarkable role for success of a distant SME among large Central European multinationals in the middle of markets. The thesis analyses and identifies competitive factors based on the potential of the company's current and future resources.

This thesis is a qualitative case study, conducted by observations, interviews with essential professionals and utilizing the company's existing business and market data available about the specific branch of industry. The theoretical framework, in addition to chosen model, is based on a literature review of business planning publications. The research approach of the study is deductive. This choice supports the fact that business planning aims at confirmed decisions drawn from theoretical fundamentals of business. Development plans and financial analysis reflect the confirmation of decisions.

The results of the study indicate that future vision and objectives for growth and profitability are possible if the firm avoids the identified risks and succeeds with external financing of the required investments. Realisation of sales objectives, which is the vital factor for implementation of plans, requires sufficient tools. Identified tools are sales/marketing resources and competitive, reliable supply chain able to operate according to strategic decisions. Results of the thesis support optimistic perception of the future.

Keywords: business planning, mold industry, tool components, business in Russia, investments, growth, profitability, financing, development plan.

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TIIVISTELMÄ

Tämä tutkimus käsittelee olemassa olevan yrityksen liiketoiminnan suunnittelua. Tavoitteena on luoda asiakasyrityksen viisivuotissuunnitelma, jolla edesautetaan liiketoiminnan kasvua, kehitystä ja investointirahoituksen saamista. Opinnäytetyö pyrkii yritysjohtoon ja hallituksen luomien visioiden ja tavoitteiden pohjalta tunnistamaan kehityskohteet, tulevaisuuden näkymät sekä toiminnan mahdolliset riskit. Lopputulos, joka toimii päivitettävä perustana tarkemmille suunnitelmille, perustuu Finnveran liiketoimintasuunnittelun työpohjaan hieman muunneltuna.

Asiakasyritys, jonka toimitilat sijaitsevat Suomessa ja Venäjällä, on työkalunvalmistajien alihankkija ja toimii kansainvälisellä muovi- ja metallialalla. Yritys myy ja valmistaa standardi- ja erikoiskomponentteja työkaluvalmistajille Euroopassa Venäjällä. Markkinoilla vallitseva kilpailu on kovaa johtuen kilpailijoiden suuresta määrästä. Tästä johtuen strategioiden valinta ja päätöksenteko on avainasemassa kaukaisen PK-yrityksen menestykselle markkinoiden keskiössä sijaitsevien suurten eurooppalaisten monikansallisten yritysten puristuksessa. Tämä tutkimus analysoi ja määrittää kilpailukykyä tekijöitä perustuen yrityksen nykyisiin ja suunnitelluihin resursseihin.

Opinnäytetyö on kvalitatiivinen tapaustutkimus hyödyntäen havaintoja, keskeisten henkilöiden haastatteluja, yrityksen liiketoimintamateriaalia sekä saatavilla olevaa markkinatietoa spesifiltä toimialalta. Teoreettinen viitekehys sekä suunnittelumalli pohjautuvat liiketoiminnan suunnittelun kirjallisuuskatsaukseen. Tutkimuksen lähestymisote on deduktiivinen. Tämä valintaa tukee sitä, että liiketoiminnan suunnittelu tähtää vahvistettuihin päätöksiin teoreettisen tarkastelun pohjalta. Kehityssuunnitelmat ja talousanalyysi kuvastavat näitä päätöksiä.

Tutkimuksen tulokset osoittavat, että kasvulle ja kannattavuudelle asetettujen tulevaisuuden visioiden ja tavoitteiden toteuttaminen on mahdollista, mikäli yritys välttää tunnistetut riskit ja saa vaadittuihin investointeihin tarvittavan ulkopuolisen rahoituksen. Myyntitavoitteiden realisointi on elintärkeä tekijä kehityksen mahdollistamiseksi. Myynnin ja markkinoinnin riittävät resurssit sekä luotettava toimitusketju, joka kykenee vaadittuihin strategisiin linjauksiin, ovat olennaisia työkaluja realisoinnille. Tutkimuksen tulokset tukevat positiivisia tulevaisuuden näkymiä.

Avainsanat: liiketoimintasuunnitelma, muottiteollisuus, työkalukomponentit, liiketoiminta Venäjällä, investointi, kasvu, kannattavuus, rahoitus, kehitys.

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GLOSSARY

B2B	Business-to-Business
CAD	Computer Aided Design
CAM	Computer Aided Manufacturing
CMM	Coordinate Measuring Machine
CNC	Computer Numerical Control
FCFF	Free Cash Flow for the Firm
EBITDA	Earning before interest, taxes, depreciation and amortization
EBIT	Earning before interest and taxes
EBEI	Earning before extraordinary items
FCFF	Free Cash Flow for the Firm
ETMM	European Tool & Mold Making
IMM	Injection Molding Machine
ROI	Return on Investment
ROCI	Return on Capital Invested
SME	Small-medium-sized enterprises
ZXA	ZAO-X A

1 INTRODUCTION

1.1 Background

The case company; X Group, has to face the challenges of future growth. Growth requires coordination and investments. In order to make investments, it is important to solve the right targets for investments which fit the corporate strategy. Investments in this case are large scale; their long-term suitability must be figured out thoroughly because investments are expected to bring a return. The current competitive situation does not allow a feeling of safety, and without sufficient development of company processes, the firm will be left behind as the amount of competitors and their competitiveness rise.

Decided by the senior management and the board, X group will coordinate its actions five years ahead. The tool for the coordination is a business plan. The business plan is expected to provide a coherent approach for major future actions among company's business units and departments. Furthermore, it will serve as a prerequisite for financing investments as business plan is often demanded by investors and financiers.

The case company requires the business plan to include development plans, vision, strategies as well as objectives for the period in concern. In addition, the business plan provides with analysis on the state of current operations of the company and definition of operational environment consisting of markets, competition and future prospects. The study contains SWOT assessments to enable and facilitate strategic planning.

1.2 Objectives

The thesis objectives are indicated as follows:

1. To provide development plans which support the defined strategic decisions based on company vision and objectives.
2. To plan the business and investments five years ahead 2012-2016.
3. To detect weaknesses in company operations and to develop its overall competence.
4. To provide the case company with financial perspectives for the future.

1.3 Research questions

To support the objectives of the thesis, several primary and secondary questions are identified in following manner.

Primary research questions focusing on strategic direction of the company:

1. *What* does the company want to be (Vision and objectives)?
2. *How* does the company plan to achieve that (Strategy)?
3. *What* to do to implement that (Development plans)?

Secondary research questions supporting the primary goals:

1. *Where* is the company now?
2. *How* is the operational environment now and in future?
3. *What* investments to make and *why*?
4. *What* risks might the future bring?

1.4 Scope and limitations

This study assesses plans, coordinates and simulates the company's business five years ahead concentrating on critical factors of business development. Critical factors of the case study (development plans, financial plan and risk analysis) aim at growth of turnover, improvement of profitability and ensuring financing for crucial investments which are the basis for business development.

The study does not contain technical planning of future investments, prices of investments, detailed financing schemes or any accurate design, planning or scheduling that require consultation by specialists. Detailed action plans will be carried out according to needs recognized by those individuals or organisations that use the study as a tool for their decision-making.

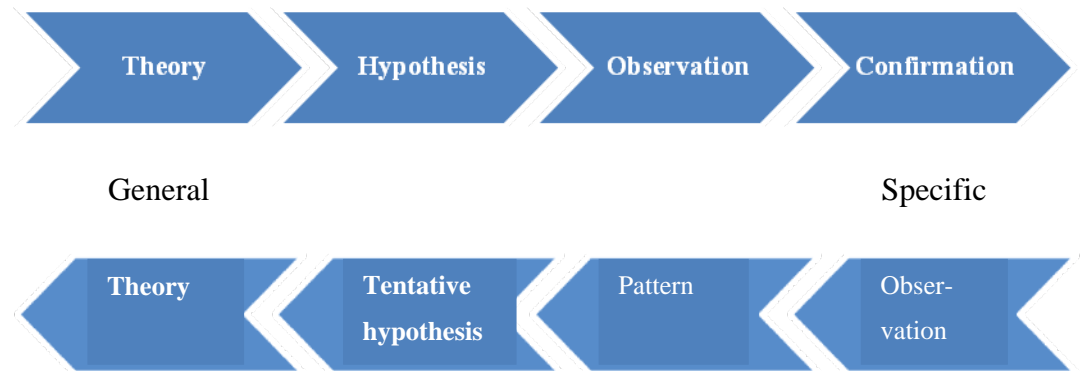
1.5 Research methods and data collection

The following part describes the procedure of the author's academic study; the choice of research approach, method and data collection.

Research approach

In general, there are two broad methods of research types, deductive and inductive. Inductive approach refers to reasoning where the basis is on specific observation leading to general theory. Deductive approach is the complete opposite. It works from general theory to specific confirmation. (Burney 2008.) Both approaches are presented in the following figure.

Deductive approach



Inductive approach

FIGURE 1: Research approaches (modified from Burney 2008).

Business planning is based on the general theory that business is coordinated in order to make it succeed. There are several facts to be taken into consideration when formulating a business policy. As an example, from marketing point of view, notable facts are competition, demand, resources, finance etc. Based on this existing information, the business plan attempts to discover specific confirmation or conclusion on what to do. For this reason, the research approach of the study is deductive.

Choice of methods

As far as the research method is concerned, the two options are qualitative method and quantitative method. Quantitative research method utilises numerical and statistical data collected by questionnaires and surveys, which are then measured and analysed to receive accurate information about target population for further decisions. It is the opposite of qualitative research method, which relies largely on interviews, observations, focus groups, subjective reports and case studies. (Saunders et al. 2009, 151-154.) Qualitative research is often the choice with case studies related to business planning because it does not require the statistical accuracy provided by the quantitative research method. Due to the nature of the study the choice for research method is qualitative.

Data collection

Data collection is divided into two parts; theoretical data and empirical data. The theoretical data is derived from secondary sources. The secondary sources consist of business literature, publications, internet sources and study materials from Lahti University of Applied sciences. The platform and structure for the business plan is provided by Finnvera business plan -template. Knowledge-base is enhanced and diversified from the sources mentioned above.

Primary sources of the case study provide the empirical data, which is based on practical observations. The empirical data is derived from a large quantity of interviews among the case company's personnel, management and board. Apart from several interviews, other primary sources are gathered from financial and other documents, the case company's overall situation, plans and visions. As the author executes the thesis at the company premises and participates in several exhibitions and meetings during the thesis process, there is a significant amount of personal observations involved.

1.6 Thesis structure

As concluded in Chapter 1.5, the thesis structure here follows the deductive research approach in attempt to facilitate making executable strategic decisions. The strategic decisions, based on vision and objectives of business plan, are concretised to action plans. The process of business planning and its results are founded on research of theoretical data.

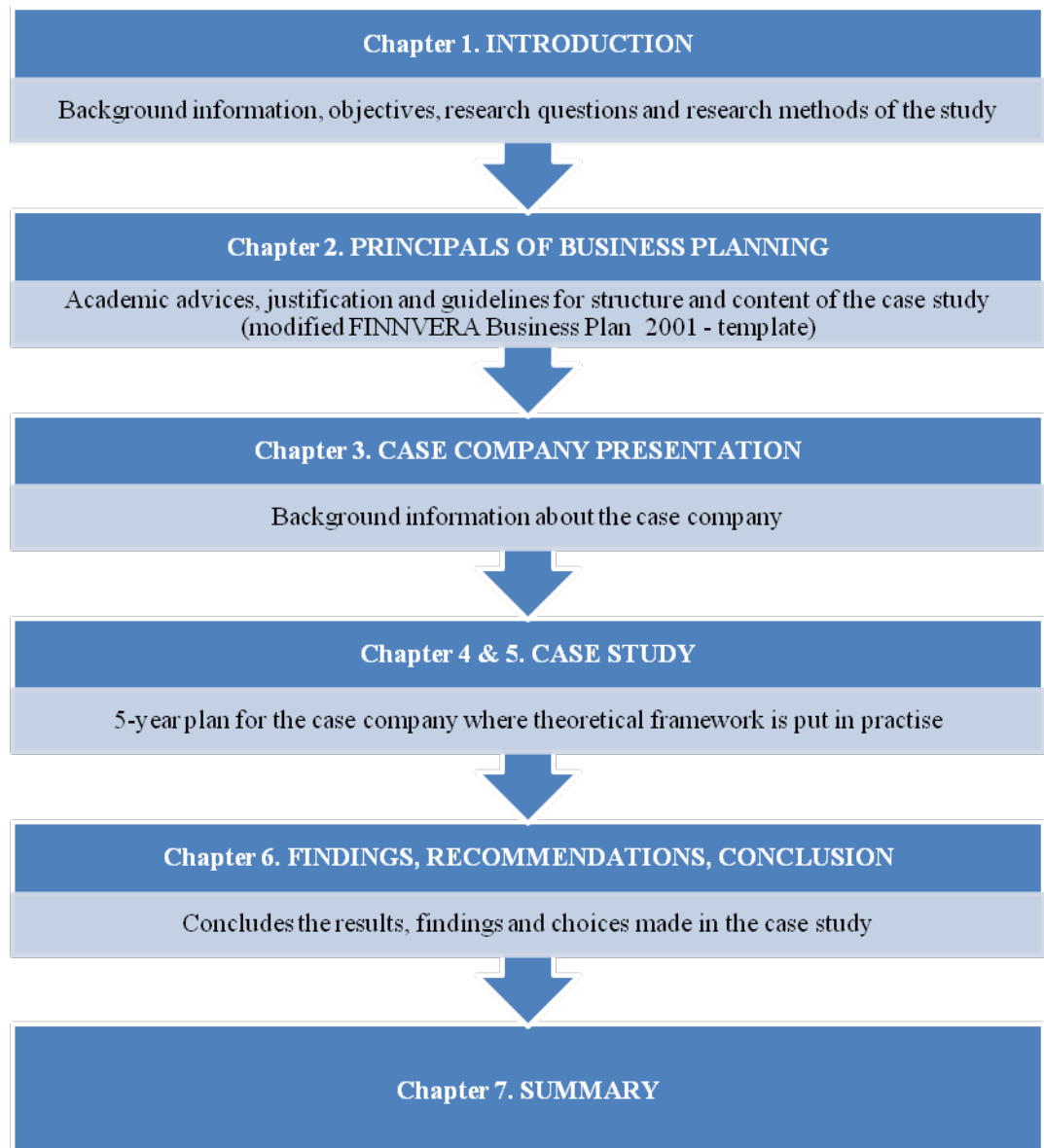


FIGURE 2: Thesis structure.

2 PRINCIPALS OF BUSINESS PLANNING

This second chapter contains a literature review of business planning process. It brings in and defines the major elements that form the business plan in Chapter 4 and establishes a theoretical framework which is then turned into reality in the case study based on empirical observations. The role of a business plan for an existing company is first defined with supporting figures. Then, major steps in business planning are introduced accordingly: 1) current situation, 2) operational environment, 3) vision, objectives and strategy selection, 4) development plans.

2.1 Definition of business plan for an existing company

Every business needs a direction. The direction is affected by the company's business idea, resources, vision, objectives and strategies. The most effective tool for describing vision and objectives, mapping available resources, selecting a strategy and implementing it, is a business plan. A well-structured business plan also provides a platform for company's operational plans within the operational environment. (Friend & Zehle 2004, 1-2.) (Finnvera 2001, 4-5.)

Business plan is a comprehensive, well-structured and concise output consisting of everything that is required for obtaining funding and arousing investors' interest in a company or/and a business idea. Therefore, it must cover and provide clear information about relevant aspects of functions of the company from establishment to future prospects and activities. (McKinsey 2000, 48-49.) The following figure indicates the aspects commonly dealt with in a business plan for an existing company.



FIGURE 3: Steps of business planning (modified from Finnvera 2001, 12 and McKinsey 2000, 20-26).

The figure below demonstrates the role of business plan as the company's tool to strive for success and growth with reduced possibility of facing fatal losses caused by insufficient scanning of critical success factors and risk scenarios.

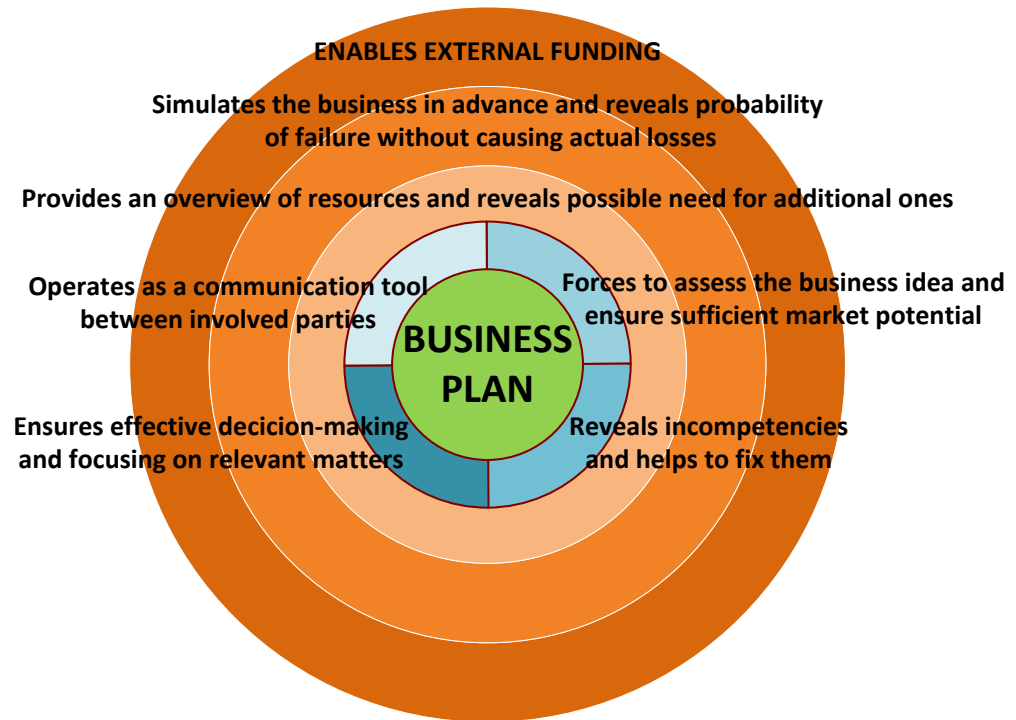


FIGURE 4: Significance of a business plan (modified from Mckinsey 2000, 14).

Randy Duermyer suggests that a business plan is the blueprint of business. For an existing company, however, it could be a route from place A to place B. Similar to a blueprint convincing a building inspector of the appropriateness and durability of a house, the planned route convinces external funders, that the business does not get lost along the way. Place A is the current situation and place B is the future, for example 5 years ahead. Instead of appropriateness and durability, the external funders are interested in the key words of business: viability, feasibility and profitability. (Duermyer 2011.)

2.2 Business planning process

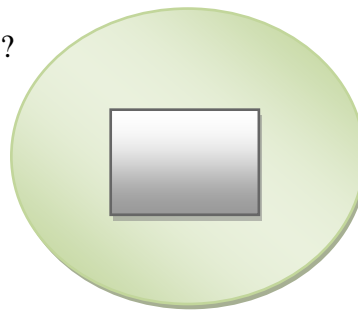
As mentioned in the introduction, the study deals with primary research questions and secondary research questions. The research questions must be in balance with the theoretical approach of business planning process. Hence, the following graph demonstrates the relation between the steps of business planning (answers) and research questions.

Question

Answer

Where is the company now?
(strengths / weaknesses)

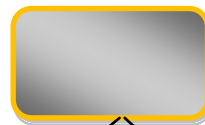
(opportunities / threats)



Current situation

Operational environment

What does it want to be?

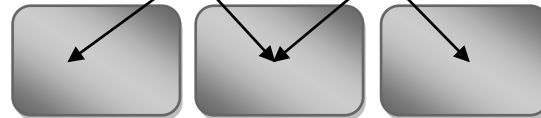


Vision
Objectives
Strategies

How to achieve that?

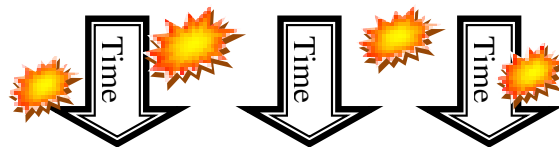


What to do?



Development plans

Risks?



Risk analysis

FIGURE 5: Research questions and steps of business plan.

Current situation

The current situation is the company analysis. Its purpose is to track strengths and weaknesses of operation. Strengths provide basis for competitiveness and pave the way for strategy selection. Weaknesses are important for further development of the company. If they are not recognized in time, they might be too challenging to be fixed afterwards (Finnvera 2002, 18-22). Company analysis studies operation processes and resources with the intention of solving if they are suitable and sufficient. Critical observation is also highly recommended. (Finnvera 2001, 27.)



FIGURE 6: Current situation (modified from Finnvera 2001, 27-50).

Operational environment

Operational environment is where the company operates. It copes with market- and competitive situation of the industry; how they might change in the future and how the changes affect the company (Anttila 2007, 25-27). A company that is aware of the market situation can anticipate and prepare itself for possible changes in demand and supply. Whereas company analysis studies strengths and weaknesses, market analysis concentrates on opportunities and threats; opportunities to be exploited profitably and threats to be prepared for mistakes or avoid them. (Finnvera 2001, 51.)



FIGURE 7: Operational environment (modified from Finnvera 2001, 51-68).

Vision, objectives and strategy selection

Strategic planning of a company should begin with observing and evaluating strengths, weaknesses, opportunities and threats studied in previous steps of business planning (Kamensky 2008, 29-30). There exist several alternatives to be chosen among different product solutions, market segments and operative approaches. In other words, strategic planning and setting objectives mean choosing a direction and making decisions for future based on acquired information. Company's vision is a long-term view and an ultimate purpose of the company in the eyes of top executives and owners. For example, pharmaceutical company's vision could be a "World without diseases". Objective, value and strategy selections therefore should support the vision fulfillment. Furthermore, in proper strategic planning, it is critical to discuss about alternatives and back-up plans. (Finnvera 2001, 73-80.)



FIGURE 8: From vision to action (modified from Finnvera 2001, 80).

Development plans

A development plan turns objectives and strategies into a practical activity. It is important to ensure that strategic statements are actually taken to daily operation instead of continuing on the same track (Porter 1985). Basis and fundamental for all action plans hence should be steps closer to achieving the objectives. Therefore, objectives ought to be clear and realistic. (Finnvera 2001, 95-96.)



FIGURE 9: Recommended action plans (modified from Finnvera 2001, 95-108).

3 CASE COMPANY: X GROUP

The following chapter introduces the case company: X Group. With a glance inside the industry, the aim is to provide readers with a general understanding of mold technology. The company is presented through its business idea and model, timeline, turnover history and its business in different regions.

3.1 Orientation to technology

A piece of plastic, for example a cell phone cover, is produced by an injection molding machine. Injection molding machine (IMM) requires a tool that provides the shape for the plastic part. Plastic granules are used as raw materials which are transformed into liquid state by heating inside IMM. Liquid plastic is injected, with high pressure, inside the tool that consists of a mold base and the mold. The mold is two-sided consisting of core (moving) side and cavity (stationary) side, as indicated in the Figure10 and Figure 11 below.

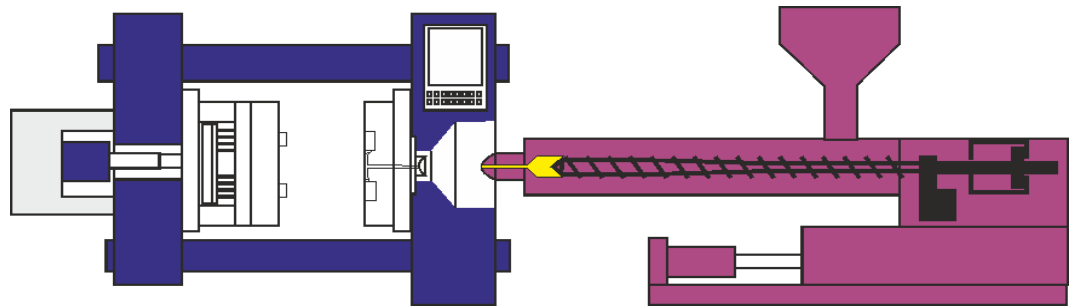


FIGURE 10: Injection Molding Machine with open mold (Heinonen 2010a).

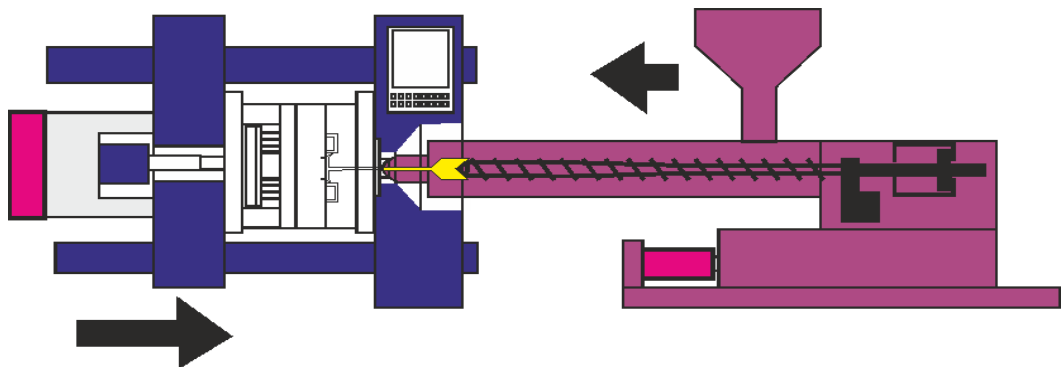


FIGURE 11: IMM with closed mold ready to inject (Heinonen 2010b).

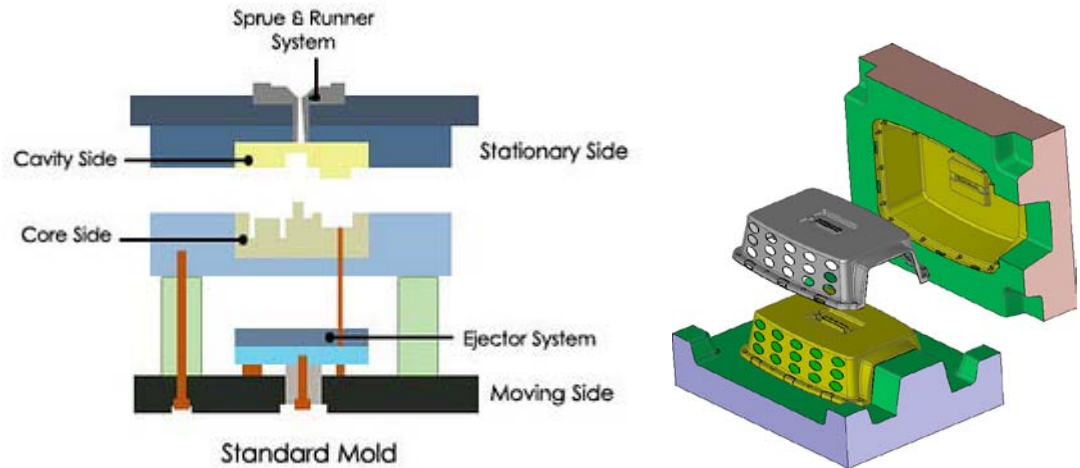


FIGURE 12: Standard mold base with core and cavity (X database 2010a).

In Figure 12, standard mold base with core and cavity is illustrated. In Figure 13, ejecting ready plastic part from the mold is explained. Liquid hot plastic fills an empty space (contoured shape) between core and cavity plates while the mold is closed. After plastic has cooled-down and reached solid state, IMM opens the mold and ejector-system of the mold base ejects the ready plastic part out.

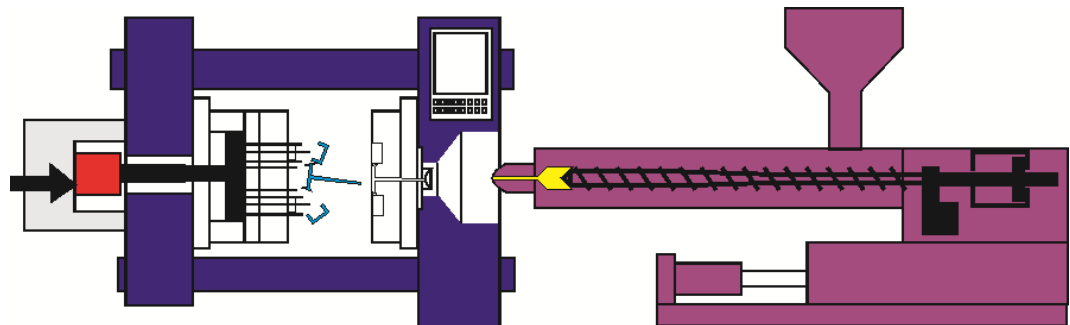


FIGURE 13: Ejecting ready plastic part from the mold (Heinonen 2010c).

Within the industry, it is common to use the expression “mold” for the whole entity of mold tool (mold base + mold*) (*core side + cavity side). The mold base comprises a variety of parts which are divided into standard parts and special parts. Standard parts follow internationally settled practices as far as production, dimensioning, materials and terminology are concerned. Special parts are manufactured according to customer-specific drawings, thus being “tailor-made” parts. Mold base plays a supporting role in injection molding as mold (cavity+core) cre-

ates the actual shape. Manufacturers of molds are often referred as mold or tool makers.

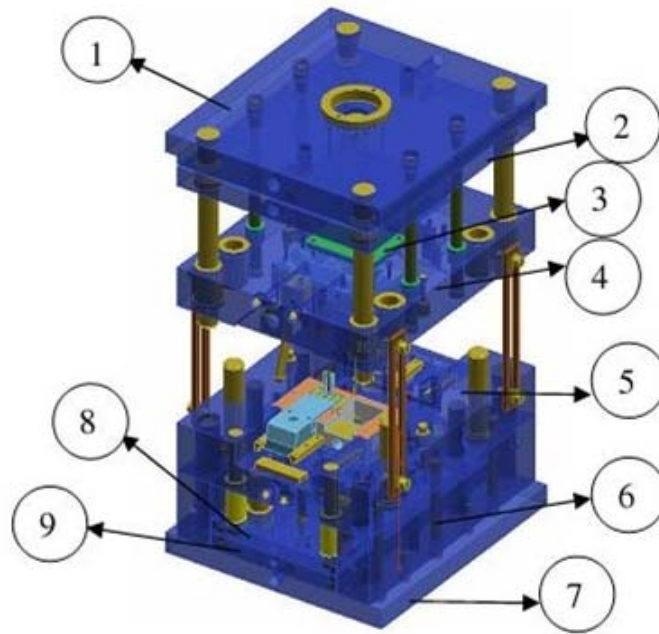


FIGURE 14: Detailed standard mold (open) with plates and components (X database 2010b).

- 1: Fixed clamping plate
- 2: Runner stripper plate
- 3: Fixed mold plate (cavity plate/side)
- 4: Movable mold plate (core plate/side)
- 5: Support plate
- 6: Spacer block
- 7: Ejector retainer plate
- 8: Ejector plate
- 9: Movable clamping plate

As indicated in Figure 14, the whole mold is a complex entity consisting of a lot more than only cavity and core plates. Besides the nine plates mentioned above, the mold tool utilizes guide, centering/locking, marking, cooling and injection elements, ejector system with pins and its guide elements, slides, lifting cores, fastening components and lifting elements for handling the heavy tool. All elements are subject to strict tolerance requirements in measures and dimensions in order to ensure good quality of the manufactured plastic part.

3.2 Business idea

X Group is a business-to-business (B2B) subcontractor for mold-makers. It means that these toolmakers have specialised in manufacturing only the shape-forming (cavity+core) parts of the mold. They purchase the rest from subcontractors such as X, which delivers the standard and special components for the mold, e.g. plates and small components mentioned earlier. X does not manufacture molds. Instead, it produces standard and special mold *components* for molds and assembled mold bases.

In addition to serving toolmakers of plastic industry, X also serves toolmakers of metal industry by delivering standard and special components for sheet metal cutting tools and die-casting tools.

In short:

- X's business idea is to...
 - **design and manufacture**
 - **purchase and storage**
 - **sell**
- ...standard and special parts for mold, die, and sheet metal tools

Recently, the company has also started manufacturing carbide milling cutters for roughing and finishing. The activity launched from manufacturing and sharpening cutters for own purposes and soon expanded into business activity responding market demand. A closer look at the manufactured products of X can be seen in the following pictures.



FIGURE 15: Examples of X's products (X database 2010c).

3.3 Business model

Figure 16 on the following page demonstrates X's business model divided into three parts: 1) infrastructure, 2) product lines and 3) market segments. X has two business units: Technologies division (manufacturing unit) and Sales divisions (resale and sales unit). Technologies division is a product and service supplier for the sales division among other worldwide suppliers with a difference of being an exclusive supplier for the group. Business activities are supported by marketing, IT and financial departments.

Product groups indicate the core products by which the company competes in the international markets. Some product groups have proven to be the core products behind the company's current success, whereas some might be the future success factors. It is obvious that due to market pressure in specialising, all product groups cannot have an equal percentage of turnovers but act either as supporting products for core businesses, or merely to expand product range for marketing purposes.

Market segments indicate X's position in the supply chain as a sub-contractor for toolmakers.

Domestic examples of...

- Toolmakers: Plastic
 - Muottituote, Tooler, Karelia Tools, Toolman, TH-Tools, Greenfox
- Toolmakers: Sheet metal
 - CNC-tekniikka
- Injection molders
 - Valukumpu, Masamuovi, All-Plast, (Perlos)
- Producers of end-product
 - Nokia, Oras, Fiskars, Patria, Rapala, Suunto, Sako, Kone

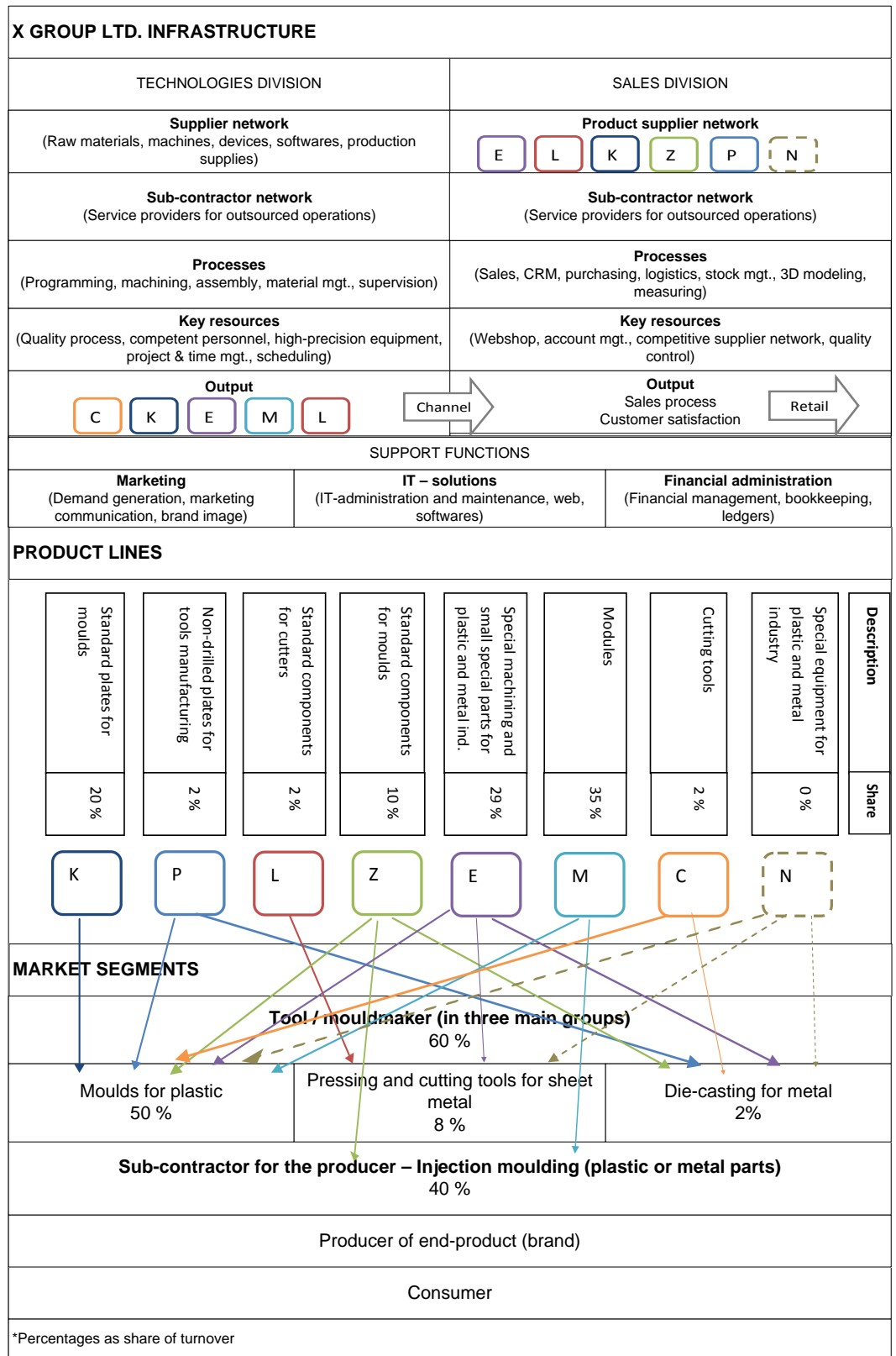


FIGURE 16: X business model.

3.4 Timeline and development of turnover

In the following timeline (Figure 17), substantial key points in the company's history that has shaped it in the current form and affected in the future direction, is presented. The timeline is followed by two graphs indicating X Ltd's (Finland) development of turnover between 1991 and 2010. Development of turnover of affiliated company ZAO X -A is shown in Chapter 3.6.



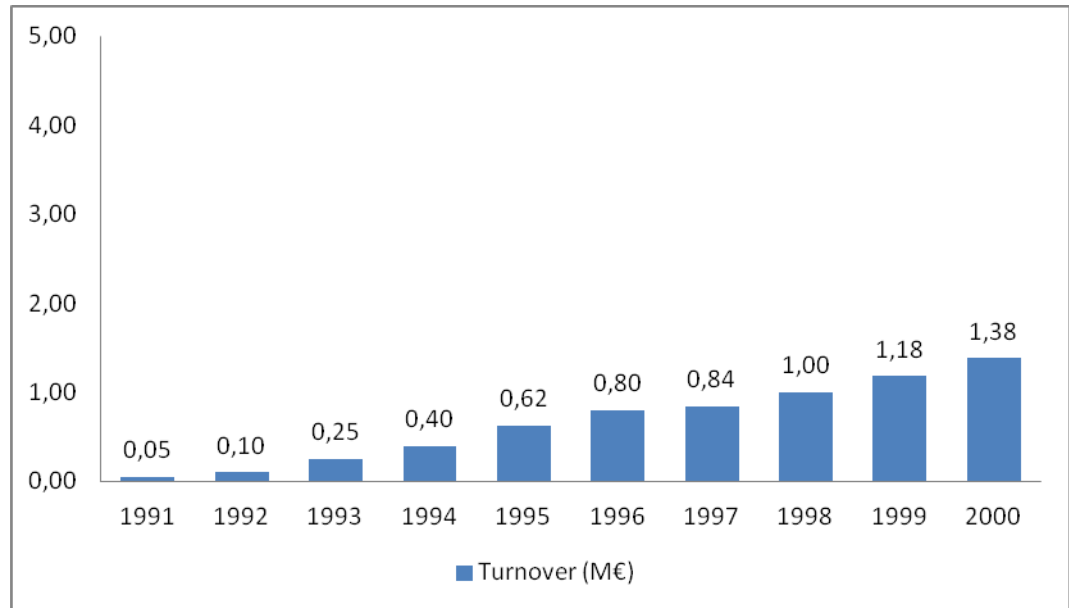


FIGURE 18: Development of turnover 1991 – 2000 (X database 1991-2000 & Kämäräinen 2011).

Figure 18 demonstrates the development of X's turnover between 1991 and 2000. Evidently, there has been a constant increase in the turnover between 1991-2000. The turnover continued rising until the year of 2008. The worldwide economic recession in 2009 caused a drop in the company's revenue during 2009-2010 (Figure 19).

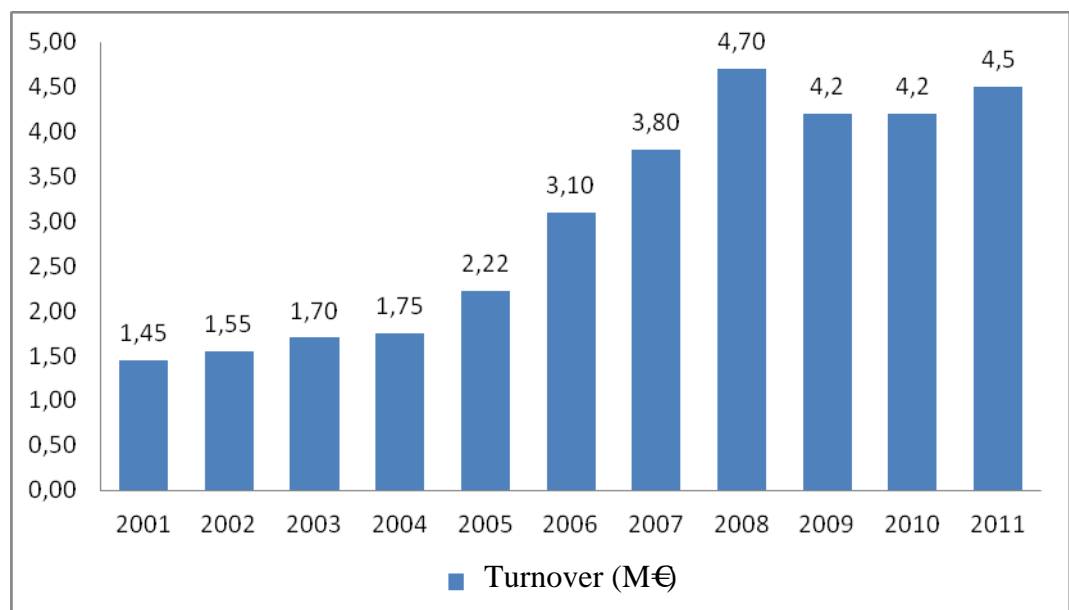


FIGURE 19: Development of turnover 2001 – 2010 (2011 forecast) (X database & Kämäräinen 2011).

3.5 Organisation – X Group

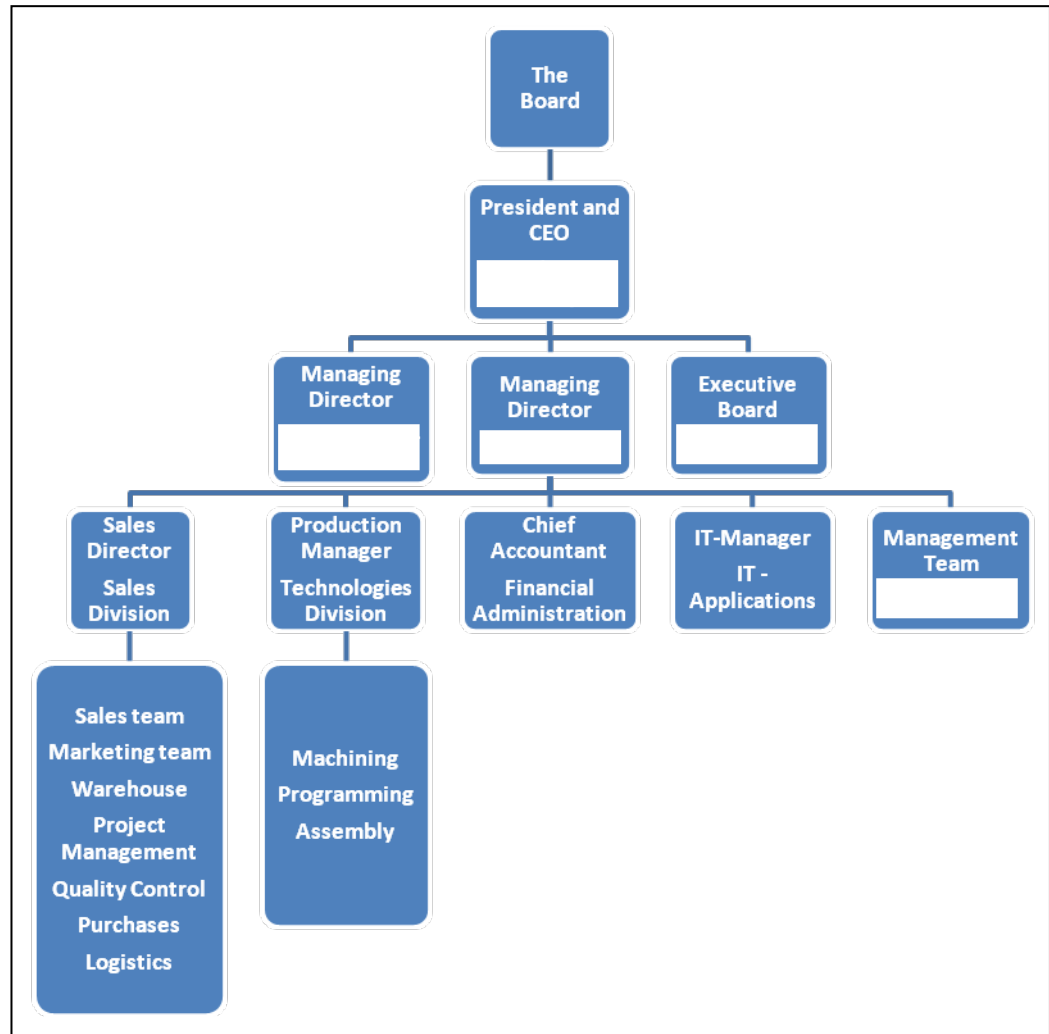


FIGURE 20: Organisation chart – X Group.

Figure 20 represents the organisation of X Group. It is to be noted that Mr Juha Kämäräinen, the biggest individual owner (52 %), also acts as Chairman of the Board, President and CEO of the group and Managing Director (operative) of X Ltd. In decisions and matters concerning X Ltd, he is assisted by a management team. Decisions related to the affiliated ZAO X-A are prepared by its Executive Board. In operative executive power within X Ltd, Sales Director Mr Zoltan Toth has the second highest position. Managing Director (Group title, operative) Mr Dennis Panzenko acts as a newly appointed General Director (title generally used in Russia) of ZAO X-A in City A, Russia.

3.6 Business in Russia

X Ltd owns 76, 8 % of its daughter company ZAO X-A in City A, Russia. The rest is owned by its local shareholder employees. ZXA was purchased in January 2001. ZXA has collaborated with X as a supplier since 1991. For X, ZXA supplies K-standard plates (mat. 1730) and Z-standard components, especially guide elements. ZXA has an export licence only to Finland; therefore FLtd is the company's only channel to international markets. ZXA's purpose within the X Group is to provide cost-efficient production capacity and to increase its share in the Russian and close-by markets. Approximately 90 % of ZXA's turnover comes from the Russian markets.

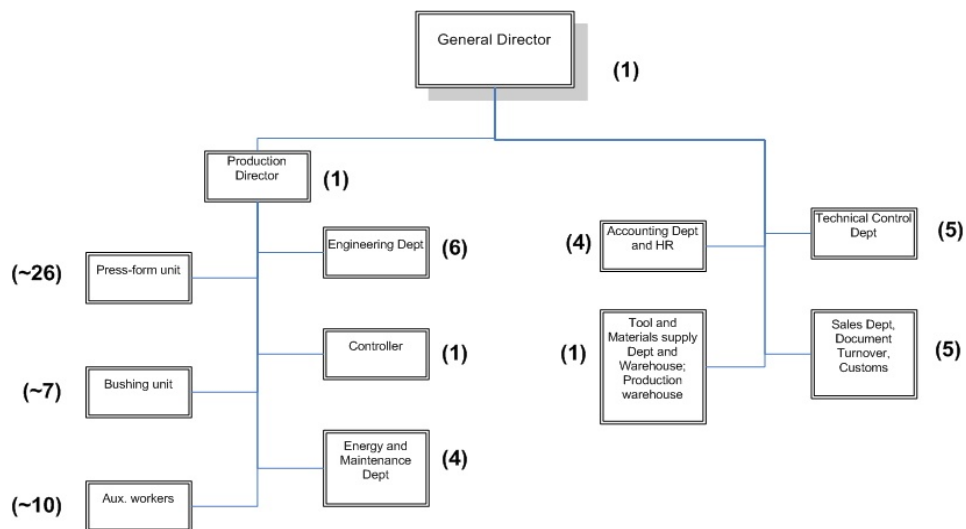


FIGURE 21: Organisation of ZXA in 2008.

ZXA is a relatively well-known player in Russia. It competes for a position of the largest standard and special component supplier for mold (press-form), die-casting, sheet metal and cutting/punching tool industries. The company participates annually in Russia's biggest exhibitions of the industry and attracts boothfuls of interested visitors, existing and potential customers. A closer look at the organisation and turnover of ZXA can be seen in Figure 21 and Figure 22.

2007	2008	2009	2010	2011 (est.)
2.1	2.2	1.40	2.32	2.55

FIGURE 22: Development of turnover ZXA (M€).

4 CASE STUDY: X GROUP IN 2011

This Chapter 4 introduces X Group in the light of product and sales, production and quality, core competences, market condition, competitive situation, competitors and suppliers. Basically, this chapter give background information for creating a business plan five years ahead from now on: 2012-2016.

4.1 X Group current situation

This section provides essential information about the case company's current situation and recent development with emphasis on strengths, weaknesses, opportunities and threats of company's operation.

4.1.1 Basic information

Name	X Ltd
Address	██
Municipality	████████████████████
Phone	+358 400 303 101
Fax	+358 13 268 1012
E-mail	sales@X.fi / firstname.surname@X.fi
Webpage	www.X.fi
Established	12.09.1986
Registered	17.12.1986
Register Nr.	380.698
Business ID	████████████████
Bank	Nordea
Industry	Standard- and special components of tools for plastics- and metal industry (subcontractor)
Ownership	Juha Kämäräinen (MD) 52 % Olli Puhakka 33 % Helena Kämäräinen 15 %
Board	Juha Kämäräinen, COB, Joensuu

	Aimo Paukkonen, Heinävesi
	Seppo Turunen, Kontiolahti
Executive team	Juha Kämäräinen, Chairman, Managing Director
	Zoltan Toth, Sales Director
	Jaakko Havurinne, Production Manager
Human resources	Total 29
	Sales and administration 14
	Production and logistics 15
Turnover	2009 4,193,624.17
	2010 4,169,952.01

SUBSIDIARY

Name	ZAO X-A
Address	Serebrjakovskaja pristan 8a, 170001 City A
Municipality	City A, Russia
Phone	+7 0822 422 320
Fax	+7 0822 422 324
E-mail	<u>sale@X.ru / firstname.surname@X.ru</u>
Bank	Sberbank, Moscow, and City A branch N ° 8607
Industry	Standard- and special components of tools for plastics- and metal industry (subcontractor)
Ownership	X Ltd 75%
	Local personnel 25%
Executive team	Juha Kämäräinen, Chairman, FIN
	Dennis Panzenko, Managing Director, RUS
	Zoltan Toth, FIN
	Helena Kämäräinen, Chief Accountant, FIN
Human resources	Total 67
	Sales and administration 20
	Production and logistics 47
Turnover	2009 1,400,987.00
	2010 2,324,406.00
<u>Group turnover</u>	2009 5,297,025.97
	2010 6,010,480.60

4.1.2 Products and sales

X's products are divided into three main categories:

1. *Standard components* for mold, die cast and sheet metal tools
2. Products manufactured according to customer drawings (*Special parts*)
3. *Milling cutters*

1. These products are manufactured according to settled standard practices. Most of standard part markets are dominated by a few international brands. Basically, these brands differ from each other only as far as operational measures are concerned. Anyhow, it is uncommon to be able to use components from different suppliers in a tool (see Figure 14). Instead, toolmakers often have to make a clear selection of the applied standard.

For a toolmaker, it is cheapest to purchase standard parts as they are manufactured by serial production enabling low prices. Consequently, it is impossible for toolmakers to compete by manufacturing standard parts themselves. Russia is an exception as 90 % of toolmakers there manufacture standard parts themselves.

Standard parts are divided into two main groups according to industry (Figure 23)

- Standard parts for mold tools (K,P,Z)
- Standard parts for sheet-metal tools (L)

These parts are manufactured in Western Europe and Asia. Standard parts cover approximately 30 % of turnover.

In general, standard part business requires a large stock for short delivery times. Customers order from suppliers who have wanted products in stock. However, maintaining large stock is rather expensive. At the moment, especially K-plate sales suffer from insufficient stock. Z-part sales are better because X maintains larger stock for them. Nonetheless, product range needs to be increased continuously.

L-standard sales suffer from an inadequate supplier who has long delivery times and poor stock. For this reason, a new supplier must be founded shortly. Demand for L-parts in Russia has shown signs of an increase but the current delivery time is 4 – 8 weeks which causes problems.

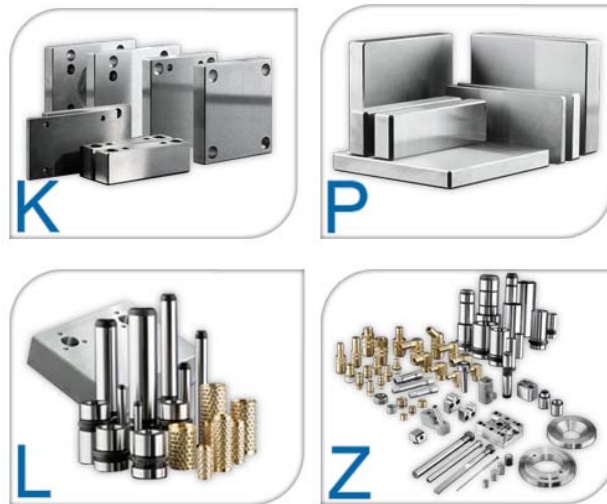


FIGURE 23: Standard components: K, P, L, Z (X database 2011c).

2. *Special parts* (E, M) in Figure 24 are custom manufactured according to customer's 3D/CAD drawings and geometry. Production series are often small (1-5 pcs. / Product). The majority of toolmakers in Finland and Russia still produce plates used in molds themselves. The European trend is different as production of special parts is outsourced increasingly and toolmakers concentrate mainly on manufacturing and assembling their core competences, product surfaces (core and cavity). 60 % of special parts are manufactured in City B, Finland and cover approximately 63 % of turnover.

X is strong in the area of special parts since the company is capable of achieving tolerances that perhaps only five to ten companies in the world are able to do the same. This is due to deliberate high-scale investments in precision machining process.

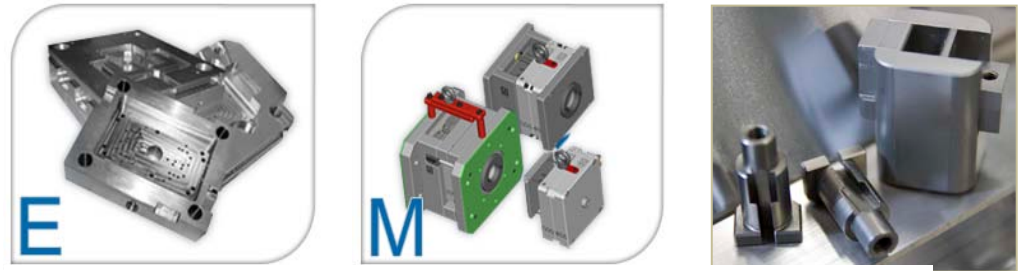


FIGURE 24: Special components: E, M (X database 2011c).

3. *Carbide milling cutters (C)* in Figure 25 are manufactured in the company's own production at X's City B Unit. X's high-end milling cutters utilize Swiss raw materials and provide high production accuracy and high-level finishing. C-products cover approximately 7 % of turnover, being company's most recent product group establishment. Most C-products (90 %) are currently sold to domestic markets.

The cutting tool business is divided into three categories: a) sales of new tools b) sharpening service for used tools and c) sales of special tools (customer-specific). New tools are standard tools which require large stocks because clients are not pleased with long delivery times. Current price level is competent and capacity exists. Special tools could be sold more if production had more capacity for them.

The sharpening service, that has been busy, seems to "eat" capacity from the special tools as both activities are done by the same machine. With current production pace, the delivery time for special tools varies between two to three weeks and it cannot be exceeded. Solution could be switching C-production in three separate shifts. Special tool production should be optimized more effective as they have good profit margins.

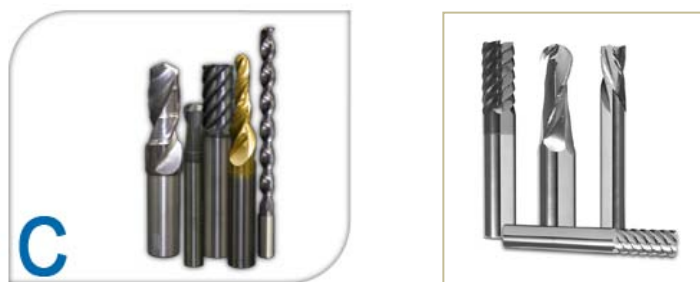


FIGURE 25: Milling cutters: C (X database 2011c).

The following figures (26, 27 and 28) show how sales differ between product groups and within the group. E and M product lines clearly separate as most successful businesses followed by K and Z parts. Figures 26 and 27 indicate sales in 2010, budgeted (expected) sales for 2011, cumulative sales budget until august 2011 and actual sales until august 2011. Figure 28 compares sales between X Finland and X Russia by product lines.

In figure 26, (Sales of ZAO X-A 2011), the clear improvement in demand for K-plates in Russia can be pointed out as sales have nearly doubled from expected sales for the whole year already in August. The same conclusion applies also to P and L parts. Z-part sales are clearly ahead of cumulative budget also. Russian markets have freshed up after the recession and encouraged toolmakers to make larger purchases. However, increased demand has shown deficiencies in production capacity which has been over booked. Sales of M, C, N and H lines are the developing new markets in Russia and require more marketing activity. H-part sales have been strangely low compared to sales expectations and should be inspected.

Figure 27 indicates X Finland having larger sales volumes than the affiliated company. However, loss of standard markets to competitors in Finland is clearly visible. Good volume of Z-parts is explained by increased purchases from ZXA. Positively, marketing efforts for C-products have yield results and customers are satisfied with quality and prices. Module sales will improve closer to December as demand and consumption for products of the largest module customer increase.

Sales 2011: ZAO X-A

(Cumulative: August)

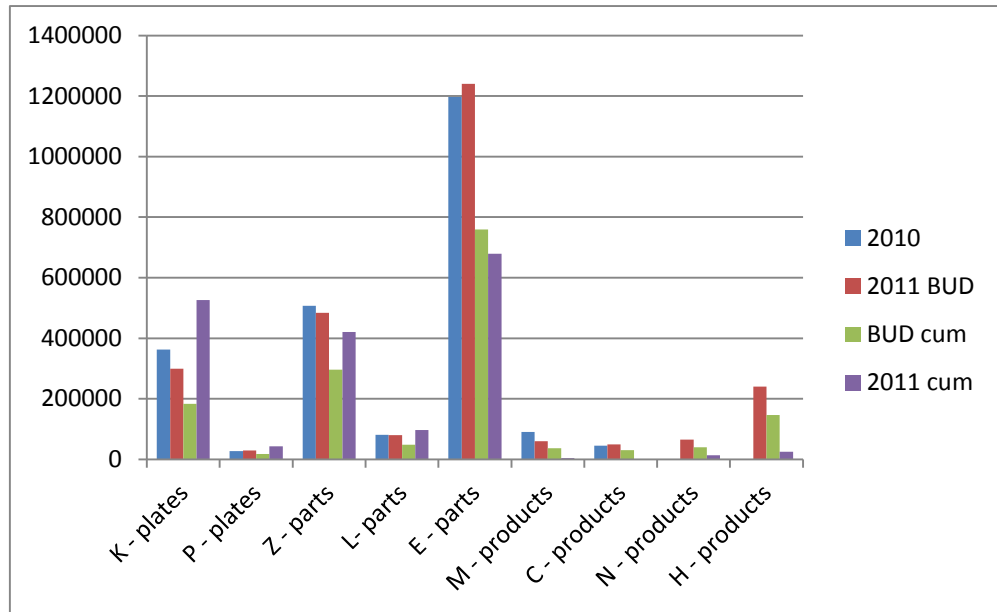


FIGURE 26: Sales of ZAO X-A in 2011 (modified from X database 2011d).

Sales 2011: X Ltd

(Cumulative: August)

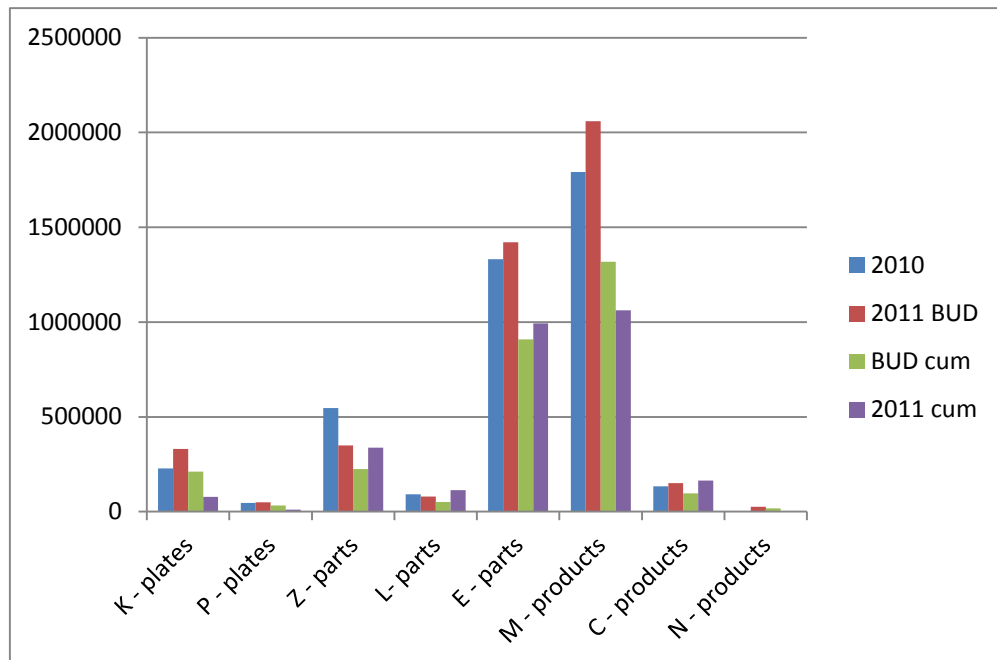


FIGURE 27: Sales of X Ltd in 2011 (modified from X database 2010-2011d).

Geographical sales 2010: X Group

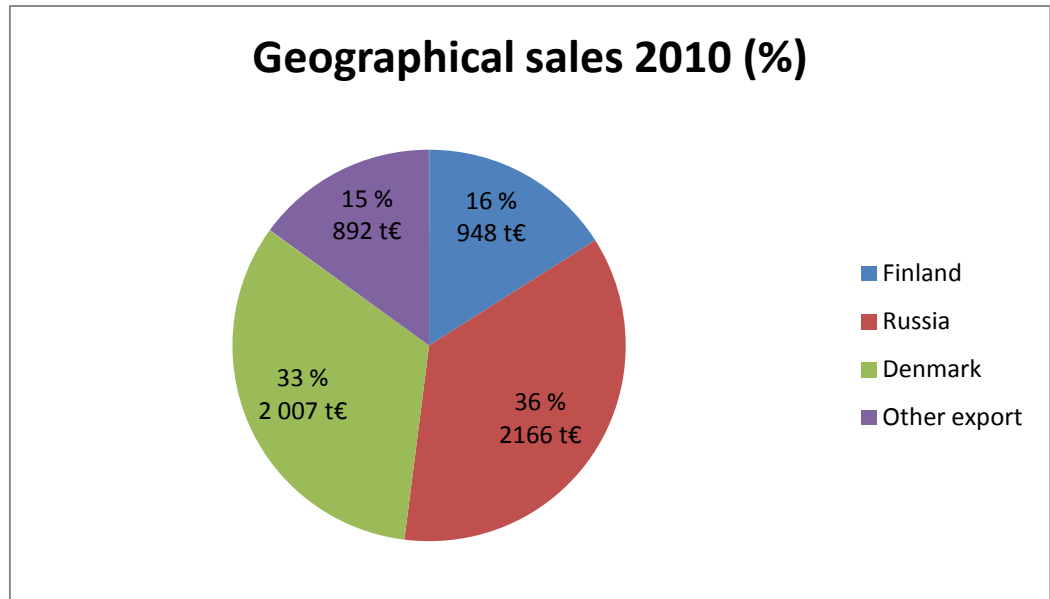


FIGURE 28: X Group geographical sales in 2010 (modified from X database 2010d).

Figure 28 presents the division of total sales in 2010 within geographical areas. Other export covers Central-Europe, Middle-East and Asia. However, the proportion of Middle-East and Asia is only approximately 100 T€ thus other export reflects mostly sales to European countries, the biggest of them being Germany.

Subsequently, a summary of X Group's products and sales are cut down into SWOT analysis below. Yet, only strengths and weaknesses are examined here since they are related to the company's inner factors and drivers.

SW(OT) 1: Products and sales

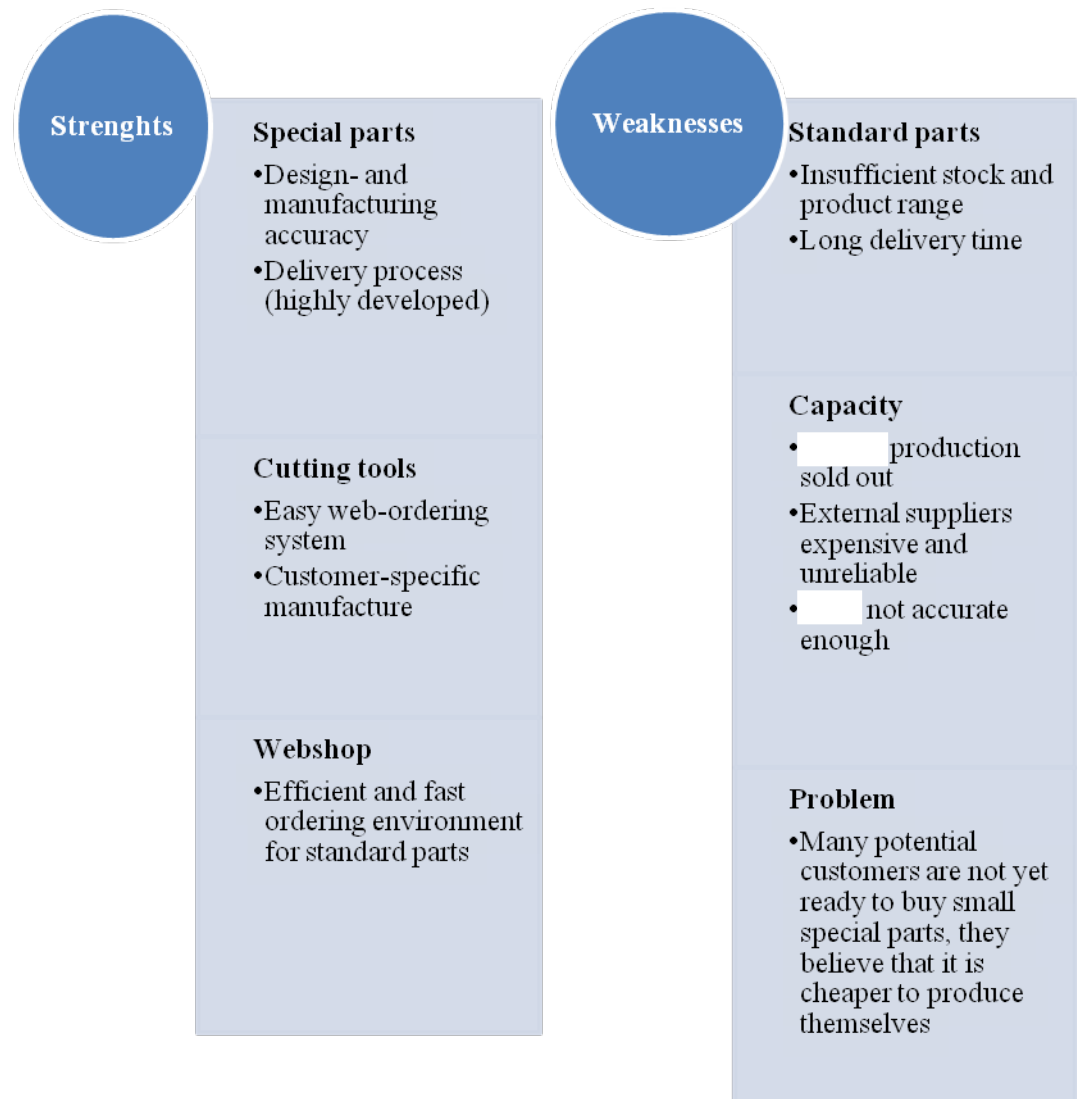


FIGURE 29: SWOT analysis: Product and sales.

4.1.3 Sales and marketing

X is both; a reseller of products purchased from suppliers, and a direct seller of self-manufactured products. Current sales channels are 1) X Ltd office in City B, Finland 2) ZX A office in City A, Russia and 3) Webshop at www.X.com. City B office sells products to Finnish, European and international markets. City A office sells parts to Russian and post-soviet state markets. Both offices have sales personnel responsible for sales process for each order.

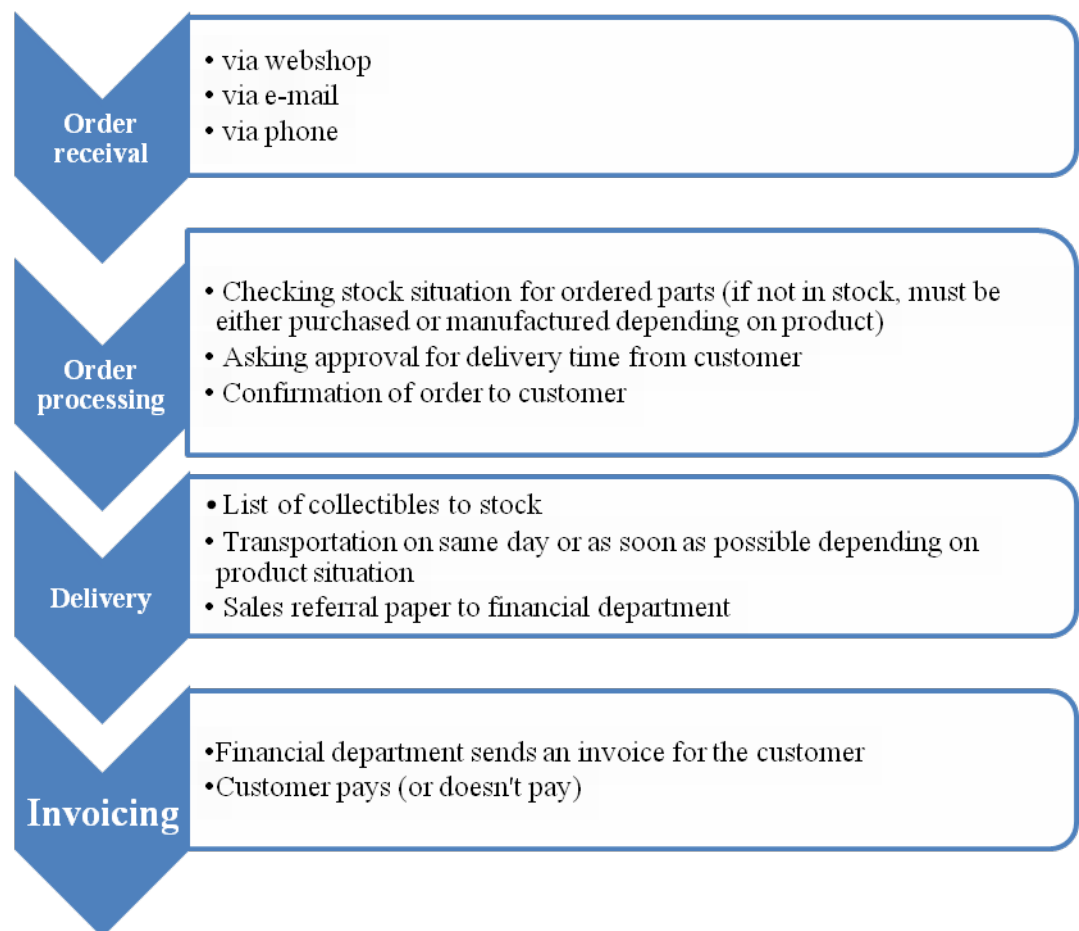


FIGURE 30: Sales process for standard parts.

The sales process for standard parts (about 30 % of turnover) is simple and efficient as 90 % of orders are received via Webshop and can be operated by one person (Figure 31). The sales team is divided into a web-order processing team (mostly standard parts), a special order processing team and technical sales (i.e. milling cutters), each operated by a salesperson titled as Account Manager.

The special- and technical product orders (70 % of turnover) are mostly received via e-mail and they require a process of quotation in which the project management (3D/CAD) is highly involved. Project management establishes a new project for preparing an offer, processes customer's drawings, chooses suppliers, takes care of inbound logistics, and delivers drawings for production and pricing. Sales team deals with customer communication and negotiations.

Current marketing activities are limited to exhibitions, internet, direct marketing (phone, e-mail) and occasional advertisements and publications in industry magazines. Annual exhibition participations include:

- Rosmold (Moscow, Russia)
- Euromold (Frankfurt, Germany)
- Blech (St. Petersburg, Russia)
- Subcontracting fair (Tampere, Finland)

Exhibitions are supplemented with promotional goods, brochures and catalogs. Exhibitions account for mainly new customer contacts and X has recently invested in design and impressiveness to create credible perception for visitors. Internet marketing takes place at www.X.com and is enhanced by search engine optimization by Google (international markets) and Yandex (Russian markets). Direct marketing (database contacting) activities aim at "reminding" existing customers about X's existence and new products/services.

Occasionally (3-4 times / year) X prepares articles and advertisements to ETMM (European Tool & Mold Aing), Metalliteknikka and Eurometalli. X has several on-going marketing projects enhancing sales and brand image such as:

- New multi-language catalogs for all product categories (paper and digital format)
- New attractive brochures
- Website with new layout, image and advanced Webshop
- development of marketing activities in Russia in cooperation with ZXA

X Group's brand attractiveness and brand image is uncertain. This is due to the fact that a survey on the brand image has not been carried out while at the same time, the current website lacks a proper tool (e.g. forum, feedback box) for receiving feedback from target customers (Elliot 2007, 49-51).

X's recent product development resource is basically the Managing Director of the company, Mr Juha Kämäräinen, who develops new innovations and improves existing products when his time allows. Mr Kämäräinen analyses possibilities of utilizing company's resources for new products by exploring new innovations on the markets and competitors' new and existing products. He also goes through products which might be useful and beneficial for clients as to develop their operation as well. With vast experience in mold business and position in the company, he knows how to make a fast progress with development and with new innovations. Below, there are few examples of promotional products used in several exhibitions.

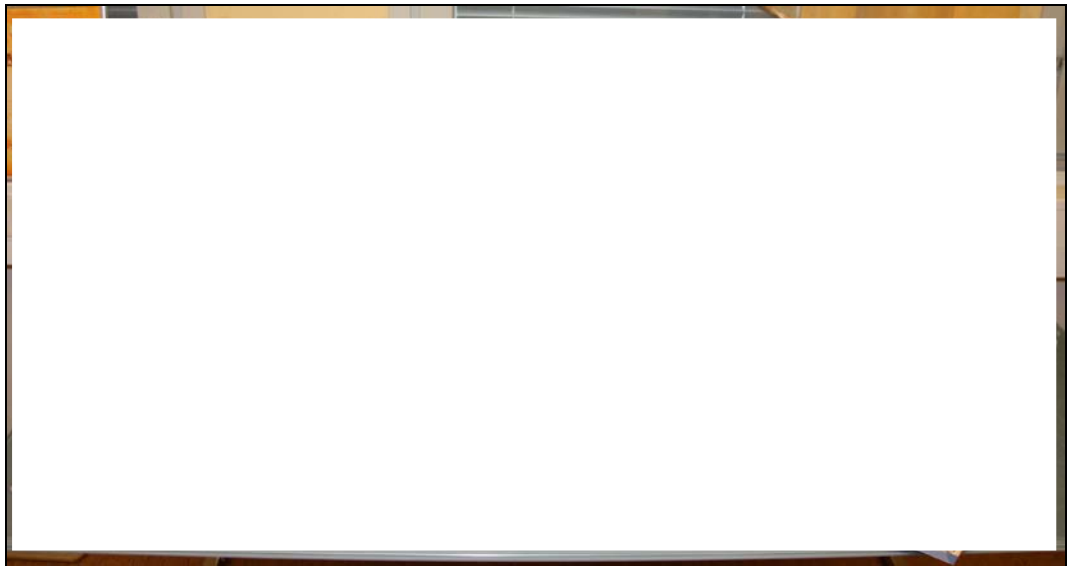


FIGURE 31: Promotional material used in trade fairs.

Similar to the previous section, the main aspects in sales and marketing of X Group are outlined as a SWOT analysis in the following manner.

SW(OT) 2: Sales and marketing

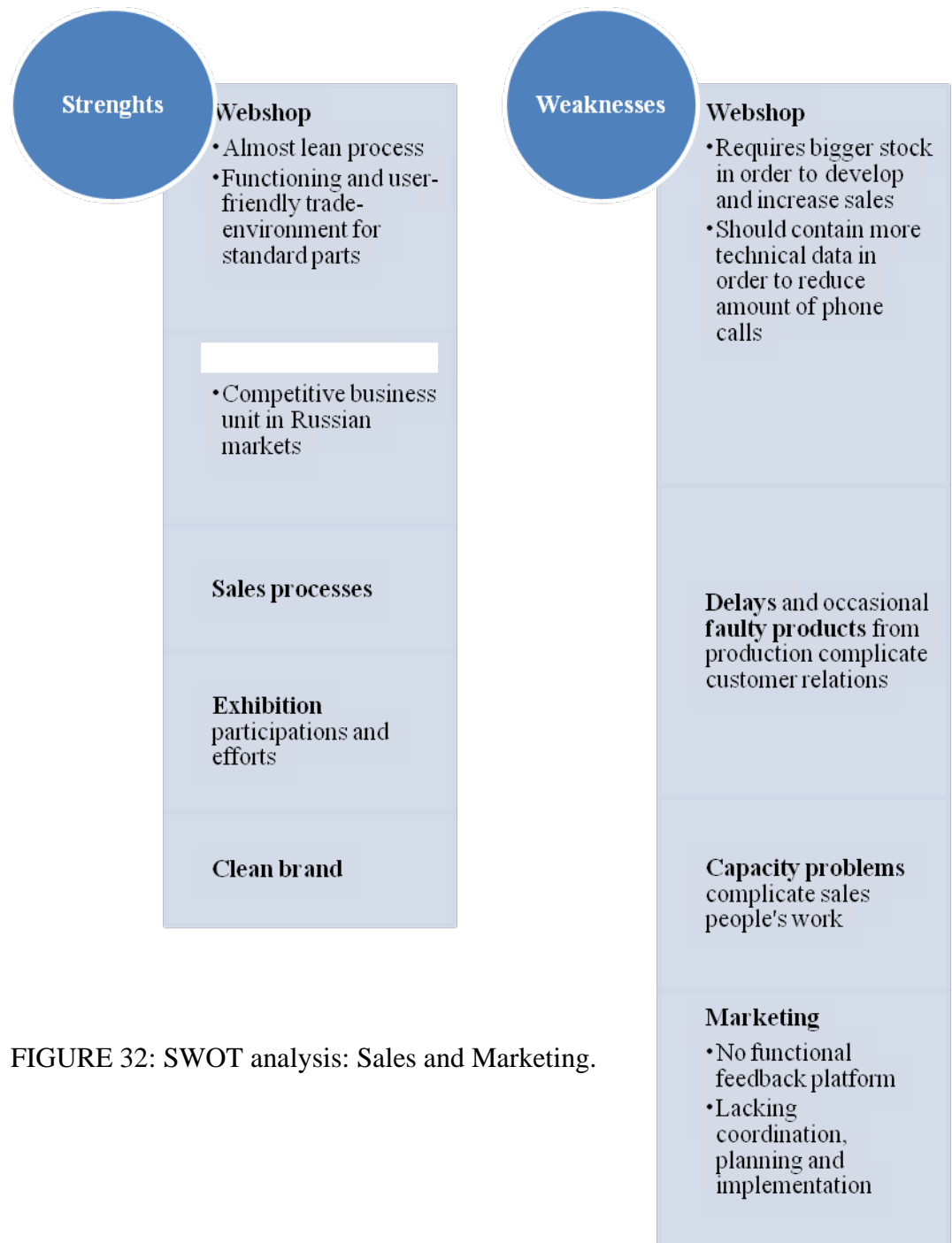


FIGURE 32: SWOT analysis: Sales and Marketing.

4.1.4 Production and quality

The X Group has two production plants; one in City B, Finland and one in City A, Russia. The core difference between these plants lies on the accuracy of machining. While City B Unit can produce within ± 0.0025 mm (fidelity), City A Unit produces within ± 0.005 mm (fidelity). This is a significant difference because world-wide hundreds of companies can reach the accuracy of 0.01 mm, but 0.005 mm only a handful one.

The City B Unit, established in 2007, is a state-of-the-art production facility with modern equipment that enables the mentioned accuracy. Being able to manufacture within ± 0.0025 mm is vital for X because the company is not located in Germany, for instance, which would be next to the customer (easy logistics, no language barriers) where most of the market is. Also, X is not located in low-cost countries. One fundamental factor in precision-manufacturing is measuring room and its temperature control that is not the state-of-the-art in low-cost countries.

For 2011, The City B Machining Unit's forecasted turnover/capita is approximately 170,000 €(13 employees) where City A Unit's corresponding amount is about 53,000 €(36 employees). These numbers are explained by conditions of current facilities, machinery and production processes. All these factors naturally affect the scale of customerships. ZX A in its current state has reached the capacity and accuracy limits, hence making its growth based on manufacturing difficult. Furthermore, ZX A with its current facilities is not able to supply X Ltd with parts that match demands of X Ltd's clients.

The City B Unit, while mostly reliable with quality, suffers in terms of money and time, from three expensive crashes with the swiss-made Mikron CNC-machine. These crashes (each costs appr. 95,000 €) has caused significant delays in production schedules and have been costly to repair. These incidents have led to further development in processes and improvements in production management and control.

**See: List of equipment and production processes see Appendices 2.*

Here again, SWOT analysis is used to summarise key points in production and quality of X Group.

SW(OT) 3: Production and quality

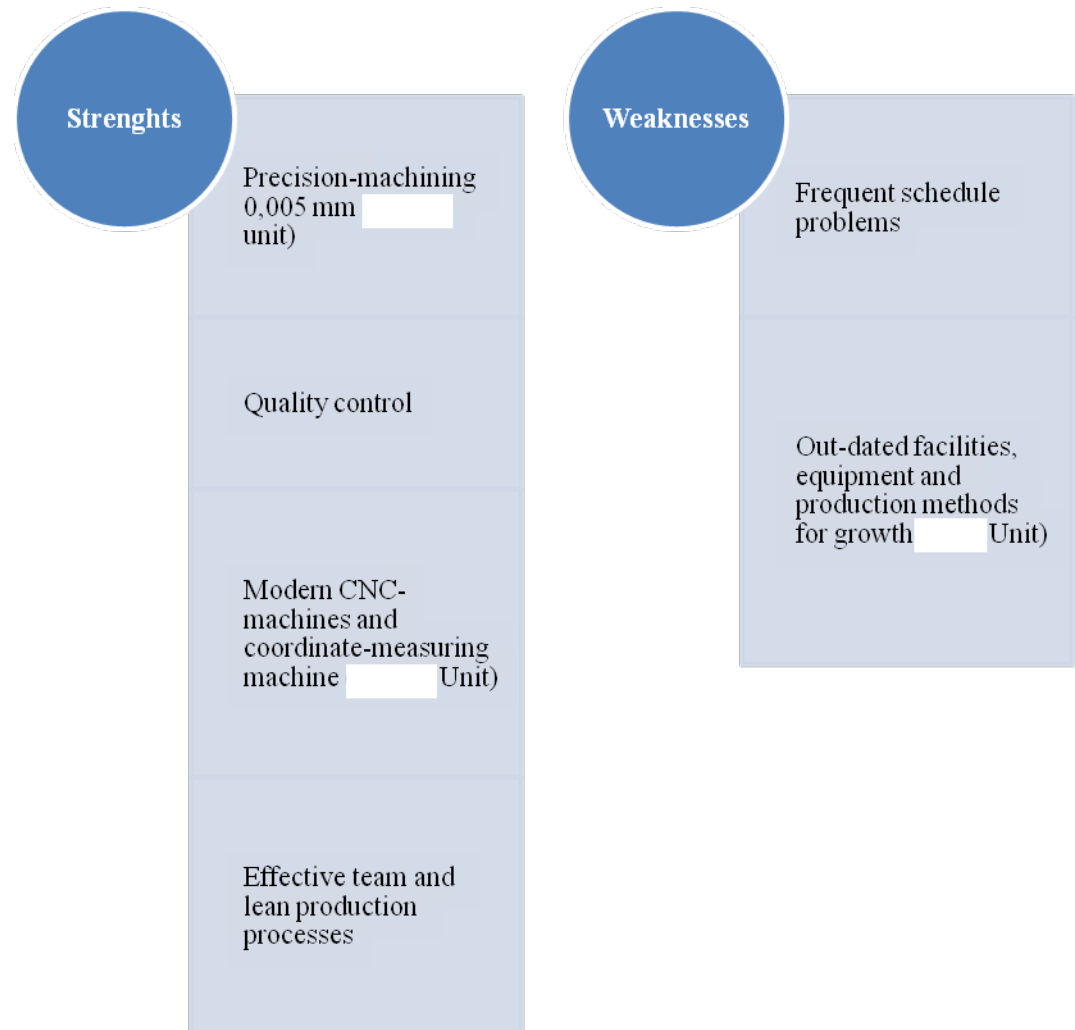


FIGURE 33: SWOT analysis: Production and quality.

4.1.5 Current core competences and success factors

In this part, the X Group's critical factors and competences for success are briefly explained as follows.

Core competences

- Supply chain management in globally networked business environment (Suppliers - X - Customers).
- Effective integration and application of modern and traditional production technologies.
- High manufacturing-precision (± 0.0025 mm) and quality.
- WEB-applications.
- Product concept that supports customer's core competences.

Current success factors

- Right and timely strategic decisions by senior management (Managing Director, Sales Director, Production Manager and the board).
- Obtained demanding key customers (necessitated development and improvements).
- Understanding the importance and implementation of quality control.
- Webshop.
- Internationalization and establishing business in Russia.

4.1.6 Financial situation and tracking

X's financial department in Finland utilizes Hansa Solutions – financial management software for preparing montly (month and cumulative) income statements and balance sheets to be reviewed by the company management and the board (critical assessment). ZXA fills in a ready made form of the financial figures of each month to be reviewed by its management and Group management. Since 2011, reporting contains specified sales for each product group. Furthermore, company financers (Nordea and Finnvera) prepare an annual analysis on annual

statement in order to track and develop yearly performance. According to the following figures below, X Group seems to be slightly dependent on debt financing.

TABLE 1: Key figures of X Group 2006-2010 (modified from X database 2006-2010).

X Group	2006	2007	2008	2009	2010
Volume					
Turnover	4093,1	5412,2	6505,2	5297	6010,5
Turnover change %	45,1	32,2	20,2	-18,6	13,5
Turnover/capita	55,3	66,8	75,6	69,7	67,5
Value added/capita	23,4	26,7	28,7	27,6	23,1
Export/Turnover %	58,9	63,3	83,2	84,5	81,8
Profitability					
EBITDA %	13,8	11,3	12,1	12,3	12,3
EBIT %	11,7	7,0	7,4	7,0	7,5
EBEI %	9,3	7,4	7,2	8,6	10,2
ROI %	28,5	17,6	19,4	14,8	18,9
ROCI %	21,5	11,2	13,3	11,8	14,0
EBEI/Net debt %	41,6	18,1	23,8	26,5	36,6
Net financing costs/EBITDA %	12,6	24,8	33,8	24,2	5,9
Liquidity					
Quick ratio	1,2	0,7	0,8	0,7	0,6
Current ratio	2,2	1,1	1,4	1,2	1,1
Net interest income	4,9	3,4	2,3	2,7	4,7
Interest-bearing debt / EBITDA %	2,0	2,8	3,2	3,4	2,4
Loan repayment margin	4,0	3,1	2,2	2,6	1,3
Solvency					
Equity %	35,4	20,5	23,6	24,4	30,2
Net gearing	0,9	1,5	2,2	1,9	1,1
Relative indeptedness %	42,7	73,1	50,4	58,4	50,7
Working capital					
Working capital %	18,7	11,1	20,9	24,5	24,9
Net working capital %	22,1	5,1	9,6	6,6	3,6
Inventories/Turnover %	21,2	18,6	16,7	19,4	19,0
Sales receivable turn-over (day)	31	59	41	62	58
Accounts payable turn-over (day)	68	170	45	82	75
INDICATORS	Good	Adequate	Poor		

Note: City B production unit was established in 2006.

Now, a few key ratios of X Group are analysed and compared to the mold industry. First, the turnover change in percentage is examined. Then, the return percentage on investment is subsequently discussed. Finally, the equity condition is evaluated and is followed by quick ratios later.

Comparisons between industry vs. company key ratios

Industry code: 25730 Toolmaking / Finland

Turnover change %

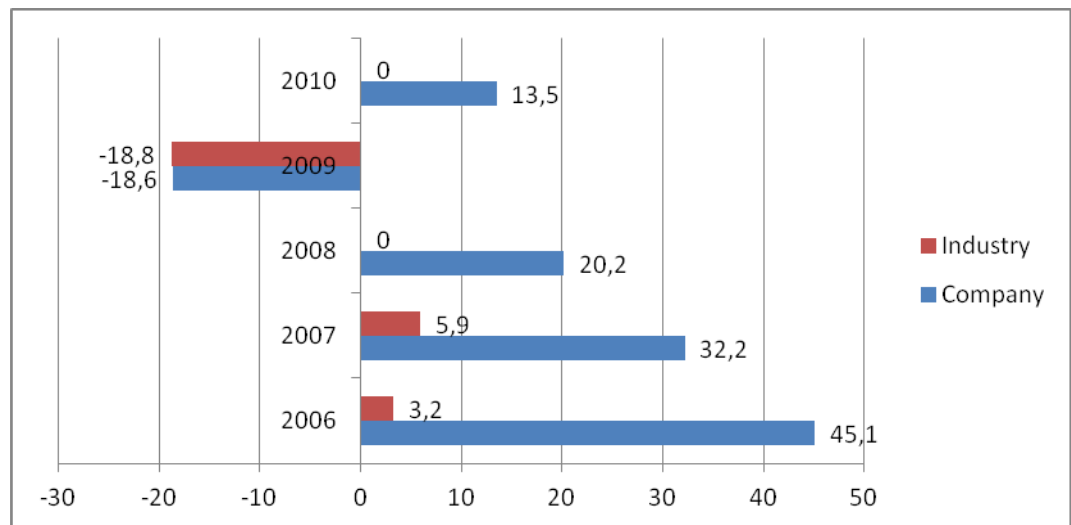


FIGURE 34: Turnover change % of X Group (modified from X database 2006-2010a).

Figure 34 proves that X Group's turnover has decreased steadily since 2006. This was caused by a new production unit established in 2006 that resulted in significant investments and external financing. Normally, it takes up to five years to start making profit with a new production unit (Kauppinen 2011a). For this reason, the turnover is expected to rise after 2011. The worldwide economic recession in 2009 had a great influence on the mold industry in general and X Group in particular.

Another factor measuring the company's financial condition; return on investment, is presented in Figure 35. The X Group is reliable with loan repayments and

interests even during recession times. The steady result and growth make the company a safe target for investing.

Return on Investment %

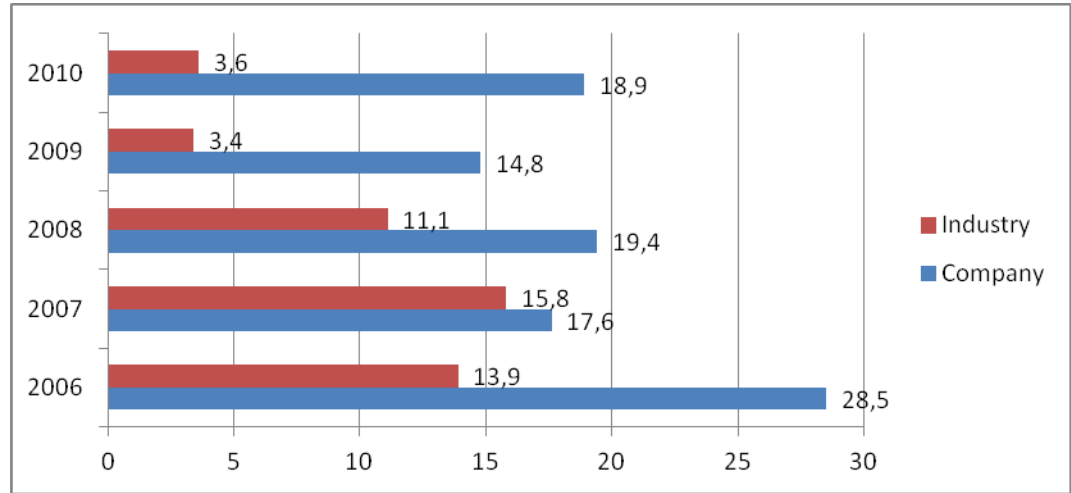


FIGURE 35: Return on investment % of X Group (modified from X database 2006-2010b).

Then, the equity ratios below point out that equity % have become a problem when production and machinery in Finland are heavily dependent on external financing. Anyhow, it is steadily increasing by growth and loan repayments and expected to reach 40 per cent by 2016.

Equity %

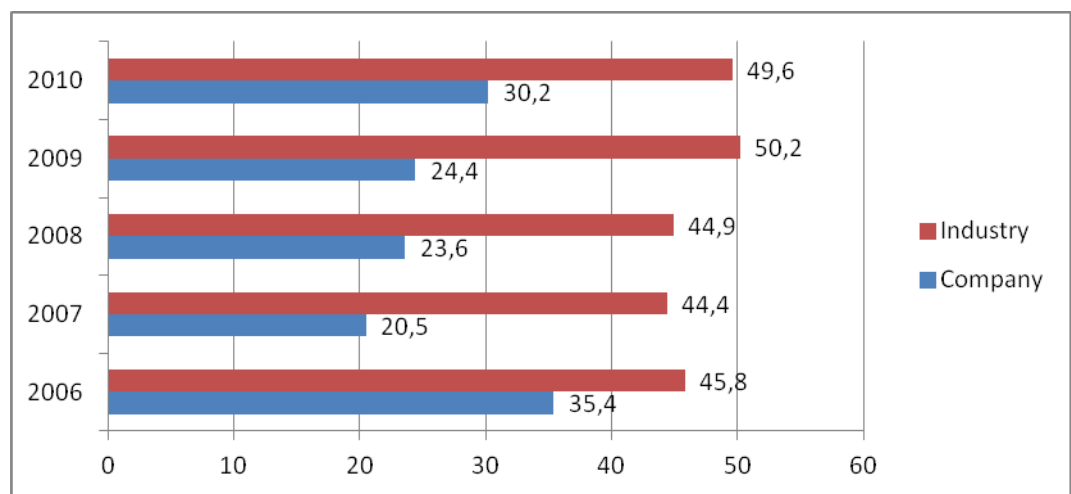


FIGURE 36: Equity % of X (modified from X database 2006-2010c).

Quick ratio

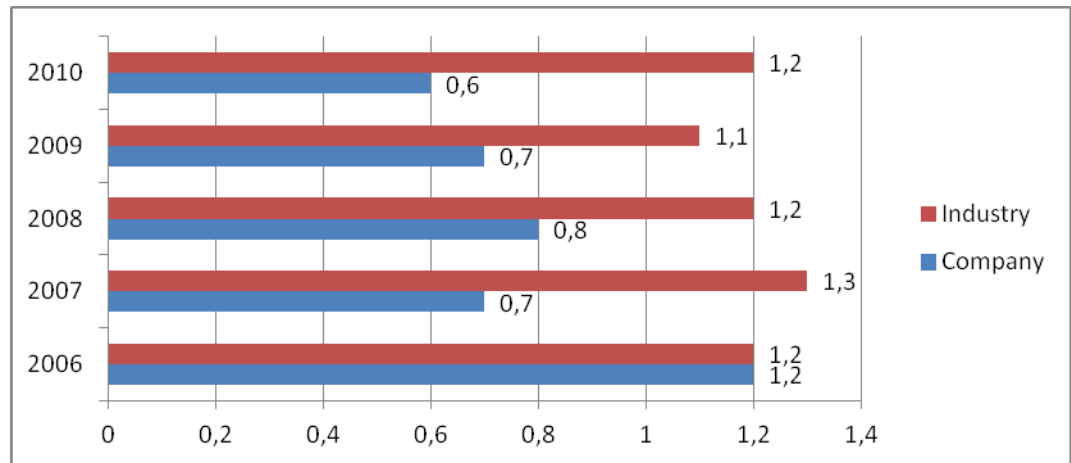


FIGURE 37: Quick ratio of X (modified from X database 2006-2010d).

As indicated in the figure above, the company's quick ratio notably decreased in 2007 and it is in direct proportion to establishment and costs of new production. On the other hand, stable order book and loyal, successful customers behind it have ensured liquidity. (Nordea 2006-2010.) Currently, X Group attempts to improve its cash situation by minimizing costs and investments in 2012. (Kauppinen 2011b.)

4.2 Market analysis

This part estimates and analyses development, structure and scales of the markets in relation to the case company and its market potential. Market analysis also contains information about demand, key customers, competition and key competitors.

4.2.1 Customers and customer segments

Concerning X Group's target customers, toolmakers are the most important. They concentrate on manufacturing product surfaces (core, cavity) and require precision-machining. In the future, new target segments include aviation, aerospace and automotive (in larger scale) industries.

Main customer segments:

- Toy industry
- Packaging industry (cosmetics, medical)
- Automotive, construction, consumer good and electronic industry

In 2010, X Ltd received purchase orders from 226 customers of which the ten biggest are as follows. Their share of turnover reached 3,444,229.04 €(appr. 82.6 %) with Firm 1 being on top of the list.

TABLE 2: 10 biggest customers of X Ltd (modified from X database 2010).

<u>2010 / X Ltd</u>	Country	Amount (T€)	%
FIRM 1	Classified	2 007	48
FIRM 2	Germany	374	9
ZAO X-A	Russia	337	8
FIRM 4	Singapore	250	6
FIRM 5	Finland	145	3,5
FIRM 6	Finland	95	2,3
FIRM 7	Mexico	66	1,6
FIRM 8	Finland	61	1,5
FIRM 9	Finland	58	1,4
FIRM 10	Finland	54	1,3

TABLE 3: 10 biggest customers of ZXA (modified from X database 2010).

<u>2010 / ZAO X-A</u>	Country	Amount (T€)	%
FIRM 1	Russia	344	12,6
FIRM 2	Russia	161	5,9
FIRM 3	Finland	158	5,8
FIRM 4	Russia	98	3,6
FIRM 5	Russia	82	3
FIRM 6	Russia	71	2,6
FIRM 7	Russia	67	2,5
FIRM 8	Russia	64	2,4
FIRM 9	Russia	55	2
FIRM 10	Russia	47	1,7
Total		1 147	42,1

X Ltd's customer situation is quite dangerous due to its single customer spanning almost half of the turnover. However, Firm 1's growth forecasts are positive and relationship is stable even though X has had some problems with tolerances. Nevertheless, it appears that apart from X, there is nobody who can do the parts required by Firm 1 as they wish to continue purchases and long-term relations. Firm 1 is X's key factor for rapid development and establishing strict quality control processes. Downside is that most capacity is reserved for Firm 1 restricting other projects.

Unlike X Ltd, ZXA has a stable customer base and there is more demand than capacity to produce. This results in customers ordering from other suppliers. Moreover, delivery times tend to stretch too long (over four weeks). New machine investments should be done quickly in order to respond to the increasing demand.

4.2.2 Competitors

Regarding X Group's competitive condition, largest competitors are listed in Table 4. Some of them remain competitors while some are suppliers for X Group,

such as Competitor C from Hungary and Competitor D from Germany. Competitor C offers special plates and Competitor D delivers standard parts.

TABLE 4: Competitors of X Ltd (modified from X database 2010).

2010	Strenghts	Weaknesses
Competitor A (Sweden)	Standard components, well-known brand, wide product range in stock	Reselling not functional in Finland, deliveries from Sweden stumble, incompetent in custom machining, no precision production ($\pm 0,0025$)
Competitor B (France)	Long-term producer of custom parts thus well-known in Europe, good quality, competent delivery time	Small in relation to size of European markets, no precision production
Competitor C (Hungary)	One of Europe's biggest producers of special plates measured by the number of employees & machines, centrally located within the markets, annual machine investments	No precision production
Competitor D (Germany)	Standard parts, well-known brand, wide variety	Expensive, operates mainly in Germany, no precision-production
Competitor E (USA/Germany)	Standard parts, well-known brand, wide variety	non-visible in Scandinavia (no local stocks), no precision-production
Competitor F (Austria) 7000 clients in 35 countries Exports 90 % 420 empl. Turnover EUR 100 million	Standard parts, brand, market leader in Europe, affordable, wide variety, large stock, capacity, logistics	Not yet firmly settled in Russia, no precision production
Competitor G Poland	Afforable, settling in Europe, wide variety	Inconsistent quality, no precision production

4.2.3 Suppliers

A functioning supplier network is one fundamental of X Group's competitiveness. The network has been carefully built for years. Ten key suppliers are responsible for delivery of sales products which are not manufactured in the company's own production. The supplier network has been decentralized to several countries in Europe, Russia and Asia. A growing price level is a problem in Country A (15% / year). It appears that purchases from Country A will decrease in the future and sooner or later will be replaced by machine investments in own production in Finland. Furthermore, controlling and relying on Country A suppliers become more difficult.

TABLE 5: 10 biggest suppliers of X Group (modified from X database 2010).

2010	Country	Amount (T€)
Supplier 1	Country A	785
Supplier 2	Finland	265
Supplier 3	Germany	137
Supplier 4	Russia	115
Supplier 5	Finland	82
Supplier 6	Hungary	76
Supplier 7	Austria	74
Supplier 8	Finland	57
Supplier 9	Country A	51
Supplier 10	Finland	42

4.2.4 Prospects of target market areas

In this part, a closer look at target market areas is studied. World markets of molds are growing hand-in-hand with overall consumption and technology does not seem to experience any radical changes. The current way of using mold tools is the most advanced method. Competition in mold tool component markets, where X operates, is fierce and especially standard part business is dominated by large companies that have existed long time in the markets. Opportunities for an SME are in precise and accurate customer-specific applications and markets are slowly turning from buying standard parts to buying finished special plates.

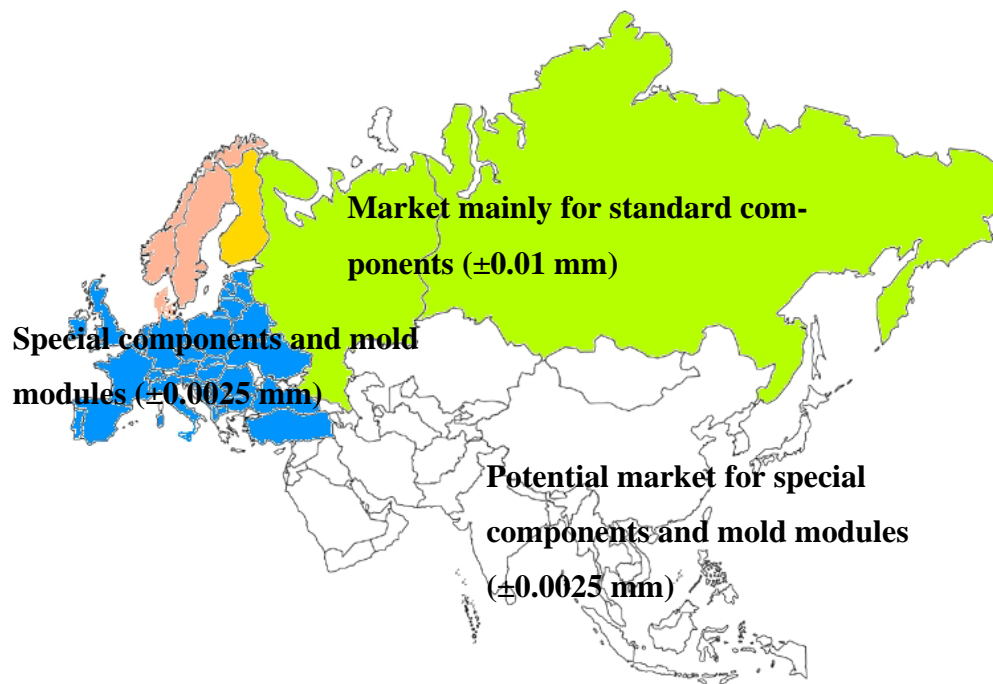


FIGURE 38: Geographical target markets.

Finland

The size of Finnish mold tools manufacturing industry sector is approximately EUR 140 million. This contains molds and mold components for plastic industry as well as different kind of punches, clamps, blades and fasteners for metal industry. About 15 % of this amount was exported in 2009. Imports amounted EUR 35

million. Industry in Finland lacking large-scale automotive or aerospace production focuses on small and medium size molds (size of machines in most workshops limit producing big plates). (The Federation of Finnish Technology 2011.) (Toth 2011.)

The significance of maintenance and repair of molds is increasing. From mechanical perspective competence of Finnish toolmakers is good. This is confirmed by high unit value indices year to year. Knowledge of materials, technical quality and heat/surface treatment is valuable and important for success in future. IT-expertise (3D, CAM-programming) is essential for product development and process management. (ISTMA 2010.)

X runs a 1 million € standard part business in Finland and most of the turnover is received via webshop and operated by one employee (Web-order processor). For **X**, market growth in standard parts would require big, expensive stocks to ensure instant product availability.

The webshop, in which many customers are accustomed, is basically the only competitive edge in Finland (C-cutting tools and standard parts). Hasco and Meusburger are settling to Finnish markets conquering standard business formerly led by **X**. It is expected that in future, toolmakers will start ordering special plates directly instead of producing themselves from standard plates, because it is not profitable or competitive to invest so much in machinery that does not enhance core processes.

Scandinavia

Scandinavia, especially Denmark is currently the biggest single market area for **X** spanning roughly 1/3 of revenue. Swedish and Norwegian markets are about the same size as Finnish markets. Market behavior is very alike to Finnish markets. Hasco is competent in Scandinavian markets and difficult to challenge in standard part business. (ISTMA 2010.) (Toth 2011.)

Europe

Markets are not expected to grow, however outsourcing increases as companies increasingly concentrate on their core competences. For suppliers of toolmakers it is important to specialize to benefit from this increasing outsourcing of customer-specific part production. Differentiation plays big part in surviving with large number of competitors. Differentiation to high precision-production is risky and expensive but restricts amount of competitors drastically. Competition in 0.01 mm capable production is very high making it a Buyer's market. Precision-machining capable to 0.005 mm accuracy is how X differentiates among the markets with only a few competitors reaching this accuracy reliably. (ISTMA 2010.) (Toth 2011.)

Russia

In Russia, 90 % of standard and special parts are still self-produced making it a very potential market. Change to outsourcing among toolmakers has begun. Automotive industry is feasible opportunity. (More about Russian markets in chapter 4.3.5) (Panchenko 2011.) (Toth 2011.)

X Group's main markets exist in Europe and Russia. The company holds customers also in Central-America, Middle-East and Southeast-Asia but only a handful. Logistics is a problem with customers in distant countries and therefore requires special customer relation based on supplier's core competences that cannot be found anywhere else (i.e accuracy). In mold business, delivery time is a key factor alongside price and quality. Maximum delivery time from order is usually three-four weeks which often tends to be a problem even with customers nearby.

Furthermore, heavy courier transportation far away is very expensive. Anyhow, potential customer's first question tends to relate to price. If the price does not satisfy them, they are not interested in delivery time or quality either. It is to be taken into consideration also that in import and export business, currency rates and differences has high impact on trade (Example: low USD – high EUR, expensive to import from Europe to USA). (Kämäräinen 2011.)

4.2.5 Prospects of target customer segments


In this section, the level of manufacture of toolmakers in the mould industry is analysed: specialised producer, buyer of standard plates and self-sufficient tool producer accordingly. The data are collected through interview with Mr Panchenko, Mr Kämäräinen and Mr Toth at X Group in 2011.



FIGURE 39: Level of own manufacture of Toolmakers in mould industry.

- Specialised producer
 - Concentrate only on their core product, shape-forming parts of mould and delivery of ready mold tool for injection molders
 - Production of plates and standard parts of mould base outsourced completely
 - Targeted investments for specialised production enable high-quality and efficiency in their core-competence
 - X's target segment in Finland, Scandinavia and Europe

- Buyer of standard plates
 - In addition to producing the shape-forming parts and assembly of ready tool they refine standard plates for the final purpose in the tool
 - Requires extra machinery and processes out of the core product lowering quality
 - In future the growing quality demands and competition force these companies either to invest more in technology out of their core know-how or to outsource plate production and concentrate only in core competences
 - Current customers of X in Finland and Russia

- Self-sufficient tool producer
 - Requires investments in every stage of tool manufacturing
 - expensive investments to produce high quality (international markets)
 - low-cost investments to produce low quality (still sufficient for Russian markets)
 - Lots of production outside core competence
 - These Russian companies are potential large-scale future market for X as soon capacity increases
 - Increasing quality demands require concentrating in core competences
 - Example: Lada manufactures eye bolts themselves for lifting heavy moulds  (Z1440 Eye bolt)

Similar to previous sections, SWOT analysis on the discussed topic, the target market, concludes Chapter 4. As the target market mainly consists of external factors, only opportunities and threats are included in this analysis.

(SW)OT 4: Market analysis

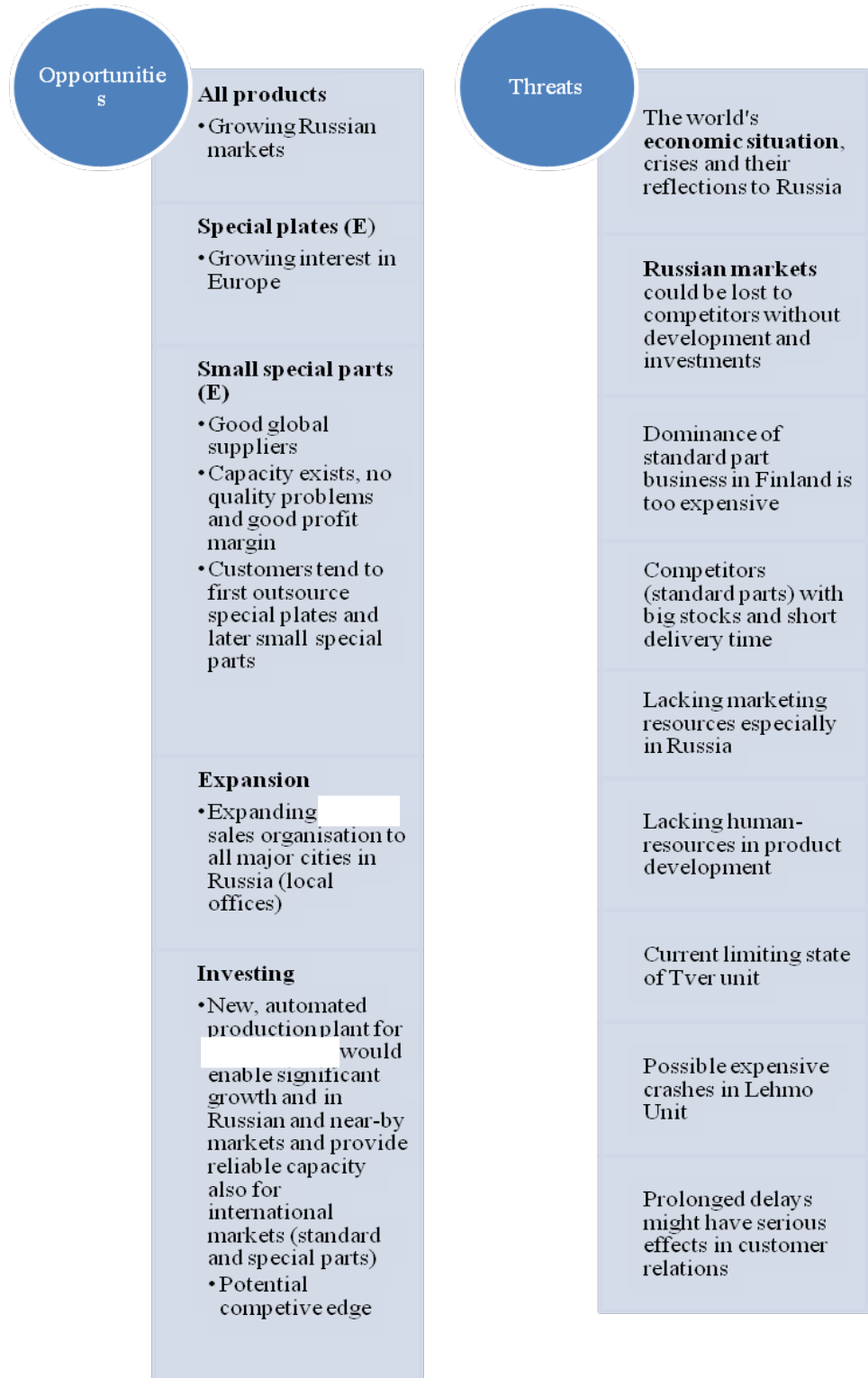


FIGURE 40: SWOT analysis: Market.

5 CASE STUDY: X GROUP IN 2012 – 2016

As Chapter 4 discusses the X Group in 2011, Chapter 5 focuses on X Group five years ahead: from 2012 to 2016. Several topics are covered accordingly: vision, objectives, strategies, sales development, human resource development, financial development and risk analysis. The outcome will be a concise business plan for 2012 – 2016 that X Group and its external funders can utilise in coordinating and forecastig the business.

5.1 Selection of vision, objectives and strategies

Selection of vision, objectives and strategies for X Group is separately discussed with concrete figures and tables.

5.1.1 Vision

Vision

1. To be a preferred business partner valued by customers
 - Attractive brand
 - Reliable quality
 - Precision and accuracy
 - Price / quality match

2. To have a customer-oriented philosophy and culture which serve each client according to their needs
 - Tailored service solution / concepts
 - Efficient feedback processing and communication
 - Emphasis on customer's needs, wants and demands

3. To build customer relations based on durable, long-term partnership
 - Integration of processes
 - Mutual development
 - Database-, and IT-cooperation to improve quality and service

- Trust

Values: Honesty, openness, reliability, internal entrepreneurship, continuous development

5.1.2 Main objectives

The company's major objectives can be shortened in Figure 41. These objectives are supported by concrete current and forecasted key ratios in Table 6.

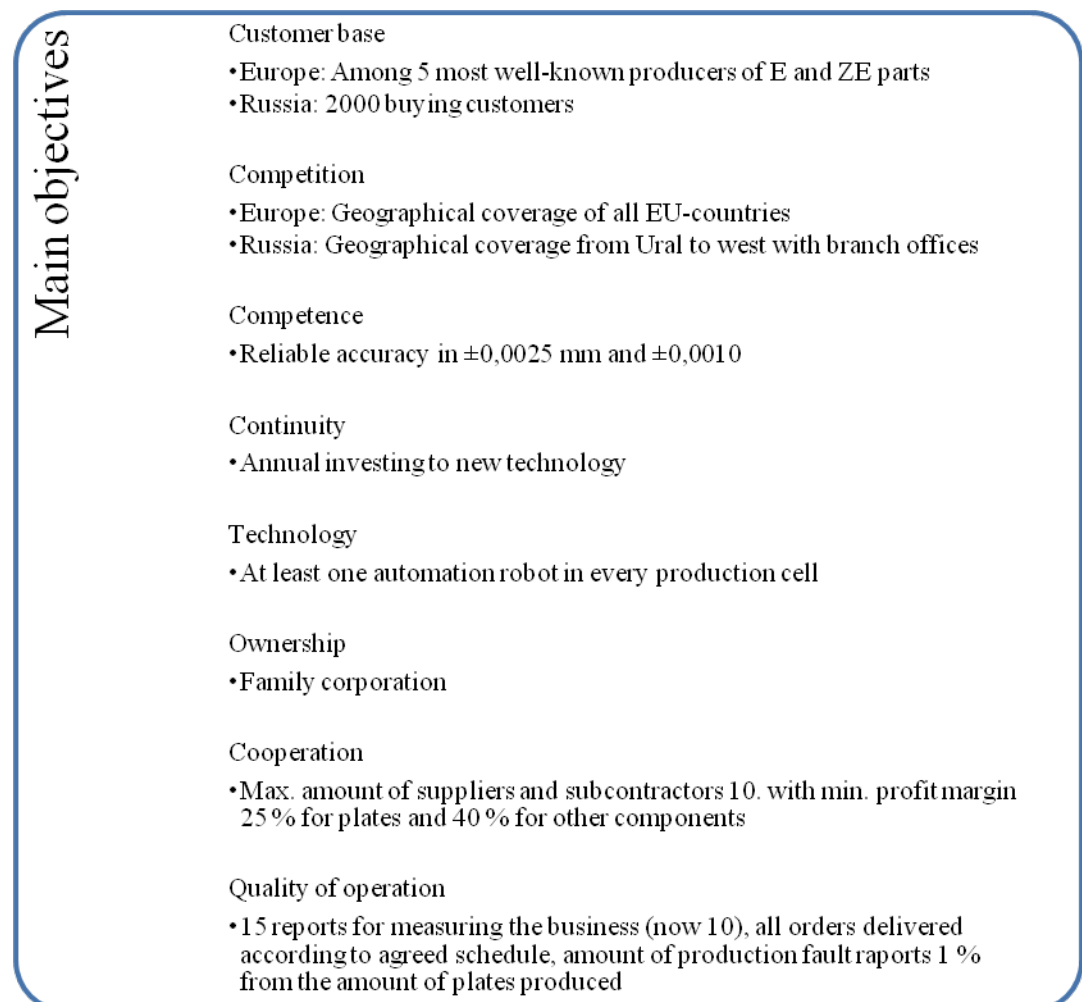


FIGURE 41: Main objectives of X Group for 2016.

TABLE 6: Concretization of vision to objectives in numbers.

X Group	2011 (Current)	2016 (Future)
Turnover (T€)	7000	16014,3
Turnover change %	18 per year	18
Personnel	92	100
Turnover/capita (T€)	76	160
EBITDA %	13	20
Net profit %	5	12
ROI %	20-30	20-30
ROCI %	15-25	15-25
Equity %	32	40

Stated objectives in Figure 41 are set by the corporate management and the board of X Group. Customer base is considered the most vital objective as business cannot succeed without sufficient customers. The aim of being top five producers of E and ZE-parts in Europe is therefore supported by a steadily increasing turnover.

In the following page, SWOT analysis of the X Group is presented. It includes the company's strengths, opportunities, weaknesses and threats recognised during the company research. Also, this SWOT analysis is the basis for strategic planning. For this reason, it is presented prior to "Strategies" part in Chapter 5.1.3

SWOT 5: X Group

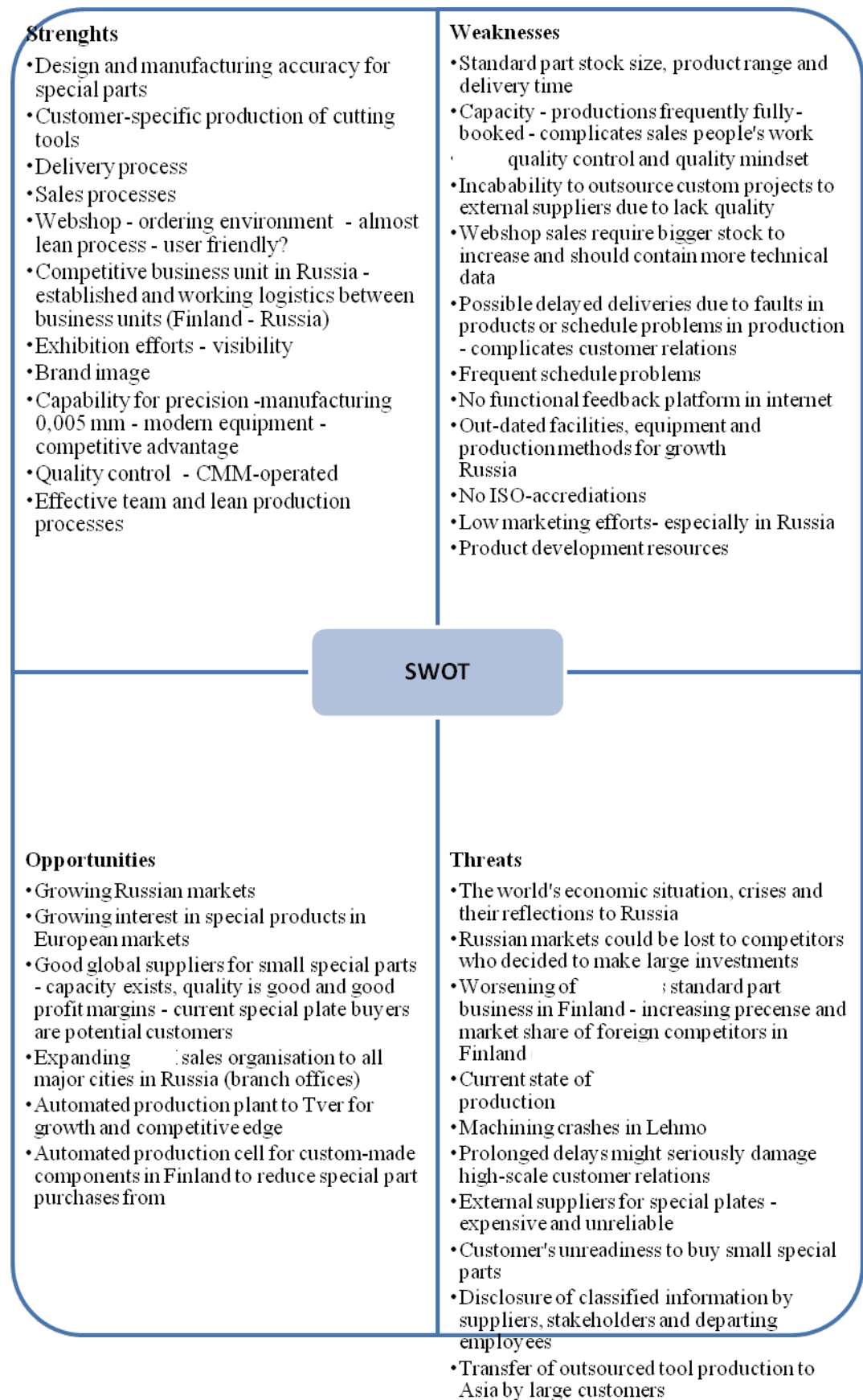


FIGURE 42: SWOT analysis: X Group.

5.1.3 Strategies

As foremost objectives have been discussed earlier, strategies shall be the next topic to be considered.

Main strategies

City B Unit - *Differentiation* – To differentiate in the markets by manufacturing accuracy 0.005 mm (high-precision production). This tolerance is a prerequisite for investments and human resources. Chosen tolerance defines target customers for companies which are the most demanding and quality-oriented.

City A Unit – *Expansion* – To increase production output significantly and to expand sales channel geographically (branch offices) in Russia. Price level aimed to be affordable. Chosen manufacturing tolerance is 0.01 mm defining investments and human resources.

Sales and marketing strategy

Growth strategy aimed to achieve an increase of 18 % per year until 2016 when new production plant is ready. Concretization of growth requires penetrating new special (E) product markets, such as automotive and aerospace industries in Europe and Russia as well as investing in stock to facilitate standard part sales.

Human resource strategy

Minimizing staff turnover in order to improve productivity (skilled employees vs. novices) and tracking, motivation and retaining the talented, ambitious key personnel of the future.

Technology strategy

Reduction of purchases from Country A is vital because of an increase in price levels caused by a rise in living standards, demand and currency fluctuations. Be-

sides, suspected frequent violations of non-disclosure agreements require replacing outsourced capacity with alternative capacity for E-special products. When combining these two major reasons, it makes sense to invest in proper technology for own production for financial, operational and logistical reasons. It is clear that X Finland will focus on technology to serve customers with the highest quality and accuracy requirements for custom-specific special parts, modules and assembled mould frames. Technology of X Russia will provide customers with high, quality controlled and automated output of special- and standard parts, for instance for large molds (i.e. automotive industry). With this division, X will be able to compete in larger international markets.

Alternative option: Exit strategy

Liquidation (X Group) to money by shareholders during the time period 2012 – 2015 either after confirmed, executable plans of the new production plans and its future prospects or after its completion. This option requires searching potential buyers willing to invest for a reason or another.

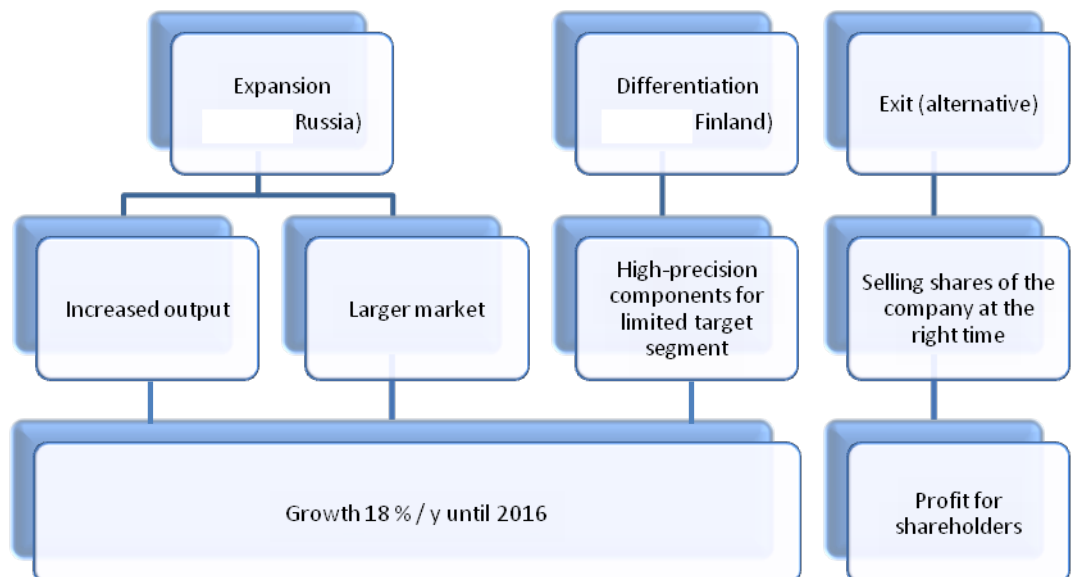


FIGURE 43: Main strategic directions.

5.2 Sales and marketing development plan

X's development of sales and marketing jointly with development of other operations strives at making the company a well-known producer of customer-specific (non-standard) parts in Europe and the biggest producer of both standard and non-standard parts in Russia. In addition, X aims at being the leader in service and quality in both market areas.

Phase 1: Marketing activities and tools

- Increased participation in exhibitions: Minimum 3 exhibitions in Europe and 3 in Russia as an exhibitor in addition to visitor (status) participation in 3 potential international events.
- New marketing material: Development of website, webshop, brochures, handouts, catalogs, product packaging and promotion material.
- Frequent publications and visibility in industry magazines.

Phase 2: Sales organization

- Establishment of the following positions:
 - o Vice President, Sales and marketing: coordination and implementation of sales and marketing strategy, acquiring new large-scale customers in Europe.
 - o Sales Manager: coordination, implementation and managerial duties of sales processes, order processing of E-product orders.
 - o Marketing Coordinator: marketing communication, market statistics, research, materials, and exhibitions.
 - o Account Manager: Located in Asia, in charge of new and existing customers in East- and South-East Asia, reliable person running a representative office.

Phase 3: Sales channel and target clients

- Russia: establishing branch- or representative offices in 2-3 cities where most potential customers are centralized
- Europe: Acquiring all together three Firm 1-size customers

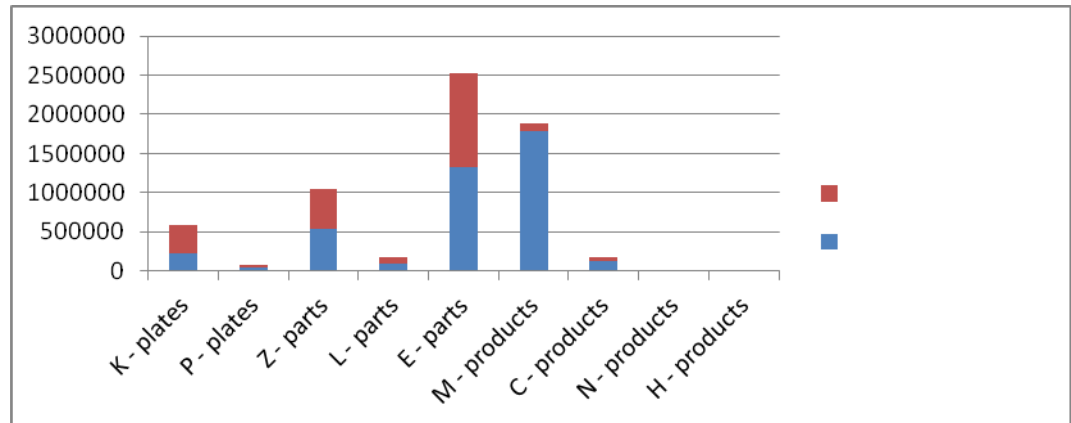


FIGURE 44: Sales 2010 X Group (modified from X database 2010-2011).

In 2010, most income derived from modules and special parts, clearly indicating specialities of the company. Most modules were sold to Firm 1 in Denmark employing the City B production unit most of the year. In 2011, Firm 1 is expected to purchase modules worth over EUR 2 million. By having only two Firm 1-sized customers more from Europe, X Finland would double its turnover. This is what most current on-going marketing efforts aim at besides emphasizing the company's world-class competitiveness with special plates and components.

K, P, Z, L, N and H (metal cutters) are X Russia's playground in its target market. Demand for modules and E - special parts of European requirements is quite small as toolmakers tend to manufacture themselves. Basically, most of the E-parts sold for over EUR 1 million by X Russia are standard parts (i.e. Z) with different dimension requirements that are used in Russia. However, a standart part becomes a special part at the very moment it is altered from its original form. X Russia has reached the capacity limits of current production, and therefore increase of sales is challenging. A new production plant and an expansion of sales channel are solutions for this dilemma.

Sales of cutting tools are expected to reach EUR 350,000 by the end of 2012. Marketing of this recently established product group is effective so that additional production personnel are needed in 2011. Customer base for C-parts is growing and with improved service concept, X can become competitive in the Finnish cutting tool markets. (Toth 2011a.)

5.3 Production development plan

Development of production aims at manufacturing of accurate and complex E- and ZE- parts (small special parts) as well as controlling production processes and the service concept.

Phase 1: Executable plans / Russia (→ 2012)

- High-automated production plant in City A
 - o Site selection, stakeholders and financing
 - o Cell production concept (attached production cells with industrial robots taking care of handling and transfer of parts)
 - o Technology investments
 - o Factory layout, blueprint, drawings

Phase 2: Implementation (2013 – 2015)

- According to plans
 - o Purchase of site
 - o Construction
 - o Equipment
 - o Personnel
 - o Processes
 - o Start-up

Phase 3: Production activity (2016 →)

- Increased output/capacity by modern equipment and automation
- Improved accuracy and quality control
- Light organization and personnel capable for multi-tasking
- Larger markets and customer base

In order to improve the current production processes (2011) the following actions are implemented:

- New 4-axis machining center for roughing and finishing in Russia to increase capacity (critical).

- Production planning and monitoring board to City B Unit to facilitate scheduling and reporting.
- Functional production management solution to City B Unit.

5.4 Product / service concept development plan

X main targets of product/service concept development are with C – milling tools product group and with choosing the right suppliers or partners for manufacturing custom-made components.

The company is planning a concept for shelving service for customer's who purchase C-cutting tools. Solution for such service concept is important for acquiring repeated sales by loyal customers. The purpose is to benefit from companies' unorganized purchase and storing system of milling tools by providing digitally controlled (IT-system) shelving and transportation service for unused, sharpened and used milling cutters all of which X can supply.

Choosing the right partners for a supplier network of customer-specific components aims at ensuring quality, delivery time, and price and minimized risk of information breaches. Amount of key suppliers will be limited to ten as to improve control and supervision.

The vital factors of service are delivery time (as confirmed) and quality. In order to fulfill both, it seems necessary to centralize production to own manufacturing by machinery and labour investments. Distant suppliers come with up to 9-weeks delivery time and uncertain quality. What's more, the price level of distant supplier network is rising (growth in living standards) with 15 % per year along with threat of unfavourable currency fluctuations of EUR – USD that would make purchasing from Country A even more expensive. It has been calculated that City B Unit, besides employing own domestic personnel rather than overseas foreign, it can produce special parts outsourced with lower costs through modern equipment and a more efficient production process.

5.5 Human resource development plan

In order to minimize staff turnover and improve productivity, X will a) have development discussions with each employee twice a year by immediate supervisor, b) have a career planning discussion with every new employee to discover opportunities (promotions, responsibilities, salary raise) and prospects from point of both participants, and finally c) start implementing motivating communication with employees in form of positive oral feedback.

For decreasing labour costs and succeeding lighter and more efficient organization, the company starts favoring multi-tasking and training employees for operating with a minimum of three machining centers / job descriptions when necessary.

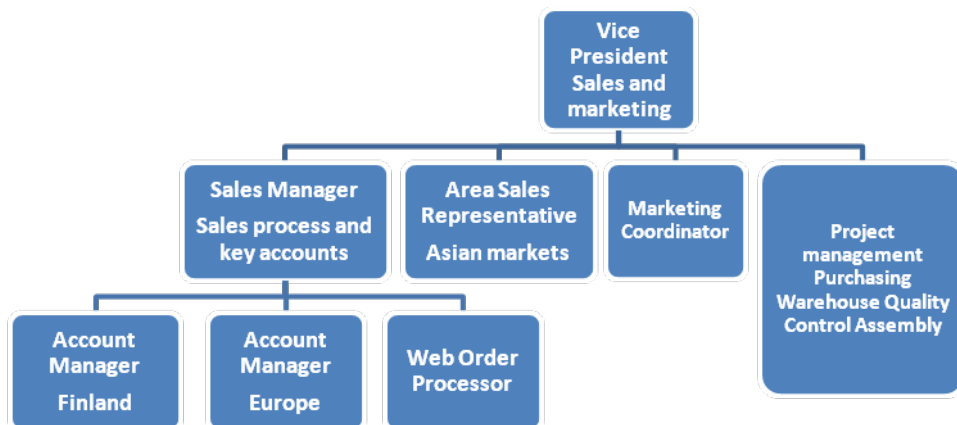


FIGURE 45: Suggested changes to sales organization.

The figure above indicates potential changes to sales organization. Sales organization is a key element in successful implementation of growth strategy. The person responsible for implementation of a strategy has to be supplemented with proper tools. In this case the tools are reliable and competent supply chain, motivated sales personnel for target markets and marketing efforts. Vice President as the key sales/marketing factor should be able to concentrate in potential clients and marketing events (exhibitions, negotiations) without interruptions from sales process (quoting, RFOs, order processing, scheduling with production, marketing material, etc.). (Toth 2011b.)

5.6 Financial plan

The financial plan is based on recommendations on content by Kari Kauppinen, Bank Manager of Nordea Corporate Services and computed in cooperation with Teemu Turunen, Managing Director of Profit-Visio. Economic forecasts are based on the following assumptions and objectives.

The group will be subject to a strong investment program aiming at improving capacity and profitability during 2012 – 2016. The investment program, amounting to EUR 13.5 millions (according to the financial forecast), contains production plant investment to City A with machine and equipment investments to City A and City B. Group turnover in 2011 is approximately EUR 7 million and during 2012-2016 should grow 18 % / year resulting in EUR 16 million revenue at the end of the period.

Machine and equipment investments are planned to be financed 100 % by external capital. Defaults of payback time in financing calculations are primarily five years (exceptions three years) for machines and equipment and 15 years for plant investment. 75 % of City A plant investment is assumed to be financed by selling the land currently owned by the company to Construction Company and remaining 25 % by new debt financing.

Computational annual interest cost of external capital in 2011 is forecasted to 4 %, 2012 – 2013 to 4.5 % and 2014 – 2016 to 5.0 %. The cycle time of working capital items is comparatively expected to stay at the current level during the whole investment program. In other words, the amount of working capital has been increased in relation to growth in business.

The key figure forecast in Table 7 indicates that from presented starting points it is possible to improve the profitability of the group significantly. Especially when measured by increase of turnover/capita (from EUR 70 thousand to EUR 160 thousand by 2016). This would mean that amount of human resources increased only by 10 despite the fact that turnover would double during the period. In turn, viability of the group would develop remarkably by rise of EBITDA %

from 12-14 % to over 25 % and by increase of net profit from 5 - 7 %a to nearly 12 %.

The fundamental goal of the financing structure of the group is to achieve equity % of 40 % by 2016. According to key figure forecast the equity % would neither decrease below 30 % during the investment program. Furthermore, free cash Flow for the firm (FCFF) can be maintained positive during the whole investment period as indicated in Figure below.

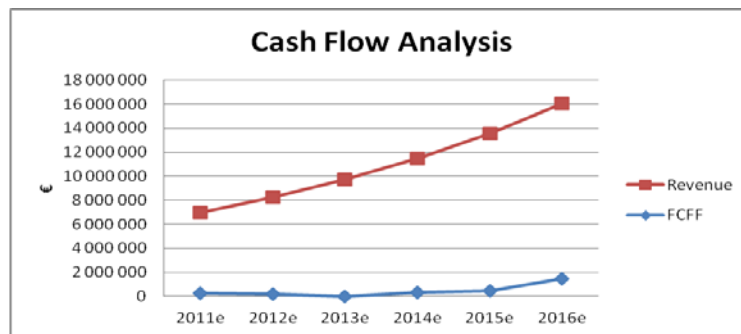


FIGURE 46: Forecast: Cash flow analysis of X Group (modified from Turunen 2011a).

The firm's EBEI / Net debt % in Figure 47, especially highlighted by investment banks, will experience some fluctuation during the investment period resulted by increase of EBEI in 2014 while investments of the year are small. Therefore, there is no need to take additional debt and existing debt can be reduced. The following year 2015 is period for big investments thus debt raises lowering the ratio.

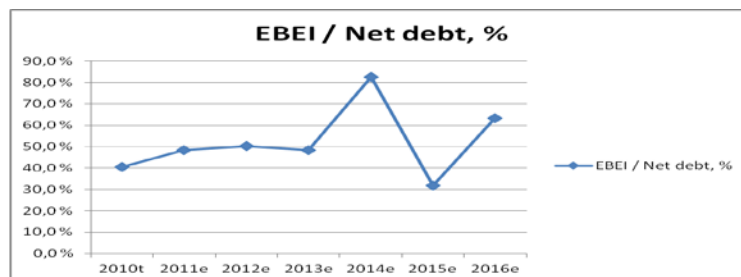


FIGURE 47: Forecast: EBEI / Net debt % of X Group (modified from Turunen 2011b).

TABLE 7: Forecast: Key figures of X Group (modified from Turunen 2011c).

KEY FIGURES (6 years)							
	2010t	2011e	2012e	2013e	2014e	2015e	2016e
VOLUME							
Turnover, 12 mth (EUR)							
Turnover change-%							
Personnel (average)							
Personnel (at end of period)							
Turnover / capita (EUR)							
Value-added							
Value added / capita(EUR)							
PROFITABILITY							
EBITDA, 12 mth							
EBITDA - %							
EBIT, 12 mth							
EBIT - %							
Net profit, 12 mth							
Net profit - %							
Capital invested (at the end of period)							
Return on Investment-%							
Return on Capital Invested-%							
LIQUIDITY							
Quick ratio							
Current ratio							
SOLVENCY							
Net debt							
EBEI / Net debt, %							
Equity %							
Relative indebtedness							
WORKING CAPITAL							
Working capital							
Working capital - %							
Inventories / Turnover-%							
Sales receivable turnover, days							
Account payable turnover, days							

5.7 Risk analysis

Potential risks associated with the case study are the main emphasis in this section. Each risk identified is suggested a solution for in Table 8 in the following manner.

TABLE 8: Risk analysis based on threats and case study.

RISK	RESPONSE
The world's economic situation, crises and their reflections to Russia	Striving for increased amount of income from export and wide international customer base
Russian markets could be lost to competitors who decided to make large investments	Construction of high-automated production plant in City A, Russia to provide enough capacity to satisfy customers' needs
Worsening of X's standard part business in Finland - increasing precense and market share of foreign competitors in Finland (Hasco, Meusburger)	Differentiation strategy (high-precision customer-specific components) in Europe. Standard part markets are already in hands of large, specialized companies with big stock.
Current state of ZAO X-A production	Urgent investment to 4-axis machining center, improved quality control and construction of high-automated production plant
Machining crashes in City B	Impossible to affect in human error
Prolonged delays might seriously damage high-scale customer relations	Realistic scheduling of production, project reporting by production management, keeping schedules at all costs
External suppliers for special plates - expensive and unreliable	Decreasing the amount of outsourced production of special plates – machining to own production
Customer's unreadiness to buy small special parts	Marketing activities by sales and marketing personnel, exhibition visibility, time
Disclosure of classified information by suppliers, stakeholders and departing employees	Decreasing the amount of suppliers, discussions of concern and revised contracts with stakeholders and employees
Transfer of outsourced tool production to Asia by large European customers	Striving for competitive pricing, quality, delivery time, logistics and service as customer's will rather by near than far

6 CONCLUSION, FINDINGS AND RECOMMENDATIONS

This chapter gathers and evaluates the data and findings made up to now and based on them, recommendations for the research questions stated in the beginning of the thesis are presented. Significantly, both the author and Mr Managing Director of X Group will share their thoughts concerning the future prospects in the mold industry. At the end of the chapter, a few topics are suggested for future research as several aspects are excluded in this study.

6.1 Research questions and answers

TABLE 9: Research questions and answers.

Primary research questions	
1. What does the company want to be?	X Group aims at being the leading standard part supplier in the Russian and near-by markets, and the leading precision-manufacturer of the most demanding customer-specific parts in Europe. New primary market segments will include automotive, aerospace and aviation industries. Expected turnover in 2016 minimum EUR 16 million.
2. How does the company plan to achieve that?	Growing by 18 % yearly in Europe by differentiating in precision-manufacturing (E-special parts) only, and in Russian markets by pursuing competitive advantages over the markets with affordable pricing (low material costs, automation), short delivery time (capacity,stock) and quality (modern machining centers, quality control)
3. What to do to achieve that?	Investing in an effective, precision-specialized (0.005mm) production unit in Finland for the most demanding (accuracy) customers, and in completely new high-automated, high-output (0.01 mm) production plant (P-, K-, E-plates) in Russia.
Secondary research questions	
1. Where is the company now?	Expected group turnover for 2011 is 7 million € This is realistic especially due to ZXA's growing sales volumes. Group's produc-

	<p>tion capacity reached limits, production's full. Requires immediate machine investments in order to keep orders inside.</p>
<p>2. Operational environment now and in future?</p>	<p>European markets transforming to custom-part (E-products) oriented due to a need to specialize because of growing quality demands and competition. Toolmakers concentrate on their core-competences outsourcing secondary processes. This is the fundamental of X's differentiation strategy (0.005 mm). Russian markets are transforming from self-manufacturing into more specialized production and outsourcing since companies cannot afford producing everything themselves as in the Soviet times.</p>
<p>3. What investments to make and why?</p>	<p>2011: 5- or 4-axis machining center for ZXA for E-part production to help with capacity problem. Budget 500,000 € Should enable 15 % annual growth until 2015.</p> <p>2012: No investments. Time for increasing cash reserves.</p> <p>2013: Precision machining center to City B Unit to decrease purchases from Country A. Budget 600,000€ Building a new production plant in City A scheduled to start (1st quarter of 2013). Budget 5 million €</p> <p>2014 - 2015: Machine and automation investments for new production plant. Budget 5 million €</p> <p>2016: Automation investments in City B Unit. Budget 2 million€</p>
<p>4. What risks might the future brings?</p>	<ul style="list-style-type: none"> • Competitors' growing presence in Russian markets. For example, Meusburger might decide to invest 50 million € to Russian markets before X and therefore take the markets. • Risk of Country A suppliers selling directly to X's customers regardless of mutual contracts. • Crashes in machining (delays, expenses). • Losing standard part markets in Finland due to insufficient stock and stock part sizes. • Firm 1's low growth forecasts and/or decision to change a precision-supplier because of X's problems with the consistency of quality.

6.2 Author's comments on future prospects

European standard part markets are clearly controlled by 6-7 large companies that have existed for a long time period. The X Group has maintained strong position in Finnish markets since 1990 and has been able to satisfy customer needs by its good domestic service and Webshop. For years, X's presence has complicated market penetration in Finland by the "giants" (Strack, Meusburger or Hasco) until now.

Finnish distributors of these giants are taking the market with three competitive advantages; price, quality and delivery time, which can not be responded to X's current resources. Challenging these giants and their core competences would be too expensive and too risky. Merely by size, these competitors are able to affect, sustain and control their supply chain effectively to ensure their competitive advantages.

X as an SME has to adapt and differentiate. Positively, the company has launched a new programme for plate stock sizes. These sizes are the most sought after Finnish toolmakers. Combined with good webshop and existing customer relations, X should be able to maintain its market share and EUR 1 million standard part businesses in Finland.

A differentiation concept for European markets seems rational and profitable as soon as it becomes reliable. The number of competitors among the most accurate manufacturers is small. Difficulty is the reason. Precision-production of ± 0.0025 mm seems to require 100 % specialization and only a handful of CNC machine brands can deliver such fidelity. The mentioned "giants" have consciously not gone to this due to the difficulty and risks.

Russia might be the promised land of mold component markets. Large companies already have been knocking the ice through local distributions but logistics between Europe and Russia is a challenge due to customs byreucracy. It takes well-established logistics, relations with the customs and penetration from the inside to make deliveries successful. Aside from X Group's several strengths, its wide cus-

customer base still plays a dominant role in a succession. Still, capacity remains a problem, for now.

6.3 Managing Director's comments on future prospects

The fundamental for X's business has been a constant renewal of the business to secure continuity. They have continuously recognized changes in both domestic and export markets, thus being able to create new product and service concepts rapidly and competitively. In the future, they continue focusing on development and follow closely the domestic, European and Russian markets where X has a stable position.

Among the company's essential market segments, the financial environment is expected to remain stable and the economy expected to continue growth. X's biggest customers in the toy and cosmetics industry, unaffected by the recent years' poor economic situation carried the company through recession with relatively small consequences. They strongly believe that a good growth within these industries will continue and X's business will grow along with it. Response to competition is differentiation as a strategic decision.

Impacts on the business environment of different economic crises taking place around the world are key risks for the business. In addition, unplanned interruptions (crashes) in production may affect in realization of business objects and therefore must be prepared by updating software and processes.

Autumn 2011 and spring 2012 is a period for planning significant development of X Group. Development planning, investments and financing are carried out by professional consultants from required fields (construction, finance, technology, production automation, risk mapping and business/market planning). This business plan serves as an updatable basis for investors and the planning.

6.4 Recommended future discussion and research

The following subjects have been identified as recommendable targets of future research during the learning process dealing with the company's current and future operations.

1. Consequences of Russian business culture and its effect on ZAO X A
 - Possibility of corruption inside the company and within supply chain (kickback, own businesses, reliability of book-keeping)
 - Identification of risks
2. Action plan against probable disclosure of classified information to Country A suppliers
3. Potential benefits of employing an Area Sales Representative to Asia
4. Survey on brand image among stakeholders
5. Plan for implementation of exit strategy
6. Development plans and feasibility study for each product group separately
7. Feasibility study for production investments to Russia

7 SUMMARY

This thesis identifies several research questions based on research objectives established by the case company which is facing a challenge in future growth. The objective of the thesis is to provide a five-year (2012-2016) business plan with development plans which support the defined strategic decisions based on the company's vision and objectives. Furthermore, the author is required to identify investments, weaknesses, financial perspectives and risks for the period in concern.

Research questions are connected by the author to the main elements of business planning according to Finnvera 2001 – business planning model. The elements are the company's current situation, operational environment, vision, objectives, strategies, development plans and risk analysis. Business objectives set by the corporate management and the board require investments in order to be accomplished. Investments require external financing and financing requires financiers. These factors are taken into account in attempt to answer the research questions. All research questions are successfully answered throughout the thesis.

The starting point is the expected group turnover of EUR 7 million for 2011. This revenue can be achieved by the growing sales volumes of ZAO X-A. The growing sales volumes have revealed limits of production capacity. This, in turn, calls for machine investments to increase the capacity in order to satisfy the market demand.

Transforming European markets force companies to concentrate on their core competences, in other words, to specialise. This applies to the case company too as far as strategic planning is concerned. Specialisation to manufacture accurate customer-specific parts is the company's choice to compete in Europe. Whereas European markets develop to outsource custom manufacturing, Russian markets are a step behind evolving to outsource standard part production. Companies simply cannot afford to produce everything themselves anymore because of rising standards of quality and tougher competition.

The case company attempts to acquire competitive edges by differentiation strategy in Europe and by expansion strategy in Russia. In terms of turnover, the goal is to grow 18 % per year until 2016 which would result in over EUR 16 million. The company's main tool for development in Russia is establishment of a new, automated, high-output production plant in City A supported by a geographically expanded sales channel to take the markets. In Europe, also by significant investments, the solution is to compete through superior production precision of ± 0.0025 mm limiting the number of competitors to a few.

The outcome of the study indicates that future vision and objectives for growth and profitability are possible if the firm avoids the identified risks and succeeds with external financing of the required investments. Realisation of sales objectives which is the vital factor for implementation of plans requires sufficient tools. The identified tools are sales/marketing resources and a competitive, reliable supply chain able to operate according to strategic decisions. The financial plan sets concrete checkpoints for tracking the development and should positively impact on ensuring the funding.

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APPENDICES

1. List of current production equipment (City B Unit)
2. Production processes
3. Financial information
4. High-automated production line concept 2011

List of machines (City B Unit)

3-axis milling machines:

- 1 pcs Avia VMC800 (roughing)
- 1 pcs Yasda YBM 950V3 (finishing)

5-axis milling machines:

- 2 pcs Mikron HPM 1000U (roughing and finishing)

Grinding machines:

- 1pcs LGB R12070SM
- 1pcs Degen FS-S 4080

Milling cutter grinding machines:

- 1pcs Walter Power Production
- 1pcs Rollomatic Grindsmart 620xs

Milling cutter measuring machine:

- 1pcs Walter Toolcheck

Coordinate measuring machine

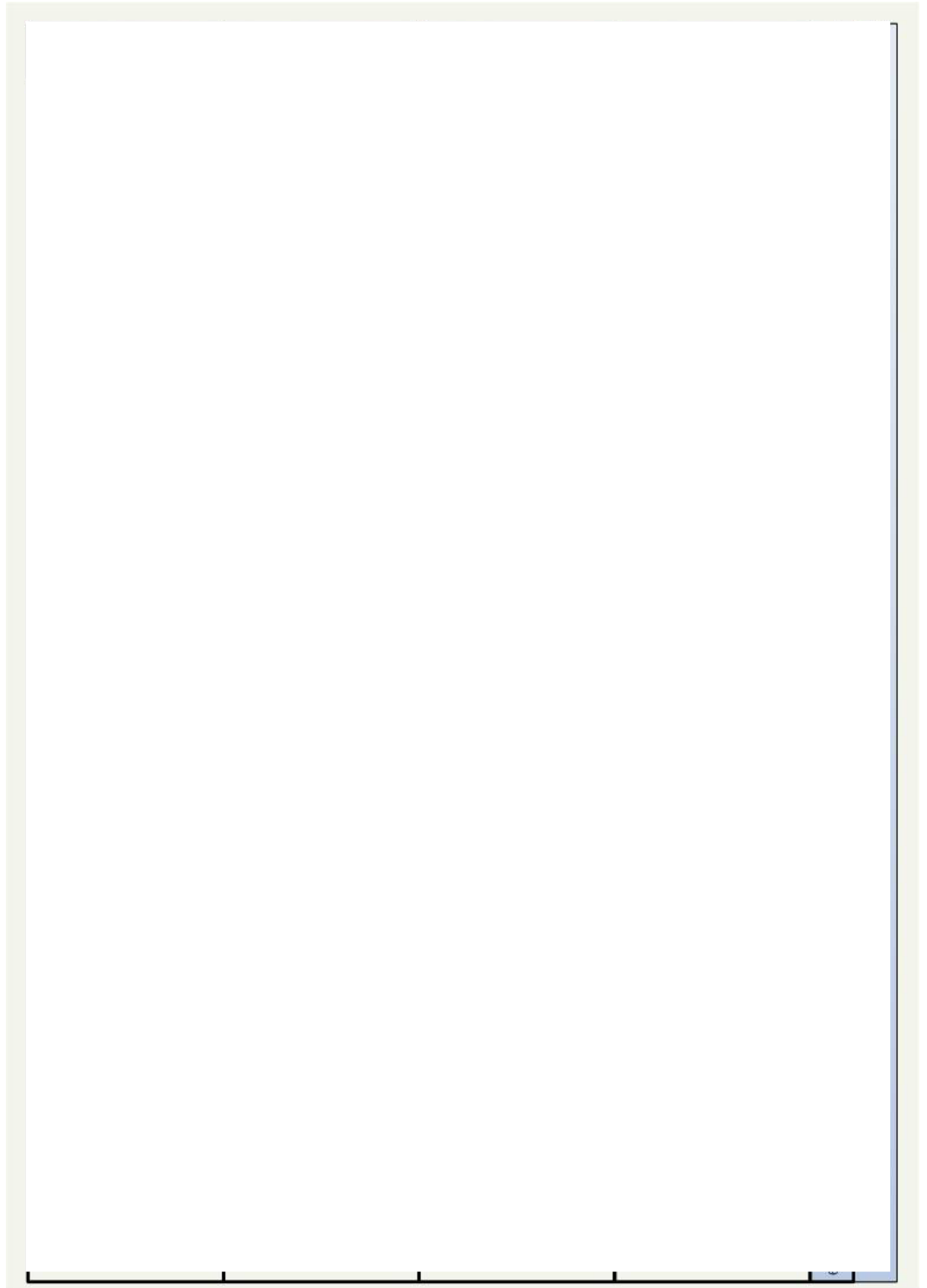
- 1 pcs

Other machines:

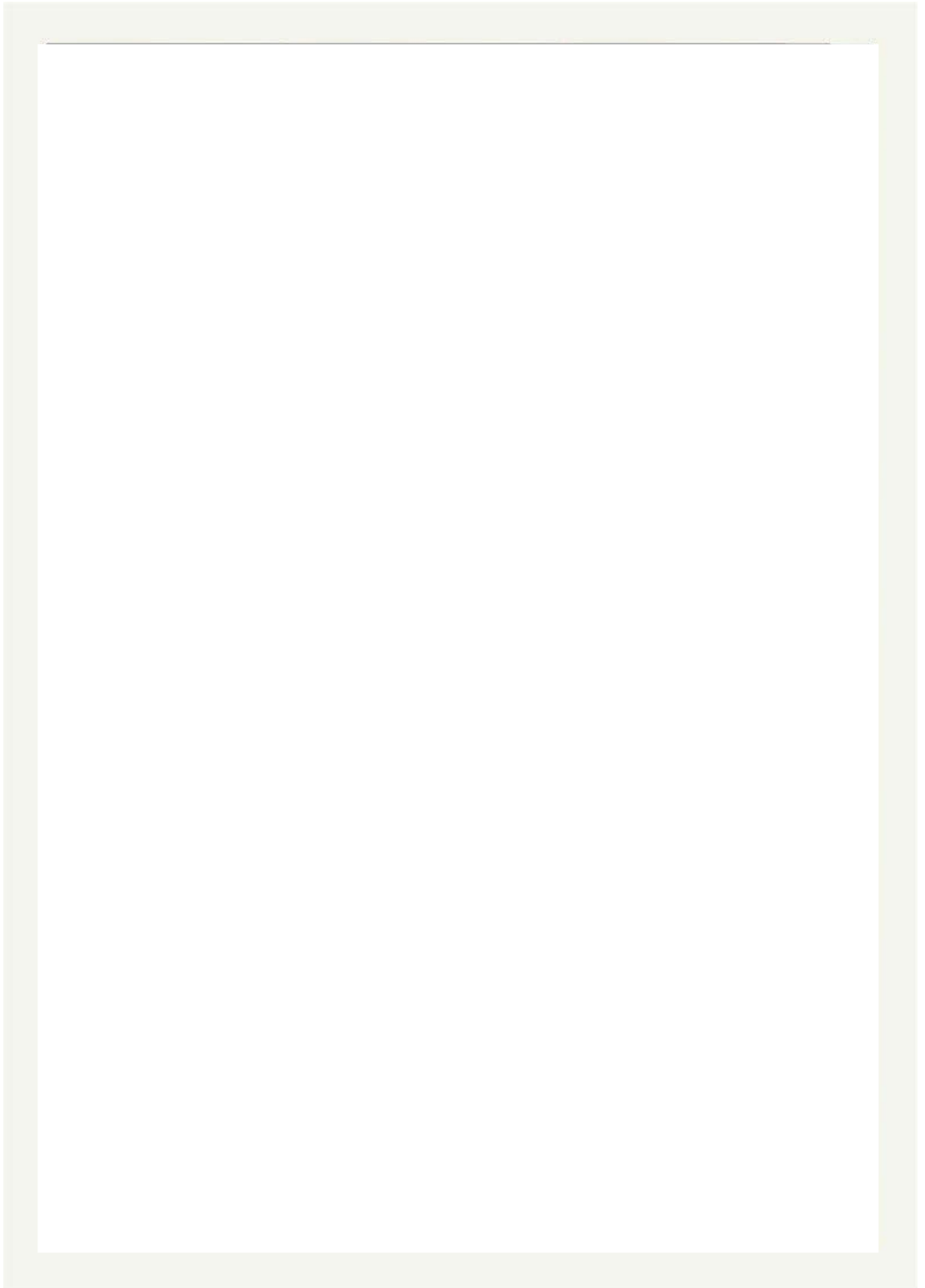
Billet saw

Lathe

Production processes 1



Production processes 2



Production line - concept



