

ANNEXES

A ANNEX I

PEST Analysis

Political Environment

Czech political scene is relatively stable. Since 1989 velvet revolution the democratic system with a signatures of developed country appeared. According to regular changes in a leading country parties the support of companies became one of the important parts of party program mainly for right oriented parties. For instance act 47/2002 which contains support of small and medium sized companies. This law comes up from an important role of these companies which have a significant impact on Czech, even the regional and lower instances economy.

Companies without any difference has to act according to civil and commercial code, trade act, law on Income tax and labor code. Company has to take to an account ensuing acts of the Czech law framework which influence them either positively or negatively:

- Act no. 513/1991 Coll. Commercial Code and amended regulates the status of the company e.g. Terms of business form, in terms of contractual relationship, etc,
- Act no. 586/1992 Coll. the Income Tax Act and amended - provides business entity, as a large part of the profit has to pay into the state budget,
- Act no. 235/2004 Coll. of value added tax and amended – company with turnover above 1. 000. 000 CZK from its activities is a payer of Value Added Tax,
- Act no. 563/1991 Coll. Accounting and amended - the law firm establishes the scope and manner of keeping with the requirements of its relevance,
- Czech Accounting Standards for reporting entities that are recognized pursuant to Decree no. 500/2002 Coll. and amended - accounting standards are achieved in accordance with the accounting methods of accounting
- Act no. 262/2006 Coll. Labor Code and amended - defines relationships in the workplace and that between employer and employee.
- Personal Data Act no. 101/2000 Coll., On protection of personal data and amending certain laws, as amended.

As the SDC operates worldwide the impact of European law is obvious. Mainly the export restriction in more detail described by regulation based on article 215 TFEU and Decisions adopted in the framework of the Common Foreign and Security Policy. European Commission also participates in a development of a lot of projects, supporting small and middle enterprises and motivate them to participate, cooperate to develop their entrepreneurial activities. In this way it's necessary to not omit EU funds and Funding bodies such as EU's Horizon 2020.

From the taxes the most important index is a value added tax. In Czech Republic, under the law SDC is operating, the three main tax rates were founded by Czech Government entities.

- The standard VAT rate is 21 %
- First reduced VAT tax rate is 15 %
- Second reduced VAT rate is 10 %

The standard VAT rate in a 21 % level is the most important for company, this is the most usual type of VAT enforced in a payment process.

Tax on corporate income is one of the two payment income taxes in Czech Republic. In a last decades the income tax on corporate income rapidly decreased. In year 1993 where the tax reached 45 %, to current 19 % tax, which is more motivating to establish a new enterprises.

Companies with employees are definitely influenced by social and health insurance, which are obligatory and significant part of company costs on employee. The total costs for Employer is 25 % of the employee's salary. 2,3 % Goes to health Insurance, 21,5 % to pension insurance and rest 1,2 % is a subsidy to State unemployment policy.

Company is also influenced by a tender conditions, which difference by an individual project. Every country underlies under a different legal framework and the selection procedure participant. Therefore legal framework and business contract conditions has to be taken to an account according to the local directions and laws.

Czech Government besides support a startup companies and help to commercialize a university researches and development. One example for all is South Moravian Innovation center who connects entities through the South Moravian Entities, as their mission is to connect, support, innovate and build a strong entrepreneurial ecosystem and make a link between University researches in combination with a market competitive solutions.

Economic factors

One of the most important from the economic index is Gross domestic product (GDP) in third quarter of 2015 real GDP growth was 0,7 /, in a year-to-year comparison is 4,1 % higher. Current GDP in an absolute value for 2014 was 205,22 Billions of US dollars. Country thus belong to developed economic countries comparable to western countries. Real added value growled by 1,2 % in a quarter 3 2015 in compare to quarter season.

The consumer price index (CPI) in December compared to previous year rose by 0,1 . November to December change was change was caused mainly by food, non-alcoholic beverages and transport. The average inflation rate as a measure by the increase in the average consumer price index in the twelve month in 2015 in a

compare with the same season in a previous year was 0,3 %, but in services inflation level reached 0,8 %, and prices of goods remain unchanged.⁴⁹

The inflation rate for 2015 was at the 0,3 % value, which is the lowest inflation rate since 2009 and the second lowest in the history of independent Czech Republic. Low inflation rate is mainly the consequence of a global decline in price of fossil fuels and the overall low inflation rate around the world.

The labor market is mirrored in a positive evolution of employment, a year-to-year increase has been 1 % through all four seasons of the year. The unemployment in Czech Republic in a third quarter declined to a final 4,8 %, which is the second lowest in the EU after Germany. The amount of people employed has annually raised by 1,8 %.

The average salary at the end of the year 2015 was 28 152 CZK this is the year to year raise by 1046 CZK which is 3,9 % change. If the real salary is counted, the annual change is 3,8 %. The more significant index is the salary median which was 23 745 CZK. In comparison with other European countries Czech Republic acts as a country with lower salary per one employee, thus is often a target for a new Headquarters of international companies, especially in IT, accountant and manufacturing fields.⁵⁰

The surplus of the current account deficit for 2015 is likely to reach 1.2% of GDP, which would be the highest figure in the history of the independent Czech Republic. Many of these indexes might be distorted by EU subsidies for seasons 2007-2013 which were usable till the end of 2015. Thus the raise in these indexes might be one time raised.⁵¹

For interest rate is important the National bank behavior. Mainly three rates are the most important for a commercial bank policy. Two-week repo operations and deposit facility both are on a lowest level in the history of Czech Republic at 0,05 % rate. The marginal lending facility is a bit higher with 0,25 % rate. The lower these rates are, the more economy support the environment for enterprises, thus Czech National Bank tries to restart economy after a depression appeared after year 2008. The money supply M2 has increased to 3 688 317 CZK millions CZK in February 2016.

The trade balance in Czech Republic is positive, that means a Czech Republic exports more than imports. The highest value of balance of trade was in the beginning of 2016 in January with a value of 54 912 millions of CZK and mildly dropped in February 2016 to 42 159 millions CZK. The current account showed a surplus of 14,6 billion in 2015. An outflow of financial account of funds in a net lending was 42,2 billion which increased assets and decreased liabilities. The current account surplus was 0,9 % GDP on an annual basis owing to a goods and services surplus 6,4 % GDP. For a Czech Republic the direct investments of 2015 were 21,8 billion

⁴⁹ MRAZEK, Jiri. Consumer price indices - inflation - December 2015, 2016

⁵⁰ HOLÝ, D. Průměrné mzdy - 4. čtvrtletí 2015, Czech Statistical Office, 2016

⁵¹ Ministry of Finance. Makroekonomická predikce - leden 2016

by the loan provided to entities via direct investor's groups. Czech Republic is a net exporter of ICT services.

The trend of business made is obviously the EU. Czech companies export within European countries in 83,4 % in the rest with a non European countries mostly US. The most important partner in an export is Germany (32,6 % of EU export), followed by Slovakia, Poland and United Kingdom which are all above 5 % level. Significant for a European export are Austria and France, the other countries of EU make 21,9 % of EU export.

Social factors

Czech Republic grew to 10,553 population in 2015, the growth is not the consequence of population growth in meaning of a higher number of birth but mainly the source comes from abroad, which compensate a high number of deaths. Population in 2015 increased by 15,6 thousand.

The average age is 42 years which a slight increase. Demographical ageing is one of the social problems EU has to face. The birth rates are low and the life-expectancy is getting higher and higher. In Czech Republic life-expectancy is 75,8 years for man and 81, 7 years for woman.⁵² The result of ageing is the number of economical active percent of population is shrinking while the number of retired is expanding. This is the consequent of post-war-baby boom, the babies are currently getting a retirement age. The prediction is that the tree of age distribution is growing and treetop is blooming. The prediction of situation is obvious from the upcoming figure.

Prime reason of the population growth is a number of immigrants. Almost thirty-five thousands of foreigners moved to Czech Republic in 2015, which is less than in 2014. If we would compare it with the highest number of deaths since 1993, actually 111,2 thousands of deaths in 2015, with a 110,8 thousands of birth in the same year, despite all Czech's population increased. Thanks to this population of Czech Republic didn't suffer a decrease in population, but an increase by sixteen thousands citizens. These immigrants comes mainly from Slovakia, Ukraine and Romania. Europe is facing the wave of immigrants from the Middle-East countries, mainly Syria and Afghanistan, Iran or Iraq, there are still a deep disputes how this wave of migration will influence the european social behavior, rates and indexes.

Hand to hand with an increasing level of living standards goes a knowledge leaders. Every year over eighty thousands of students end up with a university degree, woman in 60,7 % and rest belongs to men. The main students' stronghold is Prague and Brno, two biggest cities in the country, in Brno the biggest University according to a year absolvent rate lies – Masarique University with almost ten thousands of absolvents every year. The popular phenomenon is to study abroad which helps an EU integration and is used over 3 % of overall amount of Czech Students. They often use an experience from an international field as an advantage

⁵² SKRABAL, Josef. Population change - year 2015, 2016,

on a labor market. The important share of a student from abroad are using a Czech Universities as their source of education. 11,2 % of all students studying in Czech Republic are from abroad. The OECD average of citizens with tertiary education is 25 %, unfortunately Czech Republic is still below the average, but the trend is raising and it tends to this rate level.

In IT industry the main position has been taken by men, ladies are in minority, but their main advantage is high knowledge. Generally the IT industry has been raising last decades. Nowadays over 150 thousands of IT experts work in the field. In 2013 over 22 thousand of absolvents in IT field left a school, which were barely 6 % of all absolvents this year. IT industry became a highly requested industry with an appropriate salary.

Overall the computing skills are raising across the Europe. Czech population internet skills are on a raise trend, the more and more people are able to work with information technologies, search or send emails. Generally with the increasing age, the IT skills decreasing, the men are more skillful than woman. 81 % of people aged from 65 – 74 are able to use internet browsers this index is raising and the youngest group 16-24 years is able to use this technology in 98 %.

The Czech entrepreneurs since transformation done in 1993 found a new success factors between which belongs an ethic. Companies have a strict etic codex which is known across the whole company and helps to develop a strong brand behind it. Also the behavior of companies to employees raised and put more efforts to convenient working conditions.

Technological environment

Information technologies became a wide world spread trend. It is one of the fastest developing industries in the world. Companies manufacturing goods and services in this industries became an international game makers and investing in these companies became the most vulnerable and highest yield investment possible.

The big data are the huge amount of data, mostly the user want to search in this data some useful information or process them in a certain way and use results for another process. The amount of data created and the prediction of growth is obvious from figure 16.

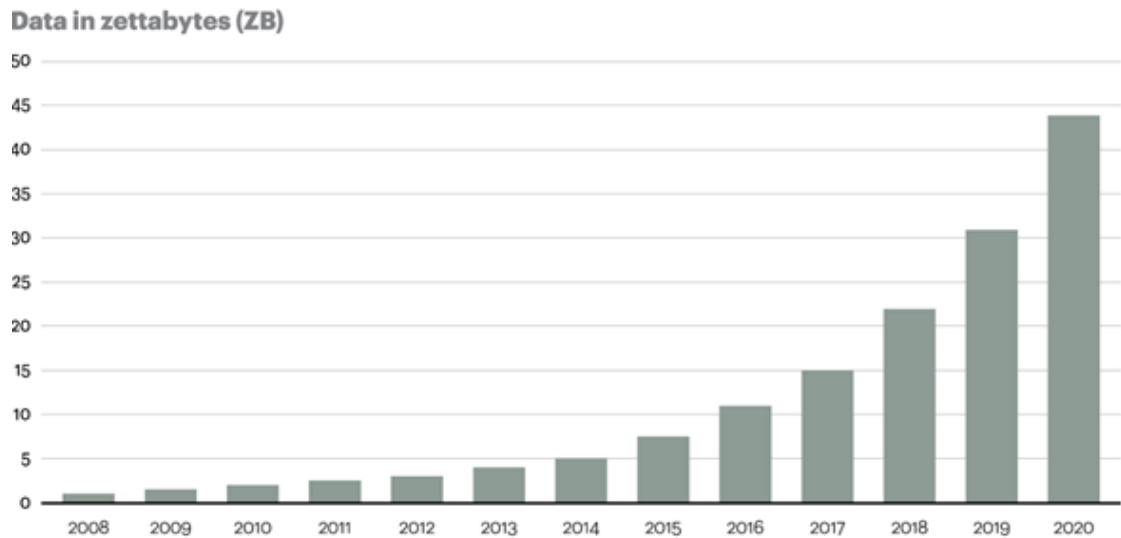


Fig. 15 Data generated per year

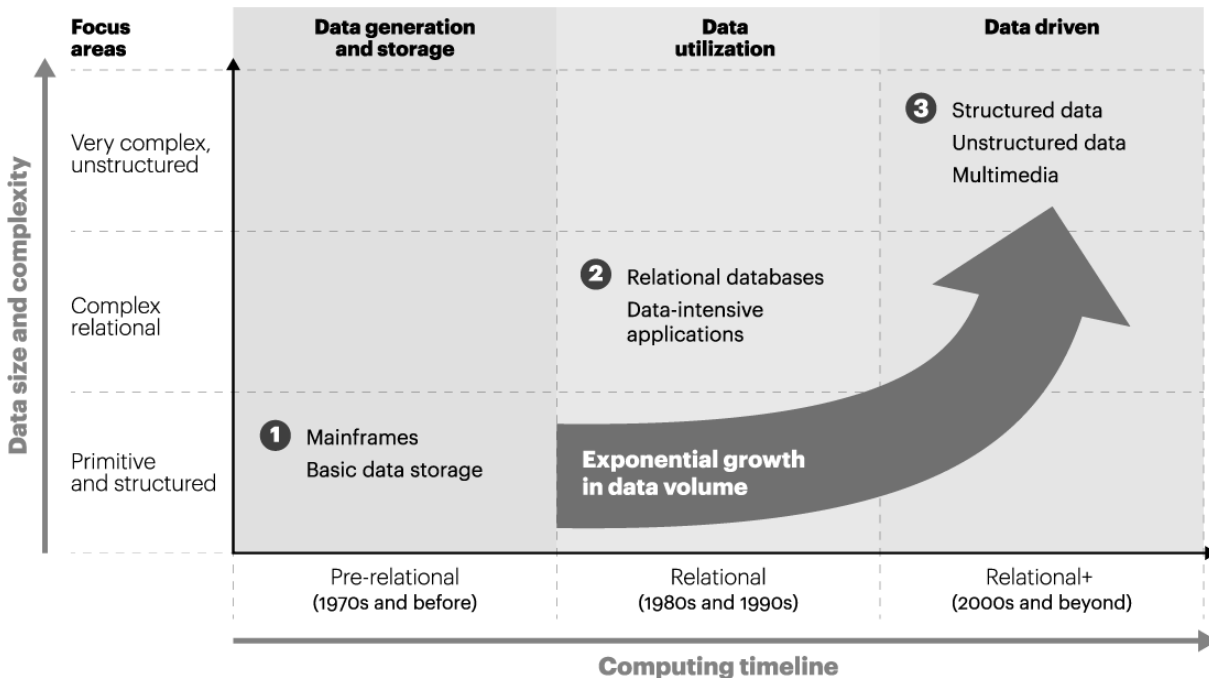
Source: CIOBO, Marco. *Big Data and the Creative Destruction of Today's Business Models*

Schumpeter summarized the growth of data a Big Data in his article called “Big Data and the Creative Destruction of Today's Business Models” based on these statistics:

- Every day, 2.5 quintillion bytes of data are created, with 90 percent of the world's data created in the past two years alone.
- Data production will be 44 times greater in 2020 than in 2009.
- The volume of business data worldwide is expected to double every 1.2 years.
- Wal-Mart processes one million customer transactions per hour, stored in databases estimated to contain more than 2.5 petabytes of data.
- The enormous data influx is straining IT infrastructures. In a recent survey, 55 percent of executives said data is slowing down their IT systems.
- Poor data management can cost up to 35 percent of a business's operating revenue.⁵³

⁵³ CIOBO, Marco. *Big Data and the Creative Destruction of Today's Business Models*, 2013.

Figure 2

The evolution of big data

Source: A.T. Kearney analysis

Fig. 16 The evolution of big data

Source: CIOBO, Marco. Big Data and the Creative Destruction of Today's Business Models

It is not a surprise the big data became a hot topic. According to A. T. Kearney IT innovation study, over 45 % of companies have implemented a business intelligence or a big data initiative within last two years. Furthermore over 90 % of fortune 500 companies will have at least one Big Data initiative in an upcoming year. Building capabilities in this area will improve performance in traditional functionalities and parts of the market, but also make a market niche for new products and services. Devices are now more capable to store and process big data with more complexity. The evolution describes figure 17.

The globalization allowed technologies to spread easily across the countries with a different cultures. The main trend in a last few years are smart devices. Mainly the smart phones become easily approachable even for the lower developed countries and some companies focuses on a low-end-price models, thus smartphones became available to almost everybody.

The smartphones are probably the flagship of the smart devices, but the more and more used are also the smart homes. Performance of almost any equipment of your home became a smart, therefore you are able to withdraw data and control your home. Equipment from lightning bulbs, through the electric sockets to fridges,

television to window controlling system, everything became a smart. Even the cities started to use a smart systems into the city equipment. Smart trashes is just a smallest piece of possible usage of smart devices, even the whole schools or libraries are now not a future idea, but reality.

Cloud based solutions and cloud storages are another trend of last seasons. Cloud computing rapidly decreases a hardware requirements of the company, thus it might also lower the total financial requirements for a starting companies. Cloud base solutions might be used as a storage as well as processing capacities. Rightscale.com has made a survey, where asked an IT experts about using cloud solutions. Companies are using either private based clouds either the public clouds according to nature of business plan.

The public security is more and more the issue and governments starts to take this issues seriously. Development of new tracking technologies are at the dawn. Security agencies now track not even the communication, but also searching for a fraudster and publicly dangerous persons via face, speech or other recognitions to avoid any risk.

All the processes with a developing IT background are getting more and more automated than ever before. Corporates are moving from a human resources management to informational systems, robotic solutions and automatically manufacturing.

B ANNEX II

7s Model

7s Model should analyze an internal environment of company and thus identify its strengths and weaknesses.

Strategy

The goal of the company's strategy is to help clients, customers and partners to mine as much valuable information from a spoken word as possible. To reach this goal SDC uses a close cooperation with one of the world most famous speech research groups Speech@FIT.

To keep a great working environment between the colleagues and fair business conditions are the key of the company's business strategy. Close contact with some customers/partners is harsh to maintain due to a worldwide service provision. The product or solution has to make a customers and end-users needs, often this solution requires a difficult methods which might complicate an easy end-user experience. High flexibility of company and full portfolio are the key elements which are the weapon in a negotiations.

For the partners and customers it is sometimes difficult to implement technologies, therefore help with implementation, evaluation or testing is often required. For this tasks mainly internal powers are used, but it may decrease capability of development teams. SDC is focused and addicted to the human resources, which are the key element of its business. The business goal is to make a profit according to last year's results and market growth.

To distinguish from a competitors, SDC till these days tried to build a solutions on the top of its technologies. Solutions are designed mainly for the end users, so the company have to maintain a broad scale of customers. Company is good in development of new algorithms and ways for a speech technologies, one of the few providers in the world, but the number of new players is increasing.

Since SDC is mainly technological company, the marketing efforts were lowered to minimum, or necessary costs as a marketing promotion, websites or exhibitions. Building of a good and strong brand awareness is in the background on a list of preferred activities.

Company is using internal resources to reach most of the tasks except a few outsourced services or products. According to the previous analysis it is possible to mention mainly the services in the mobile provision field, accounting or renting the office.

Structure

SDC is fully owned by Czech stakeholders and it is trying to avoid any external capital involved establishes as a limited liability company. Company is using staff and line organizational structure. Therefore the head of the company is CEO who is

responsible for a results to stakeholders, is one of them as well as one of the founders. CEO is the also responsible for keeping connections with an important customers.

Than the employees are divided into teams according to the job description and the project. Every project or solution has its own team working to develop, help to implement or sell the appropriate technology. Also the core technologies script is built by the two teams of pure developers which are working only on a content of the core on which the technologies are built, there are two teams working on this. Last but not least is the sales team which is responsible for a contact with customers and partners.

Every team has a leader, somebody who is responsible for a team's performance. Leaders has to be informed and synchronized across the team structure, therefore synchronization meetings on a week basis are required.

On the leader management level the company road map and goals are given, supported by the strategy how to reach this goal and what capabilities has to be allocated on them. Every team leader than has to solve and allocate appropriate resources to reach its goals.

Communication is mainly done by the internal information system, which is the essential tool to keep everybody informed about company processes. Secondary the company is still small and the sharing of the information comes mainly in a spoken form in person.

Skills

SDC is a technologically based company, the main pressure is therefore made to develop the best possible speech technologies and the products on the top of the technologies which allows to make a speech analytics and withdraw information from a spoken conversation. To develop the technologies and solutions the high skill requirements are set. Therefore the high appreciated skill and the advantage of the company is the knowledge of its employees.

Company is using mainly the fresh absolvents as the resource of a new forces into its capabilities. The sharing of experiences from senior positions is highly required. Since the company's industry is very specific it is necessary to educate a newbies and growth them for a more responsible positions.

The education is one of the crucial issues, sharing the information and knowledge across the company is one of the main factors. Staff development is the company task and internal/ external trainings are often realized to bring more knowledge mainly to the junior positions. The low level of documentation about processes and methods has been notified.

For the appropriate solution able to be competitive on a market also the opinion of end-user is needed. Company identified the lack of end-user experience. The difficult implementation of the technologies might create a border between manufacturer and end-user or any other parts of the market chain which comes to the process.

Share Values

The mission of SDC, as it was mentioned before, is to mine information from speech and make it easily accessible to everybody. The vision how to achieve this goal is to make company's technologies simple and accessible with satisfactory end-user experience getting appropriate quality of results. This goal is well known across the company structure and everybody is aware what the company goal is.

The company is based on a fair dealing inside and outside of the company. Fairness is one of the most emphasized ideas in SDC. The cooperation inside the company is on a day-to-day personal meeting of every single employee with each other. Ethical behavior in internal environment, between colleagues, and moral responsibility is faced in the external communication to other subjects.

As the company is still a small subject, the out of work meetings are highly supported and few times in a year special events are made. Mutual breakfast, anniversary or a 3000rd row of the script or colleagues studies end are celebrated as the success of the whole team, therefore has to be celebrated also across the company. Great relations between workers are the very essential value of the company.

Relationship with partners and customers put an emphasis on an information sharing, which are of course covered by official agreements, but also on an ethical behavior of all subjects participating. Company always acts according to the legal framework of the target country and cooperates with a law entities in the Czech Republic to validate all the steps done are following the legal aspects.

SDC is company open to various sources of innovation, cooperating with a leading companies on various markets, therefore the innovative thinking is required inside the company. The internal education system is the fundamental requirement for a personal development, supported by all company levels.

To empower a shared values company bought a new building and reconstruct it directly to the employee's needs. The company should be the face for the partners and customers who will visit SDC headquarters as well as the convenient working environment for SDC workers.

System

The system is derived from an organizational structure. For a team's results the team leaders are responsible and make a week, month, quartile and year results which are later compared with the goals and the strategy. Goals are made according to the corporate and business strategy all the leaders participate in a plan making. The regular meetings between department leaders are day-by-day basis and up to the needs. The most important decisions are discussed with co-founders and CEO.

Road map is the system or the plan what issues will be solved and when. The roadmap is mainly done for a development teams to know the deadlines and plans to allocate efforts on. From a business point of view it is a map in which the sales team can work with. Roadmap is a spine of the technology development and business relationship strategy.

Internal Information system is the source of the experience and knowledge sharing. Everybody share the results of the work, working time, plans and meeting reviews via this tool. It allows an easy approach to any information needed even from the technological background even the business successes. This platform is necessary for a new employee learning, so it decreases costs for a senior to educate a newbie.

From the internal point of view there is an expectations that every employee behaves correctly and moral to each other therefore there are no internal directives or list of rules. The communication goes mainly through the average platforms such as Skype, Jabber or and mostly by email. Company communication is also the “kitchen-cabinet session” where most of the discussion goes in a small kitchen room which is often a meet place for a small updates, discussions and so on, which helps to maintain awareness of all information in the company.

Most of the communication being informal, since the relationships are on very high level, there is a distance making only on a senior – junior level as a position of a decision maker, otherwise the relationship is on a very kind level. On the other hand some of the employees are out of the important topic, which are not shared on internal system or are not publicly notified.

The communication with customers and partners, generally the external environment is the sales team domain. The request than go to the deeper and deeper levels of the company, which ends with the development team. This system is made according a workload of certain department, where the development team is considered as the most loaded one.

Style

Leadership of the certain departments do not distinguish that much. As it was mentioned many times the good relationship between senior and junior team is the key factor, therefore the leadership skills are essential knowledge every senior guy perform. The personal development is considered as an important stone to drive a motivation of employees. The leadership style is more informal than formal and open to any innovative from a junior side. I cannot omit also the cooperation which leads to a successful meeting of tasks and goals. Every team is responsible for a tasks raised on a mutual meeting.

Decision are made upon the internal experience sharing, previous experience, analysis or research on the certain topic or issue.

Staff

SDC is human resources focused company. The well-educated experts are the crucial issue. Currently SDC has 33 employees which together makes 27,86 of full time contracts. This means company works mostly with students and absolvent supported by a senior experts in the field. Tertian education is elementary factor for even inviting to the job interview. Mostly the technical background with an IT

skills is required, the previous experience is an advantage for some position a must. All the employees are nowadays Czech or Slovak natives.

The human resources are mainly taken from a BUT university, which has a close cooperation with SDC. But other Brno's universities are also a good source of an appropriate educated powers. The tertiary education allows most of the employees speak at least one foreign language, mainly English which is amended with a week session with a native English speaker.

Human resources management is driven by a top management with a leaders of teams, therefore on interviews those workers are participating and making demand on these positions. The main channels of hiring new employees is mainly from the well-known and publically used servers such as Jobs.cz, prace.cz and so on. Also the physical advertising in the universities is used.

Generally SDC is a young company. Touching the age of the company which in 2016 celebrates 10 years anniversary and changing to a stray company, but the most of the employees are aged from 25 – 30 years, senior positions from 35 to 45 years old. There is no employee older than 50 years.

To each employee the basic tools for work are provided. Mainly it means the personal computer to every single worker with access to the general information system. On the demand of individuals company provide them external keyboard, microphones, mice etc. which makes a work more convenient. For a higher management and business trips three cars are available. If the capacities for trainings or meetings are not sufficient, University relations allows to borrow rooms in its faculty of information technologies on call.

C ANNEX III

Financial analysis

Between fundamental ratio indexes belongs profitability ratios, debt management, liquidity ratios and asset management. Each of the indexes helps to show overall company financial situation, its credibility and ability to pay its debts. Financial analysis is done to complete a full picture of the company internal conditions and environment for a future strategic decision making.

Profitability ratios

Return on assets (ROA) expresses performance of assets in other words how much of profit is generated by assets, the recommended level or ROA is minimum 8 %. SDC is highly above this level and thus the assets are able to perform a high income per one crown invested. ROA is decreasing since 2013, when the lowest value was in 2015, when it dropped to 17 %. This phenomena is given by a lower profit in compare with other years.

Return on Common equity (ROE) which is important index primarily to stakeholders and investors. This value should exceed the rate implicit costs (a), because only in this case may cover the cost of equity. This indicator primarily interested shareholders or other investors because they can tell whether they are embedded resources to adequately appreciate and that their capital is sufficiently reproduced with respect to investment risk. The minimum value is given as 10%, implying that the company analyzed this "criterion" meets with an overview of the invested funds and evaluates sufficiently. Whereby again we see a downward trend and high drop between 2013 and 2014. Looking at the financial structure of the company, we can say that the increase in equity is at a lower rate than the rising cost of business (again, particularly personnel costs).

Indicator of total invested capital assesses the importance of long-term investment based on the determination of return on equity with long-term resources.

Return on sales (profit margin) tells us how the enterprise can produce effects on CZK 1 sales. Return on sales can be calculated with different types of income and different types of sales. Within findings profit margins and expects a profit after tax. For enterprise SDC. we can see that ROS moves at around 30%, which may mean that this is a high value. In 2013 he came to nearly 70% return on sales, which contributed to a really high increase in sales themselves. Between 2014 and 2015, while revenues are falling slightly, but the aforementioned increase in cost of sales profitability knocked back to around 30%.

Tab. 19 Profitability ratios

Profitability ratios	2012	2013	2014	2015
(ROA) (return on assets)	64,87%	76,23%	29,46%	17,21%
(ROE) (return on common equity)	73,58%	80,08%	25,75%	18,95%
(ROCE) (return on capital employed)	73,53%	80,07%	25,74%	19,33%
(ROS) (return on sales)	38,22%	68,11%	36,15%	30,80%

Debt Management

Total indebtedness is the basic indicator of indebtedness and by many authors of scientific literature should range between 30-60%. Table 20 shows a debt ratios of SDC, in summary company is doing very well, as debt is concerned. A related measure of self-financing, which is essentially a supplement to debt ratios. Reflects the financial independence of the company. The sum of both indicators should be equal to 1.

Financial leverage express how much total equity exceeds the total size of common equity It is based on the fact that foreign capital is usually cheaper than their own, until the company is able to evaluate every unit of capital more than the interest rate on the debt. The recommended value is 1.7 -2.0. Leverage achieved slightly lower values than the recommended range, indicating that the company uses little foreign capital. In all years, the ratio of foreign capital is less than the ratio of equity.

Interest coverage index counted with interest costs. This indicator tells us how many times the profit is higher than interest. SDC until 2015 had no bank loans, nor showed any interest expense. In 2015, the value of the acquired interest expense 94,000, but profit this year is roughly 60 times higher, to cover interest expense is enough.

Tab. 20 Solvency ratios

Solvency ratios	2012	2013	2014	2015
Debt ratio	28,37%	22,42%	5,62%	23,31%
Equity ratio	71,42%	77,14%	92,82%	72,29%
Debt equity ratio	39,72%	29,07%	6,05%	32,25%
Leverage	1,40	1,30	1,08	1,38
Interest coverage	-	-	-	59,43

Liquidity ratios

Liquidity indicators tell how the company stand in relation to pay its short-term liabilities. How quickly they are able to repay its liabilities. In this analysis comparisons were made in terms of regular, prompt and immediate liquidity.

Current ratio indicates how many times current assets cover current liabilities of the company. The higher this value is, the better the solvency company achieve. Recommended values for this indicator are given in a range between 1.5 and 2.5.

Quick liquidity ratio tells us how much money the company claims and money on a bank account or cash is covered by CZK 1 corporate short-term liabilities. This value should be between 1 and 1.5. Company has no reserves (the least liquid assets), the value of current and quick ratio are the same.

Immediate liquidity gives us the firm's ability to meet its short-term liabilities "immediately" - that only through short-term investments, which is composed of those most liquid funds (in the case of our company just money in cash and bank accounts). Recommended values of the indicators are presented in the range of 0.2 to 0.5. All three of liquidity indexes has really high level. It is due to high current financial assets. This indicates that the company SDC certainly has no problem with solvency, but on the other hand, it means that the company is not sufficient in managing their capital.

The analysis of liquidity is linked to another indicator, which belongs to important indicators, but closely related with liquidity. It is net working capital and is calculated as the difference between current assets and current liabilities, and represents us right portion of current assets which is financed by long-term financial resources. Wrong would be if the net working capital moved into negative territory, which would mean that short-term debt would exceed current assets, and the company would readily been able to repay these debts. SDC however, does not solve the problem, because the value of net working capital is positive.

Tab. 21 Liquidity ratios

Liquidity ratios	2012	2013	2014	2015
Current ratio	3,31	4,11	17,17	7,47
Quick ratio	3,31	4,11	17,17	7,47
Cash ratio	2,73	3,33	15,35	6,20
Net working capital (in thousand CZK)	2 581	12 763	18 574	12 321

Asset Management

Activity indicators measure the company's ability to utilize the invested funds and fluency of the capital components in different types of assets and liabilities. It is important to have an appropriate level of assets in the company. Too much can

increase costs and thereby reduces the gain. On the other hand, lack of assets, mainly current may cause problems with the running of the business.

Asset turnover ratio is, the better the higher. For SDC assets turnover has declining trend. In 2012, the assets of "turned" more than three times, but in 2015 only once. During this period, the assets of the company increased by almost 30 million, the turnover ratio certainly reflected. The turnover is derived from indicators of turns right and should be as short as possible.

For assets and liabilities of turns plays a large part of their turnover derived. Every business should strive for the shortest duration receivables turnover and longest turnover time commitments, which gives us a pointer called the trade deficit. When the turnover time commitment was shorter than the receivables turnover, it would undermine the financial stability of the company. When we look again at the chart below, we can see how the trade deficit fluctuates. Positive trade deficit can be seen in the last two years, which means that the turnover time commitments is shorter than receivables turnover. The company would have had a future to look out for it to be able to meet its obligations on time and then have to deal with the possible inability to pay its liabilities due to the longtime of receivables turnover. However, due to the high current financial assets of the company had not yet danger that would not be able to repay obligations due to positive trade deficit.

Tab. 22 Asset management ratios

Asset management	2012	2013	2014	2015
Total assets turnover ratio	3,39	2,24	1,63	1,1
Claim turnover	13,11	10,56	6,32	7,95
Liability turnover	9,71	7,85	6,35	11,57
Average Collection Period	27,45	34,08	57,01	45,26
Payables turnover ratio	37,07	45,87	56,66	31,10
Trade deficit	-9,62	-	11,79	0,35

Cash flow from operation

Operating activities are the principal activities of the enterprise (main activities), which brings the company's largest revenue. For a company SDC we see that cash flow from operating activities is positive in all years, the largest in the most prosperous again in 2013.

Cash flow from investments

Reported cash flow from investments informs about how company spends money on fixed assets, which are an important factor in the creation of future profits. SDC has a negative cash flow from investing activities only in 2013 and 2015. In 2013 it

was the software investment of about 900 thousands CZK and in 2015 company invested in land, but mainly in the purchase and reconstruction of buildings worth nearly 17 million CZK.

Cash flow from financing

Cash flow from financing reflect changes in the structure of corporate capital (own or foreign). Investments and financing activities are closely related, because cash flow in one year may be investing activities (purchase of shares) and the following year the financial activities (share issue). For SDC company in the years 2012 to 2014 CF financing activities are zero. In 2015, cash flow affects positively received loan worth over CZK 5 million.

Tab. 23 Cash flow

	2012	2013	2014	2015
Current financial assets from the previous period	360	3 039	13 643	17 636
CF from operations	2 643	11 603	3 531	5 578
CF from investment	36	-999	483	-17 086
CF from financing	0	0	0	5 659
Net decrease / increase in cash	2 679	10 604	4 014	-5 849
Closing balance of cash	3 039	13 643	17 636	11 808

D ANNEX IV

Industrial Analysis

Bargaining Power of Suppliers

Company SDC is not dependent on a various suppliers. SDC stands on the beginning of the supplier chain and developing a basic and essential services for the next part of the chain, mainly implementers, vendors or partners. From this point of view company is only dependent on a fundamental service and good providers.

Human Resources are a crucial part of IT environment a proper decision about the knowledge and skills of company's employees are thus often outsourced by a personnel agencies. SDC has more companies which take care about searching an appropriate candidates therefore the negotiation power of this segment is low.

The same situation is with electricity, internet and mobile services. There is a wide range of providers of both, the services and electricity. Therefore, even the company is dependent on these items, the negotiation power is considered as a low.

Once in a while company is facing the problem of insufficient capacities to develop features which are out of the scope of company. Then the external providers are easy way how to reach the goal of a task. There is a broad amount of IT freelancers which specialized on demanded area and SDC has dust many possibilities choosing a suitable supplier. The negotiation power is again low.

Every company has to have a headquarters office and space where its business plan is realized. Currently SDC is using a rented space. The main of requirement for the office is to be near BUT university, with which SDC keep a long and close cooperation. Often university offers its rooms to be used for a SDC activities, presentations or mutual sessions. Company evaluates a position of its headquarters as an important and even it is possible to find another renter around or use university rooms, thus the negotiation power is medium.

Last but not least there is to follow the laws and directives of Czech Republic and the countries where the project and business is done SDC uses external consultation of a legal framework and accounting agency. Both services providers are flexible and company build a both side useful working system how of cooperation. Providers are approachable every time company need any advice. Because providers already know the internal environment of the company and searching for a new partner, introduce all the mechanisms and processes might be costly he power of negotiation is medium.

Threat of New Entry

The threat of new entry is limited. The high requirements for a knowledge, skills and experience in the industry are the core demands for entry. The development of new technology from the beginning is very costly. The Human resources, pro-

cessing capacities and the legal framework are the most demanding conditions to be met.

Anyway huge international companies are able to overcome and fit into these limitations. It is usual the company has to establish own research center or development team or has to cooperate with some research entity. Therefore searching for an experts in this field of industry is very costly as well as education of a new employees. The technical skills and knowledge are essential.

As the market is rapidly growing, more and more institutions started to involve speech technologies into their portfolios. It is possible to use the economy of scales to a certain projects and use the core of the technologies, but most of the work and advantages lies in the appropriate adaptation to an environment, thus the big companies might have a problem with a flexibility.

Threat of Substitution

For a threat of substitutions we have to take to an account, each segment of company's interest has a different needs and requires a different approach. Therefore for each segment the substitutes are made separately

Security sector substitute might be a databased searching system which will according to metadata filtrate through the database. Often the speech technologies are the component of broad solution or product which gathers information from multichannel sources, thus it is hard to substitute as the essential part. For a future the substitute might be also a chip implemented into a target which will send information about face gestures, which will be the fundamental part for an analysis.

The Call-centers were already using a convenient substitution for monitoring of agents – supervisors. The prompt and appropriate education of the supervisors might increase the efficiency of supervision. The problem is a limited capability of each supervisor, who is not able to monitor all of the calls. Use of operators' physical expressions might be also possibility how to make an analysis of operator's behavior.

Banks and Financial Institutions are usually want to make their services and products easily accessible. Normally the contract's ID is used or PIN code to verify whether the speaker is the target subject or contractor is used for its high efficiency. For using fraudsters a certain authorities makes a databases of non-payers, debtors or fraudster which than compare with the new client or applicant for the use of services.

Bargaining power of buyers

Customers are basically divided into two big markets. Security and Commercial sector. The share of these two segments are obvious from ANNEX VI.

The negotiation power of customers are generally tending to be big. The bigger budget is, the higher financial possibilities are, more capability and willingness partner have the better bargaining power has.

According to this SDC face a various partners and customers from a small companies, making profit less than 50.000 USD to a big international players and organizations. Again the segmentation stay a place.

Security a defense sector is generally generating a bigger bargaining power, because the efforts and requirements are way higher than other segments. On the other hand Call-centers have a smaller amount of process data, but has a continuous demand meeting the market needs able to keep with the pace of evolution as well as financial institutions.

Competitive Rivalry

Speech technologies and voice biometry is a very close industry due to relatively high entrance costs mainly according to the knowledge requirements and the time to train a robust working system. SDC meets mainly with a few providers of the same services, Competitor A, Competitor B, COMPETITOR C and Competitor D the target markets and segments are figured out in table 24.

Competitor A

Competitor A is US Company and the biggest international worldwide provider focusing mainly on a healthcare services, which means e.g. dictation of doctors at examination. They also focus on a business and mobile industry. The marketing costs are very high, Competitor A has a strong financial background, therefore they can afford to communicate via online, PR and social networks with a high frequency a professional approach the main channel still remains a personnel or online. They have a wide scope of customers from a commercial and security sector and thus covers all the activities connected to this field. The disadvantage of the huge corporate of Competitor A is often the rigidity which appears in every big company.

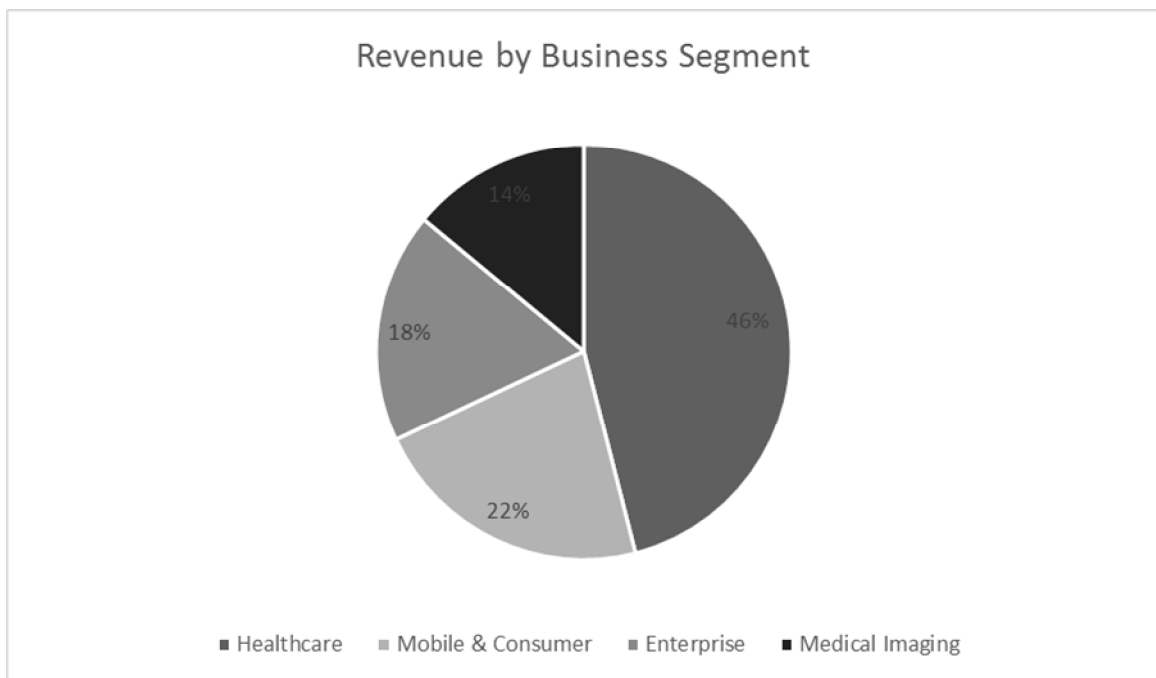


Fig. 17 Revenue by business segment of Competitor A

From a pricing point of view Competitor A is obviously a price maker and often the highest price solution offered on a market. Competitor A is definitely a Market leader offering the whole portfolio of speech technologies, speech analytics and voice biometry. To demonstrate the power of Competitor A and the speech technologies market growth, I'd like to introduce revenue growth of the biggest player in this field portrayed in figure 19.



Fig. 18 Revenue growth of competitor A

Competitor A has a strong basics in human resources. Over 6000 employees in more than 30 offices around the world allows them to communicate with partners straight in the tier countries. The portfolio covers not only a broad range of products, but also a wide range of languages. Therefore there are able to cover either a markets or projects, which are for most of its competitors interesting, but very costly.

Competitor B

Competitor B is a spin-off from the Spanish University established in 2004 focusing on Call-Centers and Government organizations. The Government sector is the field of interest, more than 95 % of the revenues are coming from this segment. Competitor B itself introduce company as a worldwide market leader in Voice ID products used by governments organizations, having a extensive customer base in various fields in over 40 countries.

Since the governmental sector makes a major income source, the main channel to approach customers is via exhibitions as a personal channel and powerful websites (online contact). Competitor B is world known company this is the reason why the cost operating configuration is slightly above the average in compare with other providers, not Competitor A.

From Technologies Competitor B focuses on speaker identification and already made solutions. The portfolio do not cover all technologies, but focusing on a narrow market segment which simultaneously with the strong Speaker identification technology allows to be a significant player in a Security and Defense sector.

Competitor D

Between straight and important players also belongs Competitor D. Competitor Dis, as the name of the company suggest, the research group founded in 2000. Besides their activity in research they also participate in publishing. Competitor D provides a full portfolio of speech technologies such as Speech recognition, speaker recognition or language identification. Also in the language dependent technologies, talking about the scope of speech transcription, Competitor D provides 10 + languages which offers in both security and commercial sector.

Competitor D pricing is mainstream or average. This is reached due to limited marketing costs. Main channels of communications are exhibitions and online. Taking to an account all the costs, Competitor Dis below the average in a question of overall cost on marketing and operating. Therefore Competitor D mainly focuses on a good relationship with regular partners and its maintenance.

Very similar company to Competitor Dis Competitor E, providing the same services in one different point – not the technologies, but already made solutions. Also Competitor E is supporting its partners and customer and raising their education in a speech technologies field.

Competitor C

We can find also the strong competitors to the east of the Czech Republic. Speech Technology center or Competitor C is a Russian based company which is the most

similar to SDC in the meaning of marketing and the portfolio. Covering the segments of financial institutions, call-centers but even the security and defense solution provision makes them company more and more known in the industry. The disadvantage is obviously their heritage in a Russian country which might be a complication in penetrating US market or cooperating with EU partners.

The speech technology field is one of the very fast growing industries and thus raise a big awareness in the other big players, such as google, IBM or HP and we can expect a participation of these players as well as small university spin-offs. The environment of a market is constantly changing and company has to keep eyes open to the competition.

Tab. 24 Competitor segment overview

Key segments/Competitor	A	B	C	D	E
Healthcare	X				
Consumer	X				
Mobile	X				
Call Center	X	X	X	X	X
Enterprise	X		X	X	X
Finance	X		X		
Retail	X				
Government	X	X	X	X	X
Law Enforcement	X	X	X	X	X
Defense Application	X	X	X	X	X
Speech Analytics					
Speech Technologies	X		X	X	
Speech Solutions	X	X			X

E ANNEX V

Weaknesses

- Limited human resources
- Limited languages supported
- Technical documentation
- Difficult Product
- Personnel substitutability
- Marketing, Image, Low cost visual
- Low number of OEMs
- Recruiting cycle & long employee adaptation

F ANNEX VI

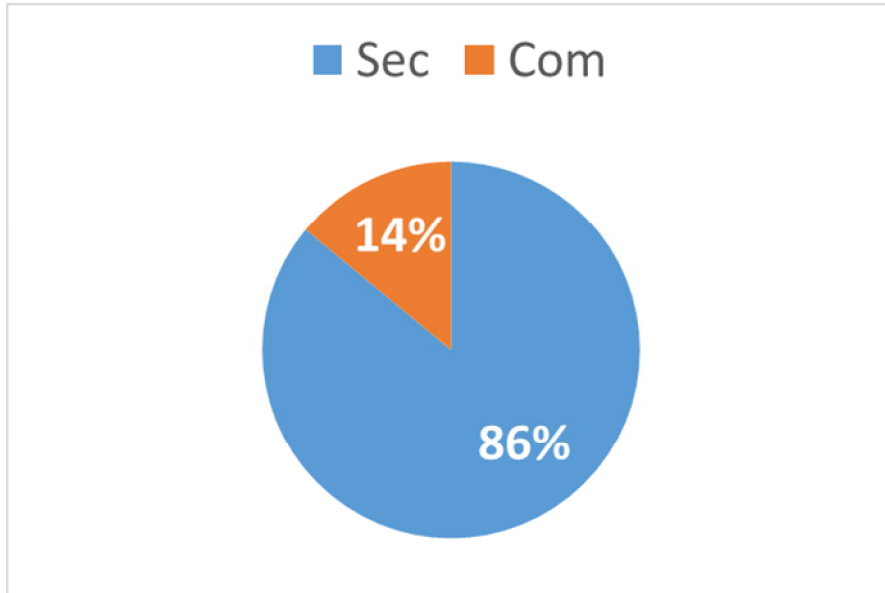


Fig. 19 Security and commerce ratio 2015

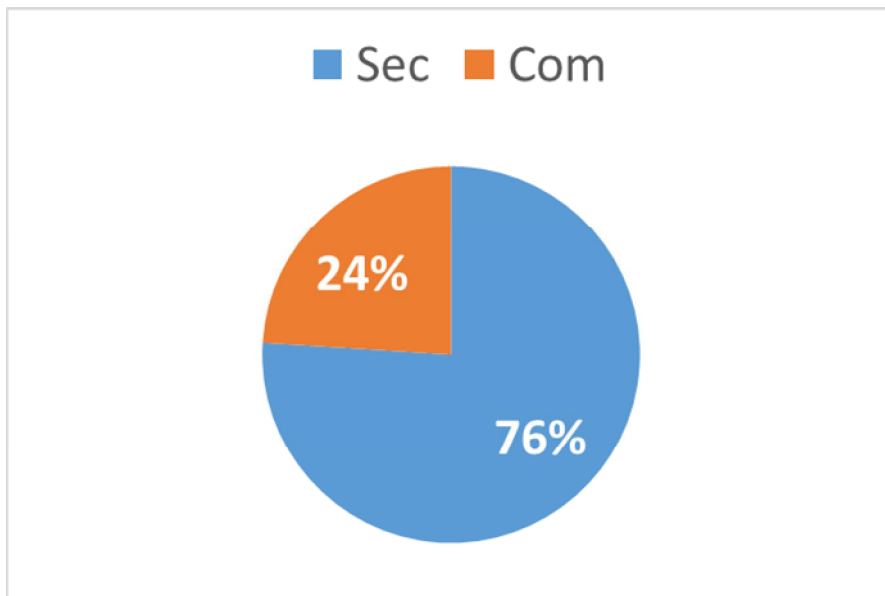


Fig. 20 Security and commerce ratio 2016