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INNOVATIVE COMPANY: A STORY OF LINET

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Abstract. The article deals with the analysis of the Czech company Linet in an effort to reveal a sustainable business model. It describes the company in the historical context (birth and gradual development), the organizational context (infrastructure) and the innovation context (sources of innovation). The main aim of the article is to find out answers to questions how the company's journey looked like from zero to the position of European leader in the hospital beds production and what prerequisites the company had to fulfil in order to create a creative culture and what are the imaginary seeds from which its innovations are growing. Fulfilling this goal required to search for literature sources dealing with innovation, innovation sources (opportunities windows), innovation process and innovation companies and also to create a case study that focused on the company's innovation practice in years 1990-2016. The Linet study is based on six structured interviews with both the founder of the company as well as its current CEO. Research has shown that the company achieved rocket growth thanks to two basic principles, namely constant improvement and respect to people and market focus (openness to the outside world). These principles were applied in practice through controversial thinking, staff inexperience, learning infrastructure, learning and learnership. Openness to the outside world has been identified as an important source of innovation. This openness was ensured by systematic monitoring of the internal and external environment which consisted of staff testing, centres of excellence, patent scanning and the Academy of Productivity and Innovations. The results of the study have led to the conclusion that the company has achieved high innovative performance through ability of absorbing theoretical knowledge, applying it to its processes and principles and integrate it into a comprehensive system that responds to its needs (adapt).

Keywords: creative culture, economic sustainability and performance, innovativeness, learning organization, learnership, seeds of innovation

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JEL Classifications: M13, M14, O31

1. Introduction

More and more we hear that we are entering a new world. Contours of this world often acquire different numerical expressions to evoke a feeling of continual development and continuity with the past world. Nowadays, a lot of managers are therefore using concepts such as industry 4.0, web 2.0 or management 2.0. Against the backdrop of these modern concepts, there exist real trends (step-changes) that transform known to unknown, successful to unsuccessful, certain to uncertain. These include, for example, mass customization, disintermediation, relocation, sharing (uberization), networking, co-creation, self-service, digitalization, modularity and many others (see Košturiak, 2016, Zelený and Košturiak, 2012; Hilkevics, Hilkevica, 2017). Each of these trends

is an opportunity for anyone who wants to re-discover our world. At the same time, however, these trends represent a threat to all who have become accustomed to its current form. This is proved by different stories of companies that were famous and even those that were not successful. We admire Google and not Microsoft, Apple and not Nokia, Toyota and not General Motors or Zynga but not Electronic Arts (see Hamel, 2012). Even more admirable are the companies that emerged thanks to these trends and their birth was speeded up by the decomposition and destruction of the known world. These include, for example, Facebook, Amazon, Tesla, Netflix and many others. These companies have become decomposed due to their desire to discover new solutions through new world perspectives. They are both creative and destructive. Their existence confirms so called Schumpeter's assumption that innovations are, by their very nature, creative destructors. Therefore, these companies have admirable property to destroy (the past) in order to create (the future).

In this article, we want to investigate a company that we suspect might belong to this group of creative destructors. Therefore, our goal is to describe this company in the historical context (birth and gradual development), the organizational context (infrastructure) and innovation context (sources of innovation). We will try to seek for the answers to the question of how the company's journey from zero to the position of the European leader in the field looked like, what assumptions the company had to fulfil to create a creative culture and what are the imaginary seeds from which its innovations are growing.

2. Methodology

The article deals with the analysis of the Czech company Linet. The result of this analysis is elaborated in the form of a case study describing the company in terms of its history, corporate culture, sources of innovation and future development. Although it is a study of one company, selected aspects of its business practice can serve to gain a deeper understanding of the importance of innovation and its impact on company and its performance. The main part of this article is followed by the literary analysis which is focused on the characteristics of innovations, innovative sources, open and closed innovations and innovative companies.

Case methodology as the basis of this qualitative study is based on a series of structured interviews with the founder of Linet company Zbyněk Frolík and the current director of this company Tomáš Kolář. This article is based on six interviews. Five of them took place with Zbyněk Frolík. These interviews consisted of open questions and in the text, they appear in the form of direct quotes or indirectly as a description of a practical process. The interviews took place in 2014-2016. In addition to the interviews, the company's analysis was based on company documents (annual reports including balance sheets and profit and loss sheets), company's website and one expert's book describing this company with regard to its similarity with the Japanese company Toyota. The company has been investigated since its beginning (1990) until the end of 2016. This time period was chosen while taking into account the availability of internal and external information and the date of the interviews. A long time series should also reveal and emphasize the importance of the results that the company has gradually achieved in the individual development stages of its existence.

The literary research included research of the scientific articles and monographs of other authors, their views and the assessment of these opinions in relation to the subject of their own research. The collection of documents was based on work with databases such as Scopus, Web of Science and Google Scholar.

3. Theoretical background

Literary research deals with the analysis of current knowledge of innovation, sources of innovation, open and close innovation and organizational models supporting innovation.

3.1 The definition of innovation

Today's knowledge of innovations involves more than 3.9 million articles and monographs. However, the authors of many articles do not deal with the definition of innovation as such. They explore mostly innovations

in the context of different variables. As a result, various word phrases has emerged as established concepts such as innovation performance (this concept is investigated, for example, by Ahuja and Katila, 2001, Laursen and Foss, 2003, etc.), innovation culture (see Dobni, 2008, Linke and Zerfass, 2011), social innovation capital (see Landry, Amara and Lamari, 2002, McElroy, 2002) or innovation company (see Kotter, 2012). The definition of innovation has not changed much since Schumpeter (1942). The most common view of innovation is Schumpeter's view which characterizes innovation as a creative destruction. Schumpeter considered innovations as the main reason for changes in economics and the flow of economic cycles (and innovation cycles). It is worth to mention Schumpeter's conclusion that the crisis is the effect of the previous boom and prosperity but the future prosperity is not the effect of the previous crisis. The new prosperity is caused by new innovations. These ideas have been more elaborated by many other authors. However, the current view of innovation was mostly affected by the contributions and findings of two authors, i.e. Peter Drucker and Clayton Christensen.

Drucker (2002) dealt with innovations in terms of their benefits to society. He characterized them as a strictly economic category. This view was more elaborated by Zelený (2007) who said that innovations are applied by the market which means that they are operated by the customer and not by the inventor. According to Drucker (2002), innovation can be divided into three sub-categories, namely technical, social and managerial innovations. This view of innovation has been the basis for the description of innovation by OECD. Their description is given by Zastempowski and Przybylska (2016). He introduced a number of innovative tools including seven windows of opportunities (Drucker, 2014), management by objectives (Drucker, 1954) and business strategy (Drucker, 2002). He was also in favour of innovation practice that should be developed in companies based on systematic monitoring of the environment instead of relying on the creative genius. Last but not least, he was concerned with innovation and its relationship to management and he concluded that innovations are more about entrepreneurship rather than management and therefore it is necessary to organize innovations as new projects (spinoff) beyond what is established and routine (corporations).

Christensen (2013) was the first author who used his research to conclude the idea of the first original definition of innovation by Schumpeter. Christensen's observation of market changes has led to the conclusion that a number of markets are extinguished by disruptive technology (see Christense, 2013). It is a radical change in technology that pushes existing technology and leads to the decomposition of existing markets where old technology has been applied. The result of this process is the creation of a new market in which technologies related to radical innovation are promoted which was later described by Christensen as disruptive innovation. Thus, disruptive innovation means a new beginning from a market, product and technology perspective.

3.2 The sources of innovation

Drucker (2014) characterized innovation source as a window of opportunity. This is the result of a systematic approach to innovation. In other words, systematic identification of innovation opportunities is an integral part of innovation practice. Innovation opportunities are divided into two categories, internal and external. There are four internal sources of innovation within the company or its industry. First, it is the unexpected. It can occur in various forms both as success or failure that may drive the company towards innovation. Furthermore, an unexpected event may provide the base for the innovative endeavour. It is worth to mention the problem of "Black Swan" as explored by Taleb (2005,2012) which means that according to the theory these events create a massive shift in status quo. According to Taleb, most of the major discoveries and break troughs not only in technology but also in history and even art are in its base nature a Black Swan Events – the rise of something unpredicted and undirected that establish a new status quo. The second source of innovation is incongruity – between reality as it actually is and the reality as it is assumed to be or as it "ought to be". When there is an inappropriateness between the demand and economic performance in the industry, it is a sign of incongruity between the economic reality and it is considered to be an area where an innovator may capitalize. Third internal source of innovation is based on process need and its innovation of how to find a "better way to do things". This way of thinking is heavily imbedded in the Toyota Production System in one of its pillar called KAIZEN (Liker, 2004). Fourth source of innovation and the last from the internal sources occurs within the change in industry and market structures. This issue is largely described in the work of Clayton M. Christensen (2013) as

disruptive innovation.

Besides internal sources of innovation, Drucker (2014) also explores the external sources for innovative opportunity that are formed by changes outside the company or the industry. According to Drucker (2007), the one of the most reliable sources of prediction of the future and subsequently the opportunities for innovation is demographics and population changes (age, education, income, inhabitation etc.). Next related external source of innovation is the change in meaning and perception. Recognizing opportunities for innovation in this group requires timing and careful consideration. The company must evaluate whether there are actual changes taking place in perception, or it is just fads that will be short-lived. Finally, the last source is the new knowledge. This source presents the issue of patents and new discoveries and their capability to be transformed into the product or service to be introduced to the marketplace.

3.3 Closed and open innovation

Henry Chesbrough (2006) explored innovative process in the historical context and found that over the last 120 years, there has been a gradual transition from the innovation process of individual enterprises to the creation of innovations that arise between individual business and businesses, research centres and individual researchers. In this context, we are talking about closed and open innovation. In some cases, this new view has spread to business models known today as open and closed business models. (see Osterwalder and Pigneur, 2010).

Chesbrough (2006) sees the transition to open innovations as an inevitable consequence of external trends including the exponential development of knowledge (because industry and managerial innovation have helped to introduce R&D laboratories) and the unprecedented interconnection of the world (as a result of the Internet and related technologies). While the basis of these closed innovations are R&D activities that are implemented within the enterprise (innovation is limited by company boundaries), the essence of open innovations is the interconnection of one's own research with the research of others. This can occur in two ways. Either knowledge base is integrated into own research externally (sources can be companies, universities, private laboratories, independent researchers) or the company transfers its own R&D results to this knowledge base (monetization of new knowledge by someone who can better understand and apply research findings than its originator).

A basic overview of closed and open innovation is provided in the following table. It will try to summarize the conclusions of Chesbrough's research in a simplified form (Table 1).

Table 1. Closed and open innovation.

| Closed innovation | Open innovation |
|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| We have the smartest people in the industry. | We seek for cooperation with smart people inside and outside of the company. |
| Innovation stems only from its own research. | Many innovations come from the environment. Internal research helps us to understand and use what others will come up with. |
| If we do most of the research in the industry, we will be successful. | We can be successful even if we do not make our own research. |
| If we have the most ideas in the industry, we will win. | If we can use both internal and external ideas, we will win. |
| We must keep innovation process in secret so that the competition can not benefit from it. | If we open innovation process to others, we can achieve results that overcome our intentions. |

Source: own according to Chesbrough (2006, 2010)

The definition of closed and open innovation has led to a change in the basic paradigm from which innovation processes come out (see Chesbrough, 2006, Von Hippel, 2005). Innovation process working from inside to outside (i.e. centralized inward-looking innovation) changes into a process working on the principle from inside to outside and from outside to inside (i.e. collaborative innovation). However, this concept of the innovation process is gradually becoming in a phase where the centres of innovations are not individual companies but innovation networks that includes research activities of companies, universities, private laboratories (i.e. ecosystem

centric, cross-organizational innovation). According to Gassmann, Enkel and Chesbrough (2010), the future of open innovation is connected with disseminated innovation process which requires a practical knowledge flow management over organization peripheries that uses both commercial and non-commercial instruments in line with the business model of the company. This approach challenges and further replaces the idea that innovations are mainly a product of inner activities within a company. Due to the wide distribution of knowledge in the world, companies shouldn't rely only on in-house research. Organizations should explore other ways of utilizing their own buffer of knowledge via licensing, joint ventures and other partnership possibilities.

3.4 Innovative company

Until now, not too many professional works exist that would be focused on describing the basic characteristics of innovative companies. Articles deal very often with topics that have a certain relevance to innovative companies but the concept of "innovative company" is not the subject of research in scientific databases very often. There are more publications dealing with the most innovative companies in the world (such as McGregor et al., 2006), young innovative companies (such as Schneider and Veugelers, 2010), approaches to financing innovative companies (such as Bottazzi and Da Rin, 2002) and others.

On the other hand, a number of authors focus on research from a work environment that promotes innovation and an analysis of the work environment that limits and destroys it. These research initiatives often lead to the creation of organizational models that we can understand as prototypes of innovative companies. John Kotter's work (2012, 2014) has brought interesting results the central topic of which is the contradiction between management and leadership. Kotter (2014) sees the solution to this conflict in building a dual operating system that combines management (stability and performance) and leadership (adaptability and innovation). The result of this connection is the existence of two structures (hierarchy and network) in one organization. Leadership is particularly important function for innovative companies (see Slinták, 2017, Slintak and Tuckova, 2016). This idea is elaborated by John Kotter (2012,5) in the following passage: "*The most agile, innovative companies add a second operating system, built on a fluid, network-like structure, to continually formulate and implement strategy. The second operating system runs on its own processes (see "The Eight Accelerators,") and is staffed by volunteers from throughout the company.*" This secondary system shaped by the functions of leadership (speed, agility, innovation) is an integral part of new organizational models. This includes, in particular, the model of chaordic organization (see Hock, 1999) which oscillates between chaos (freedom) and order (rules). Organizations running in this interface (which may be termed like chaord) are fundamentally self-organizing, adaptive, nonlinear complex systems. Chaord is a special space releasing creativity and innovation. In this context, Tidd (2001) identified uncertainty and complexity as the key environmental contingencies that influence organizational structure and management processes for innovation.

Many organizational models are based on the assumption that innovation performance is closely related to the internal business environment. Its shape is then affected by the given management system. In this context, an innovation pyramid has been created. This pyramid divides innovation according to their impact on organizational performance. Hamel and Breen (2007) assume that from the point of view of competitive advantage, the least significant innovations are the process innovations followed by product innovations and strategy innovations. At the top of the imaginary pyramid, there are management innovations that can be hardly copied and have an impact on all the other types of innovations. Hamel (2012) believes that innovation requires the adaptation of managerial practices to people. This means to create a system of management that speeds up the pace of self-organization, makes from innovation work for everyone and develops human qualities that precede the creation of innovations. These qualities are initiative, creativity and passion (see Slinták, 2015, Slinták and Jurigová, 2015).

In order for companies to achieve excellent performance, it is not enough to innovate only processes or products. It is necessary to innovate entire business concepts (see Hamel and Ruben, 2000). This tendency is evident in ways of using models. While prototypes (models) of products were commonly used in the past, today we are learning to model business. For this, there exist tools such as canvas (see Osterwalder and Pigneur, 2010), lean

canvas (see Maurya, 2012) and many others. The innovation of business models attracts attention to the young generation of researchers including Osterwalder (2004) and Ash Maurya (2016). Maurya (2016) identifies these innovations as management innovations and he claims that to innovate does not mean to create new products but to look for new ways how to improve and overcome existing business models and create new patterns that will lead to future success.

In the following chapters, we will find out whether this scientific knowledge is consistent with Linet’s practice. So far, there has been no scientific article about this company nor any scientific monograph that would characterize the selected activities of this company in details. Only one publication (see Košturiak and Chal, 2008) deals marginally with the comparison of Linet and Toyota companies.

4. Case study: Linet

Company profile is described using the internal documents of the company which is the subject of this research (see Linet, 2017). The company was founded in 1990 in Želevčice u Slaného. It is hard to believe that the company was starting in a dilapidated farmhouse where several employees were welding hospital beds, and owners’ equity was 400 000 Czech crowns. LINET is a producer of hospital and nursing beds. The company’s portfolio includes solutions designed for intensive care, products for regular in-bed treatment and also special beds for old people’s homes and long-term care facilities. The LINET range also includes a wide range of accessories such as anti-pressure ulcer mattresses, mobile equipment, healthcare furniture, etc. It is maintaining its position out in front of its competitors in hospital bed manufacture. The firm regularly introduces products and services with innovative features and functions that reduce physical demands on staff, enhance the efficiency of care provided and increase patient comfort. LINET works intensively on developing such products in collaboration with healthcare professionals and respected experts in various scientific fields, enabling the firm to keep abreast of new trends in the area of medical care.

LINET headquarters continue to be based in Želevčice u Slaného. It has two production plants (one of them is located in the Czech Republic, second one is in Germany). They manufacture around 90,000 hospital beds per year, the vast majority of which are intended for export to more than one hundred countries worldwide. LINET employs around 1500 staff. Since 2011, LINET s.r.o. has been a division of the multinational holding organization LINET Group SE, with registered offices in the Netherlands. At present, Linet is the European leader and the world’s leading manufacturer of health care products. In 2015/2016, the company achieved total sales of CZK 5.6 billion (the Czech branch then had revenues of CZK 3.3 billion and profit of CZK 219 million). During its existence, the company multiplied the invested capital in terms of market capitalization 39,000 times. There has also been enormous revenue growth. Since the founding of the company, sales increased 338 times. The company’s intention is to grow at least by one-fifth annually. By 2020, the company plans revenue of 500 million euros. The development of selected economic indicators is shown in the following table (Table 2).

Table 2. Development of selected indicators.

| Period | Number of employees | Sales | Profit |
|-----------|---------------------|------------|----------------|
| 1990/1991 | Less than 30 | 9,75 M CZK | not identified |
| 2000/2001 | 253 | 500 M CZK | 26 M CZK |
| 2006/2007 | 374 | 1,56 B CZK | 324 M CZK |
| 2015/2016 | 1500 | 5,6 B CZK | 432 M CZK |

In other parts of the work we will analyse selected reasons for this growth.

4.1 Linet way

At the beginning of its existence, the company did not have a brand, production technology or staff. Although it wanted to produce health care products, it did not have enough resources to develop them. In order to develop a new product, it needed money which it acquired through the production of shelves and wire programmes. Thanks to this production, it was possible to finance the rent or purchase the production facilities and also to finance the development of the first hospital bed called Decima. This product became, within a very short time, the best-selling hospital bed in the Czech Republic. Sales of this product have enabled the construction of a new production hall and development centre over the next 5 years. Innovated product called Decima 95 was developed later. Thanks to this innovated product, the company could get necessary resources to reach the world level in the field in the next five years. Five years later, over 250 employees worked in the company. The products were produced at 21 thousands m² and a Linet manufacturing system was created which included selected industrial engineering methods (SMED, TPM, 5S, team work, visualisation, quality in processes, Kanban, kaizen). Also, a new concept of construction was created using the column unit. Later, it became the standard in the industry. Around 2005, more than 300 employees worked in the company. Company turnover exceeded one billion Czech crowns. A customer and business centre has been built, too. In R & D, product innovation has been introduced based on WOIS methodology (contradiction, deletion of harmful functions and adding useful functions, creation of higher value for the customer and simultaneous cost reduction, planning and management of production). Also, the Linet production system was upgraded. In 2008, nearly 600 employees worked in the company. Linet began to form foreign subsidiaries to expand to foreign markets. Management system was innovated (online monitoring and visualization, new production methods, product and process innovation that bring new benefits and reductions in material and production costs). In the following years, the company has become one of the global leaders with an annual capacity of 90 000 beds. It introduces both technical and non-technical innovations, it works on clever beds with non-contact sensing of patient and online communication between patient and staff.

Retrospectively, there are two important aspects that characterize the features of the surveyed company. Since its beginnings, Linet has been based on the idea of continuous improvement (the proof of this is the introduction of a number of innovative methods that have become an integral part of the company's operational practice). This improvement was not only about processes but also about products, technological equipment and people. The company has been open to a number of changes and it was willing to learn very quickly. This led to the creation of an organizational structure that emphasized the development of human potential. This innovative culture has created the right climate for growth of the company by both attracting talented people from outside and by being able to develop potential of existing employees and give them enough opportunities for personal development and career growth.

4.2 Building a creative culture

Contradiction

Since its beginning, Linet has been striving to continually improve its products and business processes that have contributed to their creation. The changes, that preceded to various innovations, were based on the principle of contradiction. Thus, thinking to achieve more in less has been gradually rooted in the culture of the company. Thanks to this way of thinking, products with new brand design, revolutionary technical solutions and new features have emerged. At the same time, it was possible to produce these products cheaper in terms of material and wage savings. The principle of contradiction has thus naturally linked product innovation (create and differentiate) and innovations of operations and processes (saving) into a single whole or simply said an innovation process that had the same meaning, i.e. to increase quality (utility value) and reduce costs (harmful functions). The meaning of contradiction is seen in the following picture (Figure 1).

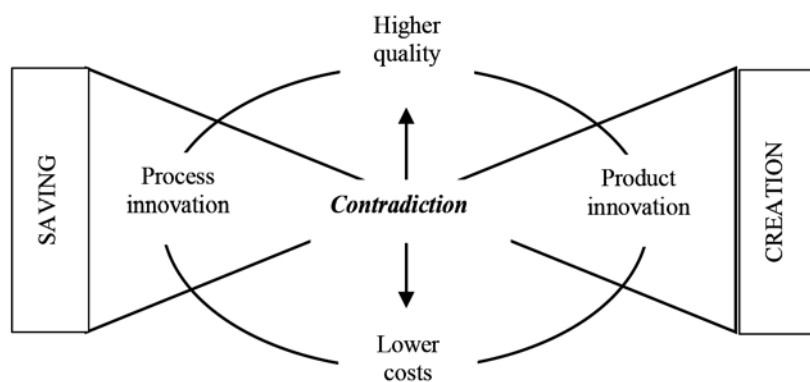


Fig. 1. Innovative principle of contradiction in Linet.

Inexperience

When selecting people, Linet was struggling with problems that bothered almost every start-up. Its growth was started by graduates of secondary schools and universities. Experienced experts did not want to work in a small business in a small village. The company has nothing to do but to rely on inexperienced youth. This personalized structure has soon learnt the lesson that work passion and willingness to learn is more than experience, intelligence and talent. Young people were a source of enthusiasm, passion for work and desire to succeed. Inexperienced workers also often made mistakes that management understood as an important source of learning. So far, Linet's attention has not been focused on previous practice but rather on the hidden abilities of people including diligence, common sense, initiative and passion for work (Linet as a subject of desire). So the company is guided by the rule that graduates can catch up the practice if they want to learn and constantly develop their skills. After all, a quarter of today's employees have worked only in Linet. The importance of the education of own staff is underlined by the fact that in the Czech Republic, the management of the company consists exclusively from their own workers. In the head of the company, there is a former trainee who eventually stayed in the company and works now as a CEO.

Learning infrastructure

When you will ask Z. Frolík, Linet's spiritual father, what was the success of the company, his answer is culture, willingness to risk, desire to expand and the ability to take advantage of high-quality people. According to Frolík (Košturiak and Chal, 2008, 47), the company's long-term success resides in investing in human resources and developing new products. These properties had a decisive impact on the long-term success. The company has a very low fluctuation of work (2-3%) which is related to a number of benefits for employees. The average wage in the company was almost 69% higher than the average wage in the Czech Republic. The effort to develop human beings is reflected in investment to corporate educational infrastructure. The company stands on four pillars that together create a corporate education infrastructure (see following figure). It consists of a research and development centre (R&D) that is complemented by the Academy of Productivity and Innovation (API), a training centre and a technically-oriented kindergarten (Linetka). The company invests more than 4 million Euro per year in research and development. The management is aware of the fact that the foundation of its success resides in the top designers whom they offer the opportunity to work with the latest technical equipment. The company also responded to the lack of technically educated secondary school students. Therefore, it has built an apprentice centre that offers excursions for primary and secondary schools, open-door days and internship for talented students (Figure 2).

4.3. The seeds of innovation

4.3.1 Monitoring human potential

Linet evaluates its performance by using the Balanced Scorecard (BSC) methodology. The basis for evaluation of corporate performance is a learning and growth perspective that evaluates the ability of people to develop their expertise and social maturity. Therefore, it finds out to what extent people are able to meet the qualifying requirements related to corporate goals and intentions. Hogan's test is used to measure human potential. Its aim is to map the potential of people based on the analysis of their personality. The test is conducted in the form of a questionnaire that examines seven areas influencing work performance and interpersonal relationships. In particular, it examines adjustment, ambition, sociability, interpersonal sensitivity, prudence, inquisitive and learning approach. The result is the creation of a personality profile that makes it easier to place the worker in a position that corresponds to his/her abilities.

Particular emphasis is placed on the development of emotional intelligence which is a prerequisite for the work of the manager. In the company's hierarchy of education, it is the first level of education (attestation 1) while emotional maturity is related with the second level of education (attestation 2).

4.3.2 Monitoring of environment

Linet deals with systematic research of the market and its surroundings through centres of excellence, projects implemented under the Academy of Productivity and Innovations and patent scanning by using appropriate software tools.

Centres of excellence (CoE)

Essential impulses to product innovation often come from corporate branches which are called centres of excellence. Linet builds them in countries that appear to be the most developed in terms of individual utility features of corporate products. Market intelligence is ranked according to the level of services and technology in the selected health care area. Thanks to these centres, the company absorbs knowledge, demands and expectations in places where the future of their field is born. Founder of the company, Zbyněk Frolík, called these places "cradles of know-how". Systematic market research is conducted mainly at the US market (highly developed intensive care), Germany (high level of social care) and the UK (manipulation with patients above standards).

Managers are working in centres of excellence. Each centre is made up of 3-9 workers with different work experience (however, these are usually people who have experience with the use of Linet products and their competitors such as nurses etc.). The job of these managers is to explore the market and seek for the inspiration to innovate existing products. Specifically, this means to reveal customer problems when using products directly in the field and not from the office far away from the place where the product is used. They also cooperate with traders and clinical coaches who have a very good idea of changing customer requirements in relation to competitive offers, needs of individual hospitals and possibilities of using products in specific situations. While developing new products, information from traders and clinical coaches is transferred to developers through centres of excellence. Product managers look at existing products from the point of view of their users and their needs which allows them to see the shortcomings that developers did not catch. Therefore, innovations often arise as a result of product dissatisfaction from the workers in the centre of excellence. At the research centre, where we can find more than 50 designers, products are adapted by adding or removing useful or damaged properties and thus transfer of ideas of product managers from individual centres of excellence to concrete (material) form is possible. The following figure illustrates the importance of the centre of excellence and its link to other research and development activities (Figure 3).

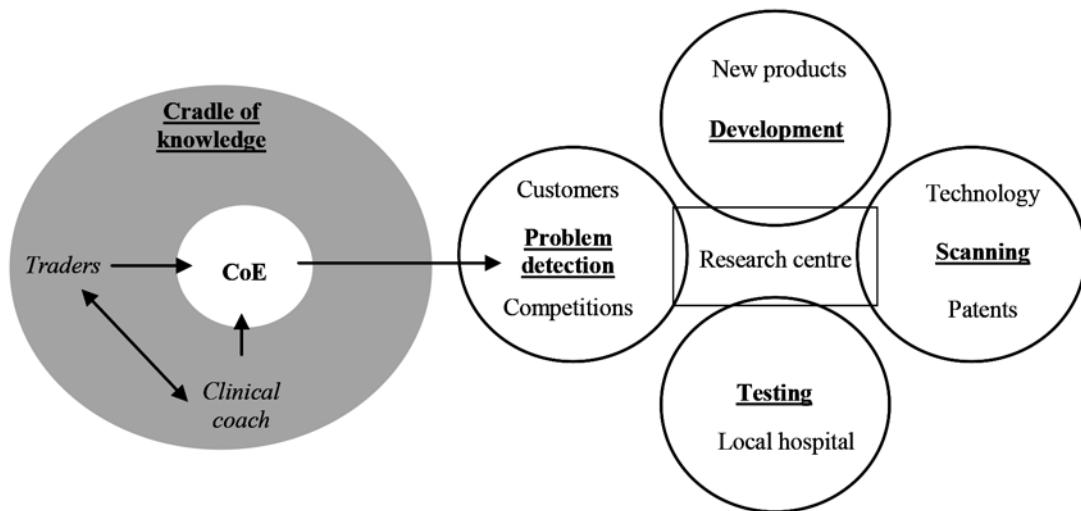


Fig. 3. The key role of the centre of excellence in R&D in Linet.

Scanning patents

Linet processes weekly researches dealing with the latest patents in engineering, electrical engineering, IT and other fields that are connected with their business activity. It has programs that are capable of exploring about 100 000 patents per hour. Permanent survey on patents provides an overview of the latest knowledge from the industry and activities of competitive companies in research and development. This research also indicates the direction of future development in relation to the development of selected technologies. In addition, Linet examines the validity of competitor's patents. For this purpose, it uses special sophisticated software tool that allows to search for the origins of different technologies by using keywords in various language versions.

Academy of Productivity and Innovation (API)

In addition to systematic monitoring of customer needs, requirements (problem detection by centre of excellence) and technologies (patent scanning), the company also follows trends in the area of industrial engineering. Activities focused on the study of lean production are organized in the Academy that has become a special research node of the company. With the help of this node, the company is able to absorb the latest knowledge from the field of production management and organization.

The Academy operates as an independent consulting company that provides regular trainings. Currently, it has more than 100 clients. The company's activities offer the opportunity to explore other companies, advise them and learn from their mistakes. Naturally, Linet removes a part of the know-how of other companies and helps them to implement selected methods of industrial engineering. The idea of setting up the Academy of Productivity was linked to the possibility of building a training centre that will behave almost like business university. API employees become expert consultants having a number of opportunities to practice theoretical knowledge in the reality of other companies. By this way, they gain practical experience that they can use to solve future projects whether internal or external. Therefore, The Academy of Productivity and Innovation acts as a special know-how generator that emerges in interaction with other businesses in the Czech Republic.

4.3.3 Innovation as a task for everyone

The company's innovative practice is based on a system approach. This applies in particular to product innovations that are based on systematic monitoring of the external environment. The creation of an interface between the company and customers (the centre of excellence as a platform for co-creation experience), between the company and its suppliers and between the company and its competitors (exploring successful and unsuccessful

ful products of competition) has also led to the implementation of product innovations.

As mentioned earlier, Linet understands innovation in the sense of evolution. Evolution is defined as a higher quality status that has been applied in the internal and external environment of the company. We can distinguish small and large evolutions. This concept of innovation is applied in the company's practices through a system of improving proposals. Employees can inform managers about so called improvements for which they receive extra points and extra payments. The system also includes an active error detection process that motivates workers to make innovations in their workplaces. These errors are sometimes deliberately inserted into selected operating processes in order to test employee's vigilance and imagination. Linet uses special board for evaluation of improvement proposals through points where you can see the order of innovators, the individual improvement proposals and their areas of application. Ten of the best innovators go once a year for a foreign study trip to visit the world's top best factories. In the past, such study tours were held in Japan or in the USA.

4.3.4 Redefining product value

In Linet, product innovation subjects to several approaches. The possibility of innovation is usually explored from the point of view of functions, value, design, evolution and users. These innovative perspectives have a common denominator. They always come out of the need to perceive the product from the customer's point of view. Different information about customers are brought to the centre of excellence, however it is also necessary to define customer according to his/her needs and requirements. In the case of hospital beds, this means to look closely at these customers, their needs and way of usage (processes): patient (comfort, safety, communication with the surrounding area), nurse (manipulation with patient, communication), director (health care costs, equipment), technician (simple service), doctor (automatic diagnosis, compatibility with surrounding). Clinical coaches then ask each of these users questions in a way that corresponds to their logic of the preview of the utility value of the product. Therefore, it is obvious that the product's view is affected by the effort to provide the customer with what he/she considers to be the real value of the product with regard to the problems that burden him/her. At the same time, the concept of the product is influenced by different customers who are located in the same place of use of the product (hospital).

The product is the carrier of the services that are bind to it. Linet defines its main product as a multifunctional device that has to meet different needs and requirements. The bed is seen as a means of generating patient's positive experience with the hospital. According to Frolík, a good bed means good hospital. This view required to redefine original concept of the product. Gradually, it has moved from the concept of the product as furniture to medical technology and from medical technology to equipment which main idea is to capitalize both hospital time (cost savings) and patient time (speeding up the process of treatment). The change in concept and perception of the product was related to the intention to make hospital beds an object of desire. That's why the emphasis on design (shape and aesthetics, emotion), originality (unique technical solution) and communication (speaking the user's language) have been emphasized since the beginning of the company. Sales of the products were influenced by both rational approach (description of utility features) and emotions (sales of products based on a certain story). As Frolík says, the aim is to constantly redefine the view on our product and our business so that others will want us and we will not be just the subject of choice.

4.4 Challenges and opportunities

There is a number of dominant trends that force the company to solve not only innovations of products, processes but also the whole business model. The transition from product to service (solution) and co-creation turns the company's attention in two directions. The first direction is to perceive corporate products from the point of view of the overall equipment of the patient's room. This means not to offer only beds but accommodation equipment including bedding. The second direction is related to an effort to improve general care about the patient by new services that will increase the value of existing products. Linet's revenue flow begins to take into account the trend of sharing economy. This has led to the questioning of an existing model based on the sales of products (ownership). The company began to share selected products between the individual hospitals that

needed the concrete product (adaptation to the real situation of the customer in the form of renting of special anti-decubitus mattresses to prevent acute bedsores). The trend of relocation is also very strong for the company especially with respect to increasing time and cost requirements (speed of delivery and shipping costs). Therefore, this company solves the possibility of moving the production to the outlets. This is particularly true for the US market which is currently the most developed market in the world. The construction of a production hall in Mexico or North Carolina are under consideration.

In the next years, the management of the company would like to increase the efficiency of the entire holding that consist of a number of companies located in different countries of the world and link them to Linet's values. This effort is reflected in the words of Tomáš Kolář, the director: *"As well as we have developed LINET, the same could be done at the holding level. It is mainly about passion with which we work here. For example, in LINET Americas, it is probably the most obvious thing, those people literally burn. And I would like everyone to burn in the same way."* It seems that the future face of Linet will be formed from management innovations that make performance, excellence and passion an integral part of corporate culture.

Conclusion

The aim of this article was to process a study of Linet company. This study should reveal its innovative practice thanks to which it has become one of the most innovative companies in the Czech Republic.

This effort was preceded by a brief description of knowledge about innovations that were written by other authors. Literature review showed that the innovation characteristic did not change a lot. On the other hand, the transition from closed to open innovations and innovation networks changed significantly. The research also revealed interesting insight into innovative companies. We have found out that innovation is needed in order to innovate management so that human characteristics could be developed because they are needed for innovation of products, processes and strategy. These include, in particular, initiative, creativity, self-expression and passion. In this context, it is worth to mention the Kotter model of the dual operating system and the Hock model of the Chaordian organization. Both models highlight the importance of leadership as a tool for developing a creative corporate culture that strengthens these qualities.

The Linet study revealed several important insights. Firstly, the company business practices are not much different from what is or was theoretically described by various authors. What is exceptional about this company is the ability to apply this theoretical knowledge to their practices and principles and to integrate them into coherent system that meets their needs. As indicated earlier, the company uses a number of innovative methods such as TRIZ, WOIS or systemic innovations. Company strengths, namely innovation and marketing, result from the basic teachings of Drucker (2002) in his theories about how business organization should work. Thus, Linet does not stand out by creating new innovative methods or management tools. It is different by its willingness to learn from others and to do what works well in practice.

This brings us to the second finding. The company's culture is based on the idea of constant improvement (learning) and respect for people (rather than managing). This is proved by the fact that employees are expected not only to learn constantly but also to teach others and lead by learning from their own mistakes and lessons. It is clear that this culture is very similar to the concept of learning organization as elaborated by Senge (2014). The success of the company stemmed from a special connection of inexperience, the desire to succeed and the willingness to tolerate mistakes and shortcomings.

We are getting to the last important insight into this business. Linet is very open to its surrounding. It is seen in the education of others (children, students, companies), systematic monitoring of the environment (customers, technologies, competitors) and defining values from the perspective of others (users, customers, technicians). However, openness is only the different description of what has been described earlier. This is called the continuous education process. If we put the right variables (ambition, willingness to risk, the potential of people), we will get the equation that stands behind the success of this company. The result of this equation is

the readiness to abandon everything that is old and overcome (what does not work) and accept everything new and unknown (what works or could work). In other words, it is necessary to understand changes as a positive sign because this is an integral part of Linet philosophy.

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